An investigation of the feasibility and preliminary effectiveness of a school-based cognitive-behavioural intervention targeting anxiety and emotion regulation

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Abstract

Anxiety disorders in childhood have a median age of onset before age 13 (Solmi et al., 2022), with difficulties in emotion regulation being a significant risk factor in the development and maintenance of childhood anxiety (Malhi et al., 2017). Cognitive-behavioural therapy (CBT) is an effective approach to treatment for child and adolescent anxiety and emotion dysregulation (Hugh-Jones et al., 2020; Suveg et al., 2009; Vallis et al., 2020), and schools provide a convenient and cost-effective setting to provide prevention and intervention efforts targeting these symptoms and skills (Lyon & Bruns, 2019; Mychailyszyn et al., 2011; Smallwood et al., 2007). Given the critical need for feasible and clinically based school mental health prevention efforts, the present program of research sets out to address this ongoing research gap. With this doctoral thesis, we aimed to evaluate the feasibility and effectiveness of Healthy Minds, Healthy Schools (HMHS), a novel, CBT-based program that was implemented in the school setting. Study 1 used quantitative methods to conduct a pilot study of HMHS in improving anxiety and emotion regulation in a sample of elementary school students. Using a quasi-experimental design with open assignment to groups, participants were assigned to either the intervention (n =186) or comparison (n = 94) group. To examine whether HMHS had better effects on the improvement of anxiety and emotion regulation than the comparison group, post-test scores for both groups were compared using ANCOVA, with the pre-test scores used as covariates. Small effect sizes of statistically significant anxiety improvements at post-test were reported by participants in the intervention group only. No significant differences were found for self-reports of emotion regulation nor parental report of child anxiety or emotion regulation. This study also explored program implementation fidelity and adaptation. The completion rate of fidelity tracking forms was 94%. Of the completed forms (N = 113), 74% of lessons (n = 84)

were delivered as described. Examining implementation factors and allowing for flexible program delivery may present as key considerations to the successful transfer and sustainability of clinically based interventions to the school context. Study 2 was a qualitative analysis of students' and school-based facilitators' perspectives of HMHS. Thematic analysis was used to evaluate the feasibility of the program, with a focus given to acceptability, implementation, and perceived utility. School-based facilitators (N = 10) provided data via weekly checklists and completed an online survey at the end of the program. Elementary students (N =186) completed a questionnaire and open-ended worksheet at the end of the program. Results indicated that the program was feasible for teaching important coping skills to elementary school students. While there were research protocol specific challenges and barriers reported regarding program implementation, the program was deemed useful, engaging, and beneficial for students overall. Overall, the findings from both studies provide a sound foundation for supporting the feasibility of implementing clinical programs within a school-based setting and highlight the preliminary effectiveness of such implementation in addressing elementary students' mental health needs.

Résumé

Les troubles anxieux de l'enfance se manifestent en moyenne avant l'âge de 13 ans (Solmi et al., 2022), les difficultés de régulation émotionnelle étant un facteur de risque important dans le développement et le maintien de l'anxiété infantile (Malhi et al., 2017). La thérapie cognitivo-comportementale (TCC) est une approche efficace pour le traitement de l'anxiété et de la dysrégulation émotionnelle chez les enfants et les adolescents (Hugh-Jones et al., 2020 ; Suveg et al., 2009 ; Vallis et al., 2020), et les écoles constituent un cadre pratique et rentable pour fournir des efforts de prévention et d'intervention ciblant ces symptômes et ces compétences (Lyon & Bruns, 2019 ; Mychailyszyn et al., 2011 ; Smallwood et al., 2007). Étant donné le besoin critique d'efforts de prévention et d'intervention en matière de santé mentale en milieu scolaire qui soient réalisables et fondés sur des données cliniques, le présent programme de recherche vise à combler cette lacune de la recherche. Dans le cadre de cette thèse de doctorat, nous avons cherché à évaluer la faisabilité et l'efficacité du programme Healthy Minds, Healthy Schools (HMHS), une nouvelle intervention basée sur la TCC qui a été mise en œuvre en milieu scolaire. L'étude 1 a utilisé des méthodes quantitatives pour étudier l'efficacité de l'HMHS dans l'amélioration de l'anxiété et de la régulation émotionnelle dans un échantillon d'élèves de l'école primaire. À l'aide d'un modèle quasi expérimental avec affectation ouverte aux groupes, les participants ont été affectés soit au groupe d'intervention (n = 186), soit au groupe de comparaison (n = 94). Pour déterminer si l'HMHS a eu de meilleurs effets sur l'amélioration de l'anxiété et de la régulation émotionnelle, les résultats des post-tests des deux groupes ont été comparés à l'aide d'ANCOVA, les résultats des prétests étant utilisés comme covariables. Les participants du groupe d'intervention ont été les seuls à faire état d'une amélioration statistiquement significative de l'anxiété au post-test. Aucune différence significative n'a été

constatée en ce qui concerne l'auto-évaluation de la régulation émotionnelle, ou de l'anxiété ou de la régulation émotionnelle de l'enfant tel qu'évalué par le parent. Cette étude a également exploré la fidélité et l'adaptation de la mise en œuvre du programme. Le taux de remplissage des formulaires de suivi de la fidélité a été de 94 %. Parmi les formulaires remplis (N = 113), 74 % des leçons (n = 84) ont été dispensées conformément à la description. L'examen des facteurs de mise en œuvre et la flexibilité de la prestation du programme peuvent s'avérer des facteurs clés pour le transfert réussi et la durabilité des interventions cliniques dans le contexte scolaire. L'étude 2 était une analyse qualitative des points de vue des élèves et des animateurs scolaires sur le programme HMHS. L'analyse thématique a été utilisée pour évaluer la faisabilité du programme, en mettant l'accent sur l'acceptabilité, la mise en œuvre et l'utilité perçue. Les animateurs scolaires (N = 10) ont fourni des données au moyen de listes de contrôle hebdomadaires et ont également répondu à un questionnaire en ligne à la fin du programme. Les élèves du primaire (N = 186) ont rempli un questionnaire et une feuille de travail ouverte à la fin du programme. Les résultats ont montré que le programme permettait d'enseigner d'importantes capacités d'adaptation aux élèves de l'école primaire. Bien que des défis et des obstacles particuliers au protocole de recherche aient été signalés concernant la mise en œuvre du programme, ce dernier a été jugé utile, engageant et bénéfique pour les élèves dans l'ensemble. Dans l'ensemble, les résultats des deux études fournissent une forte base pour soutenir la faisabilité de la mise en œuvre de programmes cliniques dans un cadre scolaire et soulignent l'efficacité préliminaire d'une telle mise en œuvre pour répondre aux besoins des élèves du primaire en matière de santé mentale.

Acknowledgements

I decided to save the acknowledgments section for last. Now that I am here, writing this page, I am filled with a wave of emotions – excitement, relief, and pride are a few that come to mind. I am also somewhat in disbelief that I have finally reached the finish line, as this dissertation has felt like a long, uphill battle, especially towards the end as I worked through two pregnancies and my first year of motherhood. It truly feels surreal to be at this point, and I am eternally grateful for those who have supported, encouraged, and inspired me along the way.

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Contribution to Original Knowledge

The two studies included in this dissertation are based on the development of a novel school-based cognitive-behavioural intervention. I, Micah Tilley, along with my research supervisor, Dr. Tina Montreuil, developed this program, entitled Healthy Minds, Healthy Schools. At the time of its conceptualization and development, we also prepared the program to be published in a book format, and it was successfully published by Canadian Scholars Press in 2017. This dissertation contributes to original knowledge in the school mental health literature by investigating the potential benefits of this novel program in improving child anxiety and emotion regulation. It also contributes to original knowledge by exploring facilitators' and students' perspectives of the program's acceptability, implementation, and utility using qualitative methods, providing unique insights into school-based mental health outcomes and feasibility that are not accessible via commonly used quantitative methods.

Contribution of Authors

As the primary investigator of this research project and primary author of this dissertation, I, Micah Tilley, was responsible for the conceptualization, development, and execution of the research project. I am also the primary author for both studies included in this dissertation. I developed the Healthy Minds, Healthy Schools program with my research supervisor, Dr. Tina Montreuil, and we are authors of the book *Healthy Minds Healthy Schools: Strategies and Activities for Happy and Successful Learners,* for which the school-based program and dissertation is based on. Dr. Montreuil is an author on both studies. For Study 2, Heather Kennedy, a graduate student also under the supervision of Dr. Montreuil, assisted with reviewing the coding for the qualitative data collected.

Chapter I – Introduction

One in five youth experience mental health challenges (Malla et al., 2018), with 18-22% of children and adolescents aged 4-17 meeting criteria for a mental health diagnosis (Georgiades et al., 2019) and many more experiencing subclinical symptoms (Aldridge & McChesney, 2018). At least 50% of all mental health problems and disorders across the life span have an onset in early childhood or adolescence (Jones, 2013; Kessler et al., 2007; Patton et al., 2014). Anxiety is particularly problematic, with prevalence of child and adolescent anxiety ranging from 2-12% (Tramonte & Willms, 2010), and an estimated 31.9% of adolescents ages 13-18 living with a diagnosed anxiety disorder (Merikangas et al., 2010). Emotional dysregulation has been identified as a core symptom of many internalizing disorders (Hofmann et al., 2012), playing a key etiological role in the development and maintenance of anxiety (Compas et al., 2017; Huberty, 2012; Schäfer et al., 2017). Without early intervention or treatment, these difficulties typically persist into adulthood, leading to issues with social, emotional, educational, and vocational development and opportunities, subsequently burdening not only those impacted by the disorder, but also society (Hansen et al., 2018; Malla et al., 2018; Waddell et al, 2020; Weisz et al., 2005).

As such, prevention and early intervention efforts are critical. These efforts not only serve to prevent the onset or stop the trajectory of mental health challenges, but they also make the most sense economically as opposed to later treatment and intervention (Levin & Chisholm, 2016). Globally, schools are at the forefront when it comes to mental health prevention (McLaughlin et al., 2017), as they have the capacity to reach large groups of students simultaneously (Creed et al., 2011), particularly through universal programs, in turn establishing social and emotional competencies and positive mental health for all students (Smallwood et al.,

2007; Schwean & Rodger, 2013; Weist et al., 2017). Cognitive-behavioural therapy (CBT) is a well-established approach to school-based mental health prevention and intervention (Werner-Seidler et al., 2021).

While the evidence in support of school-based CBT programs in improving mental health outcomes has been well-documented in the literature (Sanchez et al., 2018; Werner-Seidler et al., 2021), there are gaps and clinical needs that remain unaddressed or require further investigation. Despite extensive research support for CBT in treating various concerns in young people (Hofmann et al., 2012), less is known about CBT and its use in real world settings (Chiu et al., 2013; Mennuti & Christner, 2012), such as schools. Further to this, many programs targeting anxiety include skill building and teaching of cognitive and/or behavioural strategies to improve emotion regulation (Berking et al., 2008; Gross, 1998). However, research on the outcomes of emotion regulation skills is less plentiful (Loevaas et al., 2019). It is therefore important to directly study outcomes of emotion regulation given its key role in anxiety (Compas et al., 2017; Huberty, 2012; Schäfer et al., 2017).

Despite promising outcomes of school-based CBT programs for anxiety symptoms and well-being in general, barriers such as insufficient resources, lack of time, or a mismatch with teacher expertise and student needs can hinder uptake and sustainability of these programs (Durlak & Dupree, 2008; Lyon et al., 2011; Owens et al., 2014; Schaeffer et al., 2005). With this has come an increasing awareness for the need to include teachers in the delivery of school-based interventions, and to modify programs explicitly for school-based implementation (Forman et al; 2013; Lyon & Bruns; 2019). As such, it is critical to determine the most effective methods for delivering such skills-based programs to students (Greenberg et al., 2003), and to do this it is imperative that we gather this information from those delivering the intervention.

Healthy Minds, Healthy Schools

Our proposed solution to address these limitations was to develop a program with clinical components that could be feasibly delivered in a format similar to what teachers already use in a classroom setting (e.g., lesson plans with detailed learning objectives, time allocation, etc.). This program is called Healthy Minds, Healthy Schools (HMHS) and was developed by the first author, Micah Tilley, and her supervisor, Dr. Tina Montreuil (Montreuil & Tilley, 2017). The HMHS program is grounded in CBT, an effective approach for improving children's symptoms of anxiety through the modification of unhelpful thoughts and behaviors via coping and emotion regulation strategies (Beck, 2011). The development of HMHS involved the identification of clinical hallmarks of CBT-based interventions targeting anxiety and emotion regulation, such as psychoeducation regarding thoughts, feelings, and actions; positive thinking (cognitive restructuring) and self-talk; effective communication of emotions; and skills for identifying and regulating emotions, including relaxation and mindfulness techniques such as deep breathing, imagery, paying attention to one's body and physical sensations. The program is universal with the goal of fostering skill development for all students. Aims of HMHS include teaching children about thoughts and feelings and promoting healthy coping strategies and psychological wellness through an exploration of positive feelings, gratitude, and identifying personal strengths and skills. Teaching modalities are eclectic and include reflection, group discussions, small group work, arts and crafts, strategy practice and videos.

The HMHS program was developed with the intent of not only being manualized and based on more traditional methods of teaching, but also aimed to rely on blended learning approaches by allowing some level of flexibility and program-enrichment with virtual content to accommodate all learning styles, peer-to-peer interaction, and project-based learning. As such,

the HMHS program aims to balance high-fidelity implementation with flexibility to allow school staff to modify program contents and modalities of delivery to better meet the needs of their students (Crooks et al., 2022). The program achieves this balance by ensuring that facilitators deliver the core elements, or 'active ingredients', of the program, as these components should not be compromised (Durlak & DuPre, 2008). The facilitator manual explicitly specifies all components of the program which are to be delivered. The aspects of the program that are permitted to be flexible include the modality in which the activities are completed (e.g., changing a paper and pencil task to a larger group discussion), as well as the addition of activities and resources that correspond to the lesson topic (e.g., reading a book or watching a video about mindfulness). Other than these adaptations or additions, facilitators are instructed to deliver all other content as described. It should be noted that facilitators are encouraged to adhere to the manual for all aspects of the program unless they feel that an adaptation would better meet the needs of their students or classroom context.

Program of Study

The proposed program of study consists of two separate studies involving the HMHS program. Study 1 investigated whether students participating in the HMHS program would demonstrate significant changes in self and parent reported symptoms of anxiety and emotion regulation skills relative to a comparison group. Study 2 explored students' and school staffs' views and impressions of the feasibility of HMHS. The final chapter of the dissertation provides an overview of the findings from both studies, as well as limitations and directions for future research, and original contributions and implications for research and clinical practice.

Chapter II – Review of the Literature

This review of the literature begins with information on the onset and prevalence of childhood mental health problems, with a focus on anxiety. The consequences of childhood anxiety are also described. Next, the relevance of emotion regulation to the development and maintenance of anxiety is presented, and cognitive emotion regulation is elaborated on. The importance of prevention and early intervention and the benefits of these efforts within the school setting is illustrated, and cognitive-behavioural therapy (CBT) is highlighted as an effective approach to school-based mental health efforts. Research on existing school-based CBT interventions targeting anxiety and emotion regulation is outlined. This is followed by a synthesis of the literature on school-based program implementation, including an evaluation of fidelity versus flexibility in program delivery, which may have implications for the successful transfer of interventions to the school setting and their sustainability over time.

Childhood Mental Health

An estimated 10-25% of children and adolescents are affected by mental health problems worldwide (Bains & Diallo, 2016; Kieling et al., 2011). In Canada, mental health disorders have been shown to affect an estimated 1,000,000 children and youth, making mental health challenges a leading health problem faced by far too many Canadian children (Kessler et al., 2005; Waddell et al., 2005). A recent survey of Canadians living with a mental health concern or disorder indicated that approximately 38% of these individuals reported their onset of symptoms to be before the age of 15 (Canadian Institute for Health Information, 2019). In fact, at least 50% of all mental health problems and disorders across the life span have an onset in early childhood or adolescence (Jones, 2013; Kessler et al., 2007; Patton et al., 2014).

Onset and Prevalence of Childhood Anxiety

Anxiety is extremely common in school-aged children (Kessler et al., 2012), with anxiety disorders being one of the most diagnosed mental health disorders among children and adolescents (Lawrence et al. 2015; Merikangas et al. 2010). Experiences of anxiety in certain situations can be considered typical and even adaptive but become problematic and pathological when there are "persisting or extensive degrees of anxiety and avoidance associated with subjective distress or impairment" (Beesdo et al., 2009, pg. 2). Prevalence rates suggest that an estimated one-third of youth meet diagnostic criteria for an anxiety disorder by the time they are 18 years old (31.9%; Merikangas et al., 2010), with a lifetime prevalence rate of 4.7% and 9.1% in children and young people (Polanczyk et al., 2015). Many anxiety disorders have a median age of onset before the age of 13 (Solmi et al., 2022), with some estimates suggesting that most children with a diagnosed anxiety disorder had an onset of symptoms by age six (Merikangas et al., 2010). These estimates do not consider subclinical levels of anxiety, which can be equally as detrimental to overall functioning and well-being (Balázs et al., 2013; Weis, 2014).

Consequences of Childhood Anxiety

The negative impact of anxiety and anxiety disorders in children and adolescents has been well-documented in the literature. Research suggests that anxiety disorders in childhood can have detrimental consequences across various domains of functioning, including education, social-emotional, and health (Asselmann et al., 2018; Mychailyszyn et al., 2010). Anxiety disorders have been associated with poor social and coping skills, low self-esteem, and academic achievement, as well as reduced interactions with peers (McLoone et al., 2006; Rapee et al., 2005). Anxious children are also rated as being less likeable than children who are not anxious (Nelson et al., 2005). Without intervention, these childhood challenges typically persist into

adulthood (Jones, 2013), increasing the risk of other mental health problems (Kendall et al., 2004). Untreated anxiety in childhood has been associated with less employment opportunities, and increased medical use, substance abuse, and self-injurious behaviors in adulthood (Dvorak et al., 2014; Gratz & Tull, 2010). Adolescent anxiety has also been shown to predict a range of psychiatric diagnoses and suicidal ideation in early adulthood (Doering et al., 2019).

Emotion Regulation

Emotion regulation refers to "all the extrinsic and intrinsic processes responsible for monitoring, evaluating and modifying emotional reactions, especially their intensive and temporal features, to accomplish one's goals" (Thompson, 1994, pg. 27). In other words, emotion regulation is a process through which one influences the emotions they have, when they have them and how they experience and express them (Gross, 2015). This multicomponent process involves the management of diverse systems, such as physiological arousal, facial and behavioural expressions, motivation, goals, and cognitive evaluations using volitional and spontaneous strategies (Gross, 1998; Thompson, 1994). The employment of emotion regulation strategies determines when and how specific emotions are experienced and expressed (Gross, 1998). A key feature of emotion regulation is the activation of a goal to influence the trajectory of the experience of the emotion (Gross et al., 2011).

The benefits of effective emotion regulation remain consistent throughout the literature: those who can successfully and adaptively regulate their emotions have positive outcomes in many domains of life, including physical health, well-being, and academics (John & Gross, 2004). Strategies such as acceptance, problem solving and cognitive reappraisal are classified as adaptive strategies that serve as protective factors against internalizing symptoms, whereas strategies such as rumination, avoidance and suppression are maladaptive strategies associated

with increased risk of symptom development (Schäfer et al., 2017). The ability to adequately regulate one's emotions has been identified as one of the most salient tasks of early childhood, making it a critical component for adaptive social functioning, psychological adjustment, and mental health (Aldao et al., 2010; Cole et al., 2004; Eisenberg & Spinrad, 2004; Gross & Munoz, 1995).

Development of Emotion Regulation

Children's competency in managing their emotions via specific and deliberate behavioural and cognitive strategies develops throughout childhood and adolescence (Gross, 2013; Thompson & Goodman, 2010; Zeman et al., 2006). Middle childhood (age 9-12) marks a critical period for emotion regulation skill development, as children begin to use cognitive and relaxation strategies to regulate physiological arousal (Uhl et al., 2019) and recognize how their emotions can be regulated through multiple means, such as distraction, redirecting thoughts and reframing situations, and focusing on the benefits associated with emotion regulation or emotion expression (Thompson, 1990; Thompson et al., 2010). Research has shown that children aged 8-9 can use cognitions or thoughts about themselves, their feelings, or others to manage their emotions (Harris, 1989; Saarni, 1999; Terwogt & Stegge, 1995). During the transition from middle childhood into adolescence (age 12-18), children become more skilled at regulating their emotions, and decisions to regulate emotions become more specific based on factors such as motivation, emotion type, and situational context (Gnepp & Hess, 1986; Zeman & Garber, 1996). As such, the period of middle childhood (age 9-12) is critical for learning and solidifying healthy (i.e., adaptive, and not maladaptive) regulatory skills for managing emotions.

Cognitive Emotion Regulation

The concept of emotion regulation reflects a wide range of biological, social, behavioural, and cognitive (both conscious and unconscious) processes. As such, it has been argued that the concept of emotion regulation is too broad and complex, which hinders the ability to empirically investigate all aspects and processes at once (Garnefski et al., 2001). While emotion regulation processes involve both the regulation of behavioural responses and managing associated cognitive processes, it may be challenging for an individual to change their behavior without changing their thoughts (i.e., cognition) because cognitive processes usually precede actions (Garnefski et al., 2001). Given the critical initial role of cognitive processes in the appraisal and regulation of emotions, a focus will be given to the conscious, cognitive components of emotion regulation. Specifically, cognitive emotion regulation refers to the process by which conscious thoughts are used to help manage an emotional response to an adverse event (Garnefski et al., 2001; Gross, 2001; Thompson, 1991).

Based on the cognitive coping literature, Garnefski and colleagues (2001) developed a framework and measure of cognitive emotion regulation. They argued that coping, defined as "an individual's efforts to master demands (conditions of harm, threat or challenge) that are appraised (or perceived) as exceeding or taxing his or her resources" (Monat & Lazarus, 1991), falls under the broad definition of emotion regulation. Garnefski and colleagues (2001) used the terms 'cognitive coping' and 'cognitive emotion regulation' interchangeably, conceptualizing them as the cognitive way of managing incoming emotionally arousing information (Thompson, 1991). They further proposed that cognitions or cognitive processes may assist us in better managing emotions, in addition to exerting control over them and not causing us to be overwhelmed by them during or after the stressful event (Garnefski et al., 2001). Although

coping takes place in response to a stressor and emotion regulation happens in response to positive and negative emotions, both concepts involve conscious and deliberate regulatory processes; that is, for coping and emotion regulation, various strategies (whether cognitive or behavioural), are employed to manage emotions and respond to stressful situations (Compas et al., 2017).

One of the most widely studied cognitive emotion regulation strategies is cognitive reappraisal, an adaptive strategy that involves reframing or reinterpreting a potentially emotion-eliciting situation to change its emotional impact (i.e., one's emotional response; Lazarus & Alfert, 1964). Other adaptive cognitive emotion regulation strategies include acceptance (i.e., thoughts of accepting what you have experienced); refocus on planning (i.e., thoughts about the steps that can be taken to deal with the negative event); positive refocusing (i.e., thinking joyful/pleasant thoughts instead of thinking about the distressing event); and putting into perspective (i.e., thoughts of minimizing the seriousness of the distressing event or emphasizing its relativity when compared to other events), whereas maladaptive cognitive emotion regulation strategies include self-blame (i.e., thoughts of blaming yourself for what you have experienced); blaming others (i.e., thoughts of placing blame of what you have experienced on others); rumination (i.e., thinking about the feelings and thoughts linked to the distressing event); and catastrophizing (i.e., thoughts that explicitly emphasize the distress of the experience; Garnefski et al., 2001). These strategies are often associated with either positive or negative outcomes.

Emotion Regulation Challenges as a Risk Factor for Anxiety

Difficulties with emotion regulation have been identified as a core symptom of anxiety (Aldao et al., 2010; Aldao et al., 2016; Compas et al., 2017; Loevaas et al., 2018; Ruan et al., 2023; Schäfer et al., 2017). Anxious children often demonstrate significant difficulties in

effectively regulating their emotions, making challenges with emotion regulation a likely risk factor in both the development and maintenance of childhood anxiety (Malhi et al., 2017). Further to this, challenges with effectively regulating emotions often precede the onset of symptoms for many internalizing disorders, including anxiety, suggesting that emotion dysregulation may be better identified as a risk factor, and not a consequence, of psychopathology (McLaughlin et al, 2011).

The use of maladaptive cognitive emotion regulation strategies such as self-blame, catastrophizing, and blaming others have been linked to greater depressive symptoms, and the use of self-blaming, rumination, and catastrophizing strategies have been associated with symptoms of worry (Garnefski et al., 2007). Conversely, the use of more adaptive cognitive strategies such as positive refocusing and refocusing on planning have been associated with fewer symptoms of worry (Garnefski et al., 2007). In their meta-analysis of emotion regulation strategies and symptoms of anxiety and depression in adolescents, Schäfer and colleagues (2017) found that adaptive emotion regulation strategies such as cognitive reappraisal, problem solving, and acceptance were negatively associated with anxious symptoms, whereas maladaptive strategies like avoidance, suppression, and rumination were positively associated with anxiety. Longitudinally, poor emotion regulation has been shown to be a significant predictor of anxious symptomatology and overall mental health in children (Schneider et al., 2016), with numerous psychiatric disorders, including anxiety, characterized by difficulties with emotion and its regulation (Gross & Jazaieri, 2014). These findings speak to the critical need for prevention and early intervention efforts targeting both anxiety and emotion regulation.

Cognitive-Behavioural Therapy

Cognitive behavioural therapy (CBT) has been cited as one of the most frequently used frameworks in school-based mental health (Werner-Seidler et al., 2021). According to the CBT framework, anxiety results from the interaction of distorted cognitions (thoughts), physiological arousal (feelings), and avoidance (behaviours) (Compton et al., 2010). The goal of CBT is to help children overcome unhelpful thinking patterns through challenging and restructuring their negative thoughts and to lessen avoidance of anxiety-provoking situations through exposure, in combination with relaxation and problem-solving strategies (Öst & Ollendick, 2017). This approach to treatment has been proven to be effective in reducing anxiety and emotional distress in children and adolescents by modifying unhelpful thoughts and behaviors through coping and emotion regulation strategies (Beck, 2011). CBT has been cited as a well-known and highly effective treatment for anxiety and emotion dysregulation in childhood and adolescence (Hugh-Jones et al., 2020; Suveg et al., 2009; Vallis et al., 2020). Numerous reviews and meta-analyses suggest that CBT for anxiety disorders in children and youth are effective, with moderate to large effect sizes (Davis et al., 2011; Ewing et al., 2015; James et al., 2020; Reynolds et al., 2012; & Scaini et al., 2016) and improvements maintained at follow-up (Vallis et al., 2020).

School-Based Prevention and Intervention

Estimates suggest that approximately a quarter of school-age children experience significant mental health challenges, but less than 30% of these children receive the services and supports they need (Paulus et al., 2016), even despite the widespread availability of effective, evidence-based programs (Merikangas et al., 2011). Even when children do access required services, approximately half of these children continue to meet diagnostic criteria for an anxiety

disorder (James et al., 2020), with one proposed explanation being untimely treatment (Donovan & Spence, 2000).

To prevent this problem, a proposed solution has been the transfer of clinical interventions to the school setting (see Neil and Christensen, 2009, for a review). The school setting offers a convenient and cost-effective avenue for the implementation of mental health programs (Smallwood et al., 2007). The school setting is also highly accessible and perceived as more acceptable than community-based services, which in turn can reduce barriers and disparities in service use (Alegría et al., 2015; Atkins et al., 2017; Farmer et al., 2003). Common barriers to community-based treatment include time, cost, location, and transportation (Barrett & Pahl, 2006; Masia-Warner et al., 2006), as well as stigma, all of which can be reduced or eliminated when implementing interventions in schools (Beidas et al., 2012). School-based programs are unique in that they can target impairment in an ecologically valid environment (Lyon & Bruns, 2019; Mychailyszyn et al., 2011), which is imperative given that schools are often the primary setting in which children demonstrate impairment (Ginsburg et al., 2008).

School-based programs can be universal, targeted, or intensive. Universal approaches focus on preventing problems before they occur and establishing social and emotional competences for all students (Smallwood et al., 2007). This approach to prevention and intervention is often viewed as favorable as it is designed to strengthen general mental health and resiliency for all, versus targeting a specific symptom, diagnosed disorder, or population, among other advantages (Barrett et al., 2001). As such, universal approaches are inclusive and reduce stigma often associated with mental health treatment (Masia Warner et al., 2007).

School-Based CBT

CBT is short-term and solution-focused, making it an appealing approach to intervention in the school setting as time and resources are often limited (Smallwood et al., 2007). The structure of CBT, which includes agenda setting, psychoeducation, skill-building, progress-monitoring, and homework review, resembles the structure of classroom educational activities (Mennuti & Christner, 2012), making CBT a natural fit within the school setting. Further to this, research suggests that CBT techniques can be modified and applied to the unique social-emotional and behavioural needs of students, including those without a clinical diagnosis (Joyce-Beaulieu & Sulkowski, 2019). Recent reviews suggest that school-based programs, including universal CBT-based programs, are effective in reducing symptoms of anxiety (e.g., Werner-Seidler et al., 2021; Zhang et al., 2023) and emotion regulation (Eadeh et al., 2021), with small effect sizes. Small effect sizes for universal school-based interventions are common (Tanner-Smith et al., 2018), and some researchers suggest that effect sizes of 0.50 and above are an unrealistic expectation in school-based universal prevention and intervention studies (Sælid et al., 2022). For instance, universal programs target a nonclinical population whose likelihood of developing clinical levels of anxiety is typically low; as such, universal programs that demonstrate even small effect sizes nonetheless provide clinical and practical utility (Ahlen et al., 2015).

School-Based CBT for Anxiety. There have been a number of systematic reviews and meta-analyses over the years which speak to the effectiveness of school-based programs in improving children's symptoms of anxiety. In their 2009 systematic review, Neil and Christensen evaluated 20 unique programs and their effectiveness in reducing symptoms of anxiety. CBT or components of CBT comprised most of the universal, targeted and selective

programs (78%), with 71% of these programs producing significantly lower levels of anxiety at post-test with effect sizes ranging from 0.11 to 1.37 with a median of 0.57. For 11 out of 16 universal programs (69%), Neil and Christensen (2009) reported significant differences between the intervention and control conditions at post-test, with effect sizes ranging from 0.31 to 1.37. Despite most programs employing a CBT approach to treatment, the significant effects obtained did not depend on the type of intervention provided (i.e., CBT versus other therapeutic approaches such as psychoeducation, relaxation, or modeling).

Mychailyszyn and colleagues (2012) conducted a meta-analysis of school-based CBT programs for anxious and depressed youth. Their meta-analysis consisted of 63 studies, 27 of which included baseline and posttreatment data on anxiety symptoms. Mychailyszyn and colleagues (2012) found that anxiety-focused school-based CBT programs were moderately effective in reducing anxiety in youth (Hedges' $g = 0.501$). Significant mean effect sizes from baseline to follow-up at three, six, and 12 months were also reported. Fourteen studies evaluated universal programs for anxiety. Of these 14 studies, 12 included baseline and posttintervention data, which revealed that youth receiving the intervention showed significant decreases in anxious symptomology (Hedges' $g = 0.32$). Six universal programs were implemented by school staff (e.g., classroom teachers) and six were delivered by research staff. Programs delivered by school staff and researchers were both effective in producing significant decreases in anxiety at post-test, with no significant differences in mean effect size observed for program facilitator (Mychailyszyn et al., 2012).

Similar to Mychailyszyn and colleagues (2012), Werner-Seidler and colleagues (2017) investigated the effectiveness of school-based anxiety and depression prevention programs for children and adolescents (ages 5-19) in their systematic review and meta-analysis. They

specifically evaluted randomized controlled trials of manualized programs including individual, group, or computerized interventions including CBT, interpersonal psychotherapy, mindfulness-based cognitive therapy, wellbeing therapy, and psycho-educational approaches. Most of included programs were based on CBT (84%), and 44 of the 81 included studies were identified as universal programs (54%). Werner-Seidler and colleagues (2017) found small effect sizes for universal programs in the prevention of anxiety at post-test (Hedges' g = 0.19). The personnel implementing the program (i.e., classroom teachers/school health staff versus external providers) or program content (CBT versus other programs for anxiety) did not influence the size of the effects obtained at post-test or any of the follow-up periods.

Given limitations to their 2017 review and advancements in the field, including an increase in digital approaches to school-bsaed interevention, Werner-Seidler and colleagues updated their review of the school-based prevention field with a new systematic review and meta-analysis published in 2021. Their study included 130 articles consisting of 118 unique trials of school-based anxiety and depression prevention programs. Of the anxiety prevention programs (N = 34), 61% were universal programs (n = 21). Of the mixed anxiety and depression programs (N = 30), 70% were universal (n = 21). The majority of studies were based on CBT (n = 91, 77%). The effect size for anxiety programs was small immediately at post-test (Hedges' g = 0.18) and at short and medium follow-up timepoints (Hedges' g = 0.19 and 0.23, respectively), then reducing to a much smaller effect at long-term follow-up (Hedges' g = 0.11). These findings are in line with those found in the authors' earlier review (Werner-Seidler et al., 2017). In the revised review (Werner-Seidler et al., 2021), there were no statistically significant differences between prevention type (universal versus targeted); program facilitator (programs delivered by

school staff versus external personnel); or based on program content (CBT-based versus other approaches, including mindfulness, IPT, or relaxation).

In a recent systematic review, Tse and colleagues (2023) examined the effectiveness of school-based CBT for children and adolescents with social anxiety disorder and social anxiety symptoms. Their review consisted of seven studies and included participants ages 6-16 years old. In line with the literature, this systematic review found that CBT programs demonstrated small effects to reduce symptoms related to social anxiety disorder at post-intervention in 86% of included studies.

There are several popular and well-researched CBT programs for anxiety, including Coping Cat (Kendall, 1994; Kendall et al., 2002; Kendall & Hedtke, 2006), Cool Kids (Rapee et al., 2006; Rapee et al., 2019), and FRIENDS for Life (Barrett et al., 2000). These programs are outlined below.

Coping Cat. One longstanding and well-researched cognitive-behavioural program is Coping Cat (Kendall, 1994; Kendall et al., 2002; Kendall & Hedtke, 2006), a 16-session manualized program for children and youth that aims to teach children to learn how to identify, regulate, and cope with feelings of anxiety. The program uses a combination of cognitive strategies (e.g., problem solving, appraisal of abilities and fears) and behavioural strategies (e.g., relaxation training, in vivo exposure activities). The first eight sessions focus on psychoeducation, such as labeling emotions, relaxation training, recognizing anxious self-talk, identifying coping strategies, etc. These strategies are presented as the "FEAR Plan," which is an acronym used to assist children with remembering the various features of facing anxiety. The remaining eight sessions involve putting the FEAR Plan into action through imaginal and in vivo

exposure experiences, providing the child with opportunities to implement and practice their newly acquired skills.

The first randomized control trial (RCT) of Coping Cat evaluated the efficacy of the program for 47 children between the ages 9-13 (Kendall, 1994). All participants received an anxiety disorder diagnosis of either overanxious disorder, (OAD), avoidant disorder (AD), or social anxiety disorder (SAD). Compared to a wait-list control group, children who participated in the Coping Cat program demonstrated significant positive change from pre- to post-test based on self-report, parent report, and behavioural observation measures. Further to this, 64% of children in the intervention group no longer met diagnostic criteria for their diagnosed anxiety disorder at post-test, whereas only 5% of the control group no longer met diagnostic criteria at post-test. These treatment gains were maintained at 1-year follow up (Kendall, 1994). Kendall and Southam-Gerow (1996) re-evaluated 36 of the 47 children who participated in the 1994 trial and found that treatment gains were maintained at 3.35-year follow-up. In a recent meta-analysis, Lenz (2015) examined the effectiveness of the Coping Cat program for the treatment of anxiety in children and adolescents across 19 RCT studies. The results of this meta-analysis revealed that the Coping Cat program was effective in decreasing anxiety symptom severity, with large effect sizes for the 13 studies that included a comparison of Coping Cat to a waitlist or no-treatment comparison, and small effect sizes for the 12 studies that compared Coping Cat to alternative treatments (Lenz, 2015). In a recent qualitative study of school children's experiences of participating in the Coping Cat program, participants reported that they experienced a positive change in their thinking, learned coping skills, felt better about their academic performance, and demonstrated improvements in their peer and family relationships (Mukund & Jena, 2022).

Cool Kids. Another well-known and empirically validated program is Cool Kids, a 10-session cognitive-behavioural program for anxiety management (Rapee et al., 2006; Rapee et al., 2019). This program is suitable for implementation within schools for children and youth ages 7-17 (Lyneham et al., 2003) and was developed based on prior clinical programs for the treatment of child anxiety disorders (e.g., Rapee, 2000; Rapee et al., 2000). This program is based on the Coping Koala program (Barrett et al., 1996), an Australian adaptation of Coping Cat. Cool Kids includes cognitive-behavioural components such as psychoeducation, cognitive restructuring, graduated exposure, and child management strategies, with additional modules covering topics such as social skills, teasing, and assertiveness.

In one of the first school-based trials of the Cool Kids program, Mifsud and Rapee (2005) found that compared to youth in the waitlist condition, youth who participated in the program demonstrated significant improvement from pre- to post-test as well as pre-test to follow-up on self-report measures of anxiety and teacher-report measures of internalizing symptoms. Similarly, McLoone and Rapee (2012) found that children participating in the Cool Kids program, either at school (implemented by school counselor) or at home (implemented by parents), demonstrated significantly greater parent-reported improvements in anxiety compared to children in the wait-list control group. In a recent meta-analysis, Mychailyszyn (2017) synthesized research from 16 studies examining the effectiveness of the Cool Kids program in addressing anxious symptomology in children. Analyses included child and parent reports of anxiety. The results of standardized mean difference analyses revealed significant improvements in both child and parent reported anxiety for those children who received Cool Kids in comparison to those who did not. Only two of the included 16 studies were classified as school-based studies. Similarly, Scaini and colleagues (2022) conducted a recent evaluation of Cool

Kids as a universal school-based program for the prevention of childhood anxiety and found that the program was effective in reducing symptoms of anxiety and depression in a sample of fifth and sixth grade students. Specifically, the results suggested that children who participated in Cool Kids reported improvements in anxiety and depression symptoms, affective problems, and internalizing problems. However, these findings were only partially supported by the parents' report (Scaini et al., 2022).

FRIENDS for Life. The FRIENDS program (Barrett et al., 2000) is yet another extensively researched prevention and intervention program. It was originally designed as The Coping Koala, an individual CBT program targeting child anxiety (Barrett et al., 1996), which was modelled after the Coping Cat program (Kendall, 1994). However, FRIENDS differs in that it was developed as a universal program and specifically designed to be implemented in a group format by school-based mental health professionals or classroom teachers (Barrett et al., 2000; Barrett & Pahl, 2006;). FRIENDS is a manualized program with 10 sessions plus two follow up sessions at one- and three-months post-intervention. Like other CBT programs, it consists of behavioural (e.g., relaxation) and cognitive (e.g., positive self-talk) skills and strategies. Further to this, the FRIENDS program coincides with the five core components identified by the Collaborative for Academic, Social, and Emotional Learning (CASEL), these being self-awareness, social awareness, self-management, relationship skills, and responsible decision-making (Durlak et al., 2011).

In one of the first reviews to exclusively examine the effectiveness of FRIENDS, Maggin and Johnson (2014) conducted a meta-analysis that included 17 school-based FRIENDS programs. They examined the effects for trials that included children who were at low risk or high-risk for anxiety, consistent with universal and selective or indicated prevention,

respectively. For the trials that included participants who were at low-risk for anxiety, participants who participated in FRIENDS demonstrated significantly lower anxiety scores relative to the control condition at both post-test (Hedges' g = -0.26) and 12-month follow-up (Hedges' g = -0.31). Conversely, trials with participants at high-risk for anxiety did not demonstrate significant differences between groups at post-test (Hedges' g = -0.37) or 12-month follow-up (Hedges' g = -0.21). Similarly, Fisak and colleagues (2023) conducted a meta-analytic evaluation of FRIENDS programs for children and adolescents, including those conducted in the school setting. There were 41 controlled trials (based on 37 studies) included in their meta-analysis. The results revealed that relative to comparison groups, those who participated in FRIENDS demonstrated lower scores on measures of anxiety (Cohen's d = -0.20) and depression (Cohen's d = -0.24) at post-test, with effect sizes maintained at 6- to 12-month follow-up.

School-Based CBT for Emotion Regulation. Findings from recent meta-analyses also suggest that there are effective school-based programs that target emotion regulation skill development, yet these programs appear to be less well-known in comparison to school-based anxiety management programs. In their meta-analytic review of emotion regulation focused interventions for adolescents, Eadeh and colleagues (2021) found significant overall improvement in adolescent emotion regulation from pre- to post-intervention across all 41 included articles (Hedge's g = 0.28). However, of these 41 studies, only 13 were identified as community and prevention programs; specifically, four studies investigated intervention effects within the school setting more broadly; five studies investigated the effects of specific programs; one study included a sample of at-risk youth and typical youth; two studies included at-risk school samples; and one study was aimed at reducing dating violence. The results of the effectiveness of these community and prevention programs were variable, with some programs

revealing no significant differences between groups at post-intervention on measures of emotion regulation/dysregulation, and others revealing significant improvements at post-intervention with small to large effect sizes.

Similarly, Moltrecht and colleagues (2021) conducted a systematic review and meta-analysis of psychological programs to improve emotion regulation in children and adolescents between ages 6-24. Their review included 21 RCT studies that measured changes in adolescent emotion regulation in youth experiencing various psychopathological symptoms common to emotion regulation challenges, including anxiety. The most common approach to intervention was CBT, with approximately 76% of programs employing this approach, though all programs included elements of CBT. Moltrecht and colleagues (2021) found moderate effect sizes for decreases in emotion dysregulation (Hedges' g = -0.46) and small effect sizes for improvements in emotion regulation (Hedges' g = 0.36). This review did not specify which studies were conducted within the school setting. Pedrini and colleagues (2022) conducted a recent systematic review of school-based interventions to improve emotion regulation skills in adolescents ages 11-18. Their review included a total of 36 studies, eight of which were based on CBT (22.2%), with other programs employing mindfulness, acceptance and commitment therapy, dialectical behavior therapy approaches, among others. Half of the included studies were universal programs. Of the included studies, Pedrini and colleagues (2022) found small to moderate effect sizes for improvements related to emotion regulation skills, such as emotional dysregulation, cognitive skills, or coping skills (Cohen's d ranged from 0.16-0.40). Of the universal CBT-based programs, four showed improvements on measures of emotion regulation skills at post-test.

Research-to-Practice Gap in School Settings

Despite the known effectiveness of school-based programs targeting anxiety and emotion regulation, there remain challenges to the effective implementation of school mental health efforts. For example, numerous evidence-based programs are too expensive, rigid, or lengthy to be easily and effectively implemented in schools (Crooks et al., 2022). Such barriers to the successful implementation of these programs impedes the adoption, delivery, and sustainability of evidence-based programs in schools, which in turn can lead to poor quality program implementation that is inconsistent or incomplete (Durlak & DuPre, 2008; Evans & Weist, 2004). Unfortunately, the adoption and implementation of evidence-based practices in schools is inconsistent and slow, in turn limiting their effectiveness on desired outcomes (Owens et al., 2014). While many rigorous research studies provide support for the effectiveness of evidence-based programs, these same programs will not produce positive student outcomes unless they are adopted and adequately implemented in real world contexts. To this extent, there is research to support the notion that the existing research to practice gap does in fact have detrimental impact on the effect of such programs when delivered in real-world settings, such as schools (Fixsen et al., 2005).

Implementation Science

According to Forman and colleagues (2013), "implementation refers to the process of putting a practice or program in place in the functioning of an organization, such as a school, and can be viewed as the set of activities designed to accomplish this" (p. 78). The study of methods to support the transfer of research and evidence-based practices to practice and policy is referred to as implementation science (Eccles & Mittman, 2006). Dane and Schneider (1998) identified five aspects to implementation. These aspects are (1) fidelity, which involves the extent to which

an intervention is delivered as described (i.e., adherence); (2) dosage, which relates to how much, or the quantity of, the original intervention has been delivered; (3) quality, which is how well the individual program components have been implemented; (4) participant responsiveness, which is the extent to which participants respond to or are engaged by the program; and (5) program differentiation, which essentially reflects the uniqueness of the program and the extent to which its theory and practices distinguish it from other interventions. Durlak and DuPre (2008) described three additional aspects of implementation, for a total of eight aspects. These additional aspects are (6) monitoring of control/comparison conditions, which involves making note of the nature and number of services received by participants in these groups; (7) program reach, which reflects participation and involvement rates; and (8) adaptation, which refers to modifications or changes made to the intervention during implementation.

Facilitators and Barriers to School-Based Program Implementation

Implementation science can help to address challenges and barriers to successful school-based implementation of clinical interventions, in turn bridging the gap between research and practice in school-based mental health (Lucente et al., 2021; Lyon & Bruns, 2019). For example, this may include how to effectively transfer core elements of an intervention to a real-world setting, or how to adapt a program to match the local context (Rabin & Brownson, 2012). Research in the field of implementation science has highlighted the wide range of factors that can either facilitate or hinder the implementation and sustainability of an intervention (Shoesmith et al., 2021). For example, in their recent systematic review, March and colleagues (2022) identified four sustainability factors at the school level, including school leadership, staff engagement, intervention characteristics, and resources. They also identified external support as a sustainability factor at the system level. Each factor was separated into 15 themes reflecting

various barriers and facilitators to the sustainability of school-based mental health and wellbeing interventions. For example, school staffs' enjoyment of delivering an intervention was identified as a facilitator to sustaining the intervention over time, as was perceived student engagement and perceived benefits related to student mental health, wellbeing, and behavior and classroom climate, whereas low levels of engagement and low student motivation were considered barriers (March et al., 2022). March and colleagues (2022) also identified program characteristics as an important factor related to intervention sustainability, particularly as it related to intervention content, training opportunities, and intervention materials and resources. When program materials are viewed as being practical, well organized, less difficult to implement, and meet a specific need within the school, they are more likely to result in continued intervention use (Adametz et al., 2017; Crane et al., 2022; Jolivette et al., 204; LoCurto et al., 2020; Nadeem & Ringle, 2016).

In their 2021 review, Gee and colleagues identified similar barriers and facilitators to the implementation of school-based psychological programs, with factors relating to intervention characteristics (e.g., acceptability and practicality of the intervention), organizational capacity (e.g., support of school leadership), training and technical assistance (e.g., suitability of the intervention manual and materials), provider characteristics (e.g., ability of staff to effectively deliver the program), and community factors (e.g., priorities of health and education systems). Lack of time is also commonly identified as a key barrier to the successful implementation of school-based programs (Langley et al., 2010).

Intervention Fidelity

Fidelity, also known as adherence or treatment integrity, can have implications for the sustainability of school-based programs (Proctor et al., 2009). Fidelity refers to the extent to

which an intervention is delivered in line with its intervention model and has been identified as one of the key aspects in implementation research (Perepletchikova, 2011; Schulte et al., 2009). In their seminal review, Durlak and DuPre (2008) found that implementation fidelity is a critical component of successful programs, as programs with high implementation fidelity have been shown to have effect sizes two to three times larger than those of poorly implemented programs.

However, while fidelity is often considered the "gold standard" and important to implementation outcomes, consideration of contextual and cultural adaptations is equally as important (Forman, 2019; Lyon et al., 2019). Historically, implementation science has viewed interventions as fixed protocols that are to be delivered exactly as described with precise reliability (Lyon & Koerner, 2016). However, this approach to implementation is not always feasible, especially in multifaceted settings such as schools (Crooks et al., 2022). For example, Sanetti and Kratochwill (2009) and Shulte and colleagues (2009) have suggested that not all components of an intervention are of equal importance, and therefore strict adherence to a treatment protocol may not be necessary or desirable. They have further suggested that there may be a possible "ceiling effect" in which improving fidelity may not be necessary to produce desired outcomes, or even be cost effective. The issue is that we do not know the precise level of fidelity that is required to produce beneficial or desired outcomes, or how far we can deviate from the treatment protocol to observe desired effects (Gresham, 2009). It has been argued that the level of adherence to treatment protocols may depend on the type of research being conducted. For example, efficacy studies would likely require strict adherence as these studies aim to determine intervention effects under highly controlled conditions. Conversely, a more flexible approach may be more suitable for effectiveness studies as these studies examine

intervention effects under less controlled conditions where there is high external validity (e.g., schools) (Gresham, 2009).

The Need for Program Adaptations

There are many studies in support of flexibility in delivery of treatment protocols by making adaptations, which refer to "the extent to which facilitators add to or modify content and processes as prescribed in the manual" (Berkel et al., 2011, p. 26). In fact, adaptations are quite common in school-based interventions (Ringwalt et al., 2003). When adaptation takes place, there is an intentional change made to a method or practice with the goal of making it more suitable for use with a specific population (McKleroy et al., 2006). Research has shown that when evidenced-based programs are delivered in local, real-world settings, those delivering the program often make adaptations to better suit their needs or to better match the program to the context or conditions (Rogers, 2003; Rohrbach et al., 2006). This is often necessary in multifaceted settings such as schools to ensure the appropriateness or fit of an intervention (Proctor et al., 2013). For example, many teachers make changes to the programs they implement, including shortening lessons due to time constraints, adapting activities to increase student engagement, or removing components of the program that do not appear useful for their students (Durlak, 2016). Further to this, interventions that are adapted have an increased likelihood of being maintained over time (Berkel et al., 2011; Rogers, 2003). Sustainability of universal evidence-based programs within schools is critical to ensure that all students continue to develop important skills, coping strategies, and resiliency throughout their formative school years.

Some may view deviations from the treatment protocol as poor-quality implementation that negatively impact the effectiveness or validity of a program (Fixsen et al., 2005). However,

adaptations do not necessarily need to be viewed as an absence of fidelity; rather, they can instead reflect enhancements that promote participants' learning and not considered equivalent to an inability to appropriately deliver a program as described (Berkel et al., 2011). According to Berkel and colleagues (2011), a key issue for implementation science is to establish whether adaptations to a program serve to enhance or reduce the effectiveness of the program and its outcomes. Research suggests that clinical interventions that have been transferred and adapted to the school setting can be beneficial and linked positively with student outcomes (Durlak & DuPre, 2008; Lendrum & Humphrey, 2012). For example, there is school-based CBT research to show that treatment fidelity does not necessarily nor reliably predict anxiety outcomes (Husabo et al., 2021), in turn suggesting that a flexible approach to implementation may be a necessary consideration for the delivery of real-world school-based programs (Crooks et al., 2022). However, because adaptations can either enhance or decrease outcomes depending on the type and extent of modification made, it is crucial that a) the 'active ingredients' of an intervention are maintained and adhered to, and b) that adaptations are documented (Durlak, 2016). The active ingredients of a program refer to the elements that are presumed to be theoretically or empirically responsible for producing the desired outcomes.

The Role of Teachers in School-Based Mental Health

The increased need for school-based mental health services has come with a shift in the role of the teacher in program delivery from helper and support person to that of a service provider (Berzin et al., 2011; Frey et al., 2011; Kelly et al., 2010; Park et al., 2020). Having school staff implement school-based mental health programs is associated with many benefits; for example, it is more cost efficient to train teachers than to hire specialists, and teachers have an advantage over outside school personnel as they have already established rapport with

students and are familiar with their unique situations and personalities (Zhang et al., 2023). While many CBT programs are designed to be implemented by mental health professionals (Werner-Seidler et al., 2017), there are many barriers that hinder the successful implementation of school-based CBT by these trained individuals (Langley et al., 2010). Luckily, there is recent research which highlights how classroom teachers and other school personnel can effectively deliver school-based social-emotional and mental health initiatives (Durlak et al., 2011; Sanchez et al., 2018; Werner-Seidler et al., 2021). Despite this, research in the field is mixed as some meta-analyses indicate that interventions delivered by external providers produce better outcomes than those delivered by school staff (e.g., Zhang et al., 2023). Conversely, other studies have found that teachers are more effective facilitators (Neil & Christensen, 2009), but only under some treatment conditions (Franklin et al., 2017). There can be various factors and moderators that impact these findings. For example, the tier of the intervention (e.g., Tier 1 being universal, Tier 2 being targeted, and Tier 3 being intensive) has been shown to significantly moderate treatment outcomes for internalizing problems such that teachers were found to be more effective in delivering Tier 1 interventions for internalizing disorders compared to Tier 2 and Tier 3 interventions (Park et al., 2020).

Gaps in the Literature

Most of the research related to the effectiveness of school-based mental health programs has been conducted with highly trained staff as program facilitators, rather than school staff in the natural school context (Owens et al., 2014; Rones & Hoagwood, 2000). When teachers do deliver these programs, they are often expected to do so with strict adherence to the intervention manual and thus direct insertion of an intervention into an existing system, with limited flexibility in the methods of implementation (Klein & Knight, 2005). This can be problematic as

programs delivered without flexibility and consideration of context often present as barriers to successful implementation due to incompatibility with school staffs' resources, values, and expertise (Durlak & DuPre, 2008). As such, a more nuanced understanding of how CBT programs delivered by school staff can be feasibly implemented within the school environment is critical.

In addition, CBT programs for childhood anxiety often include some specific emotion regulation strategies (e.g., cognitive distortions, behavioural avoidance), which have been identified as factors that maintain anxiety (Ehrenreich-May et al., 2017; Myles-Pallister et al., 2014; Suveg et al., 2009), while others consist of techniques that promote emotion regulation more generally. However, there exist very few programs that target difficulties in emotion regulation (e.g., emotion awareness and understanding, management of emotions) and their explicit relationship to the development and maintenance of anxiety disorders in children (Suveg et al., 2018). Further to this, it has been suggested that researchers often measure alleged outcomes of improvements in emotion regulation, such as symptoms of anxiety, but not the explicit regulating skills themselves (Loevaas et al., 2019). A failure to explicitly target or measure emotion regulation may be problematic, potentially limiting the effectiveness of CBT programs for anxiety as emotion regulation may in fact be the lacking skill in need of strengthening as a means to improve symptoms of anxiety (Hannesdottir & Ollendick, 2007).

Present Program of Research

The current program of research aims to address these gaps in the literature by exploring the preliminary effectiveness and feasibility of HMHS, a novel, CBT school-based program for elementary students. More specifically, the aim of Study 1 was to conduct a preliminary evaluation of HMHS to determine if children receiving the program demonstrated improvements

in both symptoms of anxiety and emotion regulation skills relative to a comparison group. HMHS is focused on balancing high-fidelity implementation with flexibility. Given the importance of implementation data in program evaluation (Durlak & DuPre, 2008), data related to implementation was also collected and examined in Study 1. Study 2 provided unique insights in the fields of school psychology and implementation science by detailing students' and school staffs' experiences and perspectives of the feasibility of the HMHS program and expanding on these findings to highlight broader themes related to facilitators and barriers in the delivery and sustainability of school-based mental health efforts. More specifically, Study 2 provided a qualitative analysis of students' and school staffs' perspectives of the program and its implementation by exploring the feasibility domains of acceptability, implementation, and perceived utility (Bowen et al., 2009).

Chapter III – Manuscript One

Healthy Minds, Healthy Schools:

A school-based prevention program targeting child anxiety and emotion regulation

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Abstract

This pilot study explored the implementation of Healthy Minds, Healthy Schools (HMHS), a new, universal school cognitive-behavioural therapy program aimed at improving anxiety and emotion regulation. Using a quasi-experimental design with open assignment to groups, elementary students were assigned to either the intervention (n = 186) or comparison (n = 94) group. Post-test scores for both groups were compared using ANCOVA, with the pre-test scores used as covariates. Small effect sizes of statistically significant anxiety improvements at post-test were reported by participants in the intervention group only. No significant differences were found for self-reports of emotion regulation nor parental report of child anxiety or emotion regulation. Results provide some preliminary evidence for the use and potential benefits of implementing CBT-based techniques in schools to assist students in managing anxiety-related symptoms. This study also explored program implementation fidelity and adaptation. The completion rate of fidelity tracking forms was 94%. Of the completed forms (N = 113), 74% of lessons were delivered as described. Examining implementation factors and allowing for flexible program delivery may present as key considerations to the successful transfer and sustainability of clinically-based interventions to the school context.

Introduction

Approximately 10-25% of children and adolescents are affected by mental health problems (Bains & Diallo, 2016). Anxiety is particularly problematic, as approximately 117 million children and youth are affected by anxiety disorders (Polanczyk et al., 2015). These mental health problems often emerge before ages 11-14 (Merikangas et al., 2010) and typically persist into adulthood if left untreated (Jones, 2013).

Difficulties in emotion regulation have been shown to predict anxiety over time in children and adolescents (Schneider et al., 2018) and often precede symptom onset, making emotion dysregulation an important risk factor for the development and maintenance of psychopathology (Malhi et al., 2017). Maladaptive emotion regulation strategies such as suppression, denial, catastrophizing and blaming others have been associated with higher levels of internalizing symptoms, including anxiety (Compas et al., 2017; Garnefski & Kraaij, 2018). Such findings bear important implications on the child evolving within the school context as emotion dysregulation can significantly impact a child's ability to learn and to develop positive relationships with others (Beauchaine, 2015). Conversely, children and youth with higher levels of emotion regulation are more likely to have greater emotion awareness, more accurate emotion expression, and more effective regulation of emotions, in turn supporting their emotional and social development (Brackett et al., 2011).

Middle childhood (age 9-12) marks a critical and developmentally sensitive period for emotion regulation skill-development as children begin to make use of cognitive and relaxation strategies to regulate physiological arousal (Uhl et al., 2019). Cognitive emotion regulation is a coping strategy that uses conscious thoughts to manage emotions in response to adverse events (Garnefski et al., 2001). Because anxiety is often characterized by emotion regulation difficulties

(Gross & Jazaieri, 2014) and anxiety disorders often have an age of onset before age 13 (Solmi et al., 2022), it is imperative that children learn skills and solidify healthy regulatory strategies to manage anxiety from an early age.

School-Based Cognitive-Behavioural Therapy

According to cognitive-behavioural therapy (CBT), anxiety results from the interaction of distorted cognitions (thoughts), physiological arousal (feelings), and avoidance (behaviours) (Compton et al., 2010). Numerous reviews and meta-analyses suggest that CBT for anxiety disorders in children and youth are effective, with moderate to large effect sizes (James et al., 2020; Scaini et al., 2016; Werner-Seidler et al., 2021). Despite the widespread availability of effective, evidence-based programs, children rarely receive appropriate or timely treatment for their anxiety (Merikangas et al., 2011). Even when the required services are accessed, up to 50% of children continue to meet diagnostic criteria for an anxiety disorder (James et al., 2020), which may be the result of untimely treatment.

To prevent these problems, it has been suggested that clinical programs be transferred to the school setting (see Neil and Christensen, 2009, for a review). Schools provide a convenient, cost-effective, and accessible way to establish social and emotional competencies for many students simultaneously (Creed et al., 2011) through the implementation of universal mental health (Smallwood et al., 2007) and social emotional programs (Stormont & Reinke, 2021). According to the three-tiered Response to Intervention (RTI) model, which is designed to address and support students' academic, social, emotional, and behavioural needs, Tier 1 includes universal interventions for all students (Gresham, 2005; Madalis, 2012). Universal approaches to treatment are inclusive and reduce stigma (Masia Warner et al., 2007) and are favorable as they are designed to strengthen general mental health and resiliency for all (Barrett

et al., 2001). Evidence in support of school-based CBT programs to improve mental health outcomes is well-documented in the literature, with CBT being one of the most frequently used frameworks in school-based mental health (Werner-Seidler et al., 2021). CBT is short-term and directed, making it an appealing approach in schools given time and resource limitations (Smallwood et al., 2007). In their recent review, Werner-Seidler and colleagues (2021) found that school-based programs were effective in reducing general symptoms associated to anxiety, with small effect sizes post-intervention (Hedges' $g = 0.20$).

Due to the increasing demand for school-based mental health services, teachers' role has shifted from support person to service provider (Berzin et al., 2011; Frey et al., 2011; Park et al., 2020). Benefits of having school-based mental health initiatives implemented by school staff include reduced cost, as training teachers in program implementation is less expensive than hiring specialists, and teachers have already established rapport with students and know their unique backgrounds and personalities (Zhang et al., 2023). There is research to suggest that classroom teachers and other school personnel can effectively facilitate social-emotional programs (Ahlen et al., 2015; Durlak et al., 2011). Previous studies investigating CBT interventions for anxiety have shown that programs led by teachers and other school staff produced comparable decreases in anxiety relative to those facilitated by psychologists (Barrett & Turner, 2001; Stallard et al., 2005).

Research to Practice Gap

Many prevention efforts for childhood internalizing disorders, and anxiety in particular, target emotion regulation skills (Ehrenreich-May et al., 2017; Myles-Pallister et al., 2014). However, it has been suggested that researchers often measure the alleged outcomes of improvements in emotion regulation, such as symptoms of anxiety, but not the explicit regulating

skills themselves (Loevaas et al., 2019). In their recent meta-analysis, Eadeh and colleagues (2021) reported that there are a range of evidence-based programs which may improve adolescent emotion regulation, but that many of these studies do not include a direct measure of emotion regulation to measure change over time (Eadeh et al., 2021).

Another gap in the literature is related to the transfer of programs validated through clinical research into the school environment. This process can be challenging, as rigid manualized programs may not always meet the needs of students or teachers (Paulus et al., 2016). When these programs are transferred to schools they often, inevitably, include adaptations, which are not necessarily detrimental and can be beneficial to program outcomes (Durlak & DuPre, 2008; Lendrum & Humphrey, 2012). Adaptations are considered "the extent to which facilitators add to or modify content and processes as prescribed in the manual" (Berkel et al., 2011, p. 26). While some may consider deviations from the treatment protocol to be poor implementation that leads to ineffective or invalid interventions (Fixsen et al., 2005), adaptations can also be viewed as enhancements to a program as opposed to an absence of fidelity. Program delivery enhancements can instead promote participants' learning and should not be viewed equivalent to an inability to appropriately deliver the program as described (Berkel et al., 2011). Adaptations that do not undermine or eliminate core components or the "active ingredients" of the program are generally not viewed as problematic and are often necessary for improving the fit of the program to the intended setting and for the sustainability of school-based implementation efforts (Crooks et al., 2022; Lyon & Bruns, 2019). However, it is critical that the key components of the program are maintained and that any adaptations made are documented (Durlak, 2016).

Healthy Minds, Healthy Schools Program

We identified key clinical hallmarks of CBT-based programs targeting anxiety and emotion regulation and integrated these using a universal design framework to develop a novel program intentionally designed for school-based implementation. Healthy Minds, Healthy Schools (HMHS), a Tier 1 (Gresham, 2005) universal prevention program for elementary students, is grounded in CBT (Beck, 2011), an effective approach for reducing anxiety in children by modifying unhelpful thoughts and behaviors through coping and emotion regulation strategies. Core components of HMHS include psychoeducation regarding thoughts, feelings, and actions; positive thinking (cognitive restructuring) and self-talk; skills for identifying and regulating emotions; effective communication of emotions; and relaxation and mindfulness techniques, such as deep breathing, imagery, and paying attention to one's body and physical sensations. Goals of HMHS include teaching children about thoughts and feelings, identifying strengths and skills, and promoting healthy coping strategies and psychological wellness through an exploration of positive feelings, gratitude, and identifying personal strengths and skills. Teaching modalities are eclectic and include reflection, group discussions, small group work, arts and crafts, strategy practice and videos. A description of each lesson is presented in Table 1.

The HMHS program was developed with the intent of not only being manualized and based on more traditional methods of teaching, but also aimed to rely on blended learning approaches by allowing some level of flexibility and program-enrichment with virtual content to accommodate all learning styles, peer-to-peer interaction, and project-based learning. As such, the HMHS program aims to balance high-fidelity implementation with flexibility to allow school staff to modify program contents and modalities of delivery to better meet the needs of their students (Crooks et al., 2022), while still delivering the core elements of the program as these

components should not be compromised (Durlak & DuPre, 2008). The facilitator manual explicitly specifies all components of the program which are to be delivered. The aspects of the program that are permitted to be flexible include the modality in which the activities are completed (e.g., changing a paper and pencil task to a larger group discussion), as well as the addition of activities and resources that correspond to the lesson topic (e.g., reading a book or watching a video about mindfulness). Other than these adaptations or additions, facilitators are instructed to deliver all other content as described.

The Present Study

Based on evidence from other school-based CBT based programs (e.g., Werner-Seidler et al., 2021), it was hypothesized that relative to the comparison group, children participating in HMHS would show improvements in self- and parent-reported anxiety symptoms. Based on prior research (e.g., Claro et al., 2015), it was hypothesized that children taking part in HMHS would self-report an increase in adaptive cognitive emotion regulation and decrease in maladaptive cognitive emotion regulation, and that parents would also report improvements in child emotion regulation at post-test compared to those in the comparison group. Given the importance of implementation data in program evaluation (Durlak & DuPre, 2008), implementation data related to fidelity and adaptation was also collected.

Method

Participants

Ethical approval was obtained from the ethics review boards of the university and the only school district from an Eastern Canadian province. Upon obtaining schoolboard and university ethical approval, convenience sampling was used to invite eleven schools to have grade four, five, and six students participate in HMHS. Given that HMHS is a universal

classroom-based program, there were no exclusion criteria, and all students were invited to participate. Of the invited schools, eight agreed to participate, with a total of 19 classrooms. Parental consent and student assent were obtained. Parents could refuse their child's participation in data collection while still having their child participate in the HMHS lessons.

Using a power analysis procedure with a minimum study power of .80, it was estimated that a sample size of approximately 115 would be required to reach sufficient statistical power. The initial sample at pre-test consisted of 297 students and 180 parents. Demographic data is presented in Table 2. Participants were 9-12 years of age (M = 9.85, SD = 0.823) in grades four (n = 118), five (n = 109), and six (n = 53), with 55.7% (n = 156) identifying as female. Missing data at post-test was due to child participants' absenteeism at post-test data collection (n = 26, 8.75%). Missing parent data at post-test was attributable to parents' failure to return questionnaires within two weeks of students' post-test data collection (n = 53, 29.4%). Missing data rates of 15-20% are common in educational and psychological research (Enders, 2003). Students lost at post-test did not differ significantly from the other students on the variables measured. The final sample for analysis included 254 children and 127 parents for whom both pre- and post-test data were available (see Figure 1).

Study Design

A non-equivalent pretest-post-test quasi-experimental design was used. Classroom teachers were provided details about HMHS, and classrooms served as the intervention or comparison group based on school personnel's interest in having their class receive the program. Twelve classroom teachers agreed to participate in the program and these students served as the intervention group. The comparison group was comprised of students from seven classrooms

based on teachers' interest in participating as a comparison condition. An overview of the study design and sample is presented in Figure 1.

Procedure

Sessions were implemented by either a regular classroom teacher (n = 6) or guidance counselor (n = 4). Two facilitators implemented the program in two different classrooms. Facilitators completed a two-hour training session with the principal investigator in December 2018, covering an introduction to CBT, review of program content, group dynamics, active listening techniques, and implementation methods. Facilitators were advised that their role was to activate group discussions through delivering program content while making connections between the content and students' disclosures and questions. Facilitators received a manual to guide the content delivery in a systematic way. Lesson content was outlined for each session and included discussion examples and the timing of prompts for each component. Facilitators were advised that they could access follow-up training/coaching sessions with the first author as needed; however, facilitators did not request these sessions. Weekly check-in emails were sent to facilitators to ensure facilitator engagement and ongoing programming as well as to address any potential issues that might interfere with implementation.

Psychology undergraduate and graduate volunteers assisted with the standardized administration of student questionnaires at pre- (January 2019) and post-test (April-June 2019). Volunteers were trained in January 2019 (e.g., reviewed the measures, explained their role) and data collection was supervised by the first author. Students read and completed the questionnaire items on their own. The volunteers read the items to students who had difficulty reading independently. Supervised data collection took place during regular school hours in the school's library, cafeteria, or classroom. The classroom teacher was also present during assessments in the

classroom. Students for whom parental research participation was not obtained remained in their classroom with their teacher. Parents were provided questionnaire packages and envelopes to complete the questionnaires at home. Questionnaires were returned to the homeroom teacher in the sealed envelope at both pre- and post-test. After each session, facilitators completed an electronic Google Form to assess fidelity.

HMHS was implemented by school staff for a 60-minute weekly session over 10 weeks between January and June 2019. Each student was provided with a workbook consisting of worksheets and strategies taught. Students completed a "check-in" at the beginning and end of each session, in which they were prompted to mindfully pay attention to their body. Students were then prompted to identify how they were feeling and what they were thinking. Each session began with a review of previous lesson and homework. New lesson content was presented through structured group discussions, strategy rehearsal, and an individual or group activity. Students were encouraged to practice learned strategies at-home (homework) to assist with generalization of skills outside the classroom. While the intervention group participated in HMHS, the comparison group was business-as-usual.

Measures

Anxiety

The *Revised Child Anxiety and Depression Scale* (RCADS; Chorpita et al., 2000) is a 47-item self-report questionnaire that assesses anxious and depressive symptoms in children and youth aged 8-18. Items are on a four-point scale (0 = *never*, 3 = *always*) with higher scores indicating higher levels of anxiety. An example item is "When I have a problem, my heart beats really fast." The total anxiety scale was used as the measure of anxiety. This scale has high internal consistency in non-clinical samples ($\alpha = 0.95$; Donnelly et al., 2018) and in the current

sample (α = 0.94). The parent version of the RCADS (RCADS-P; Chorpita et al., 2000) was used to measure parents' perceptions of child anxiety. Items on the parent measure are identical to the child measure except they are from the parent's perspective. Scores on the total anxiety scale range (Cronbach's α of 0.65 to 0.80) (Chorpita et al., 2000). A coefficient of 0.94 was obtained for the current study.

Emotion Regulation

The *Cognitive Emotion Regulation Questionnaire – Child version* (CERQ-k; Garnefski et al., 2007) is a 36-item questionnaire used to identify cognitive emotion regulation strategies that 9–11-year-old children use in response to negative events or situations. Items are measured on a 5-point Likert scale (1 = *never*, 5 = *always*). The CERQ-k consists of nine different strategies: self-blame, other-blame, rumination, catastrophizing, positive refocusing, acceptance, refocus on planning, positive reappraisal, and putting into perspective. Items from the first four strategies form the 'negative-focused' (i.e., maladaptive) strategies scale, and the remaining five strategies form the 'positive-focused' (i.e., adaptive) strategies scale. An example item is "I think that others are to blame." Cronbach's coefficients for most subscales exceed 0.70 (Garnefski et al., 2007). Good internal consistencies have been reported for scores on the 'positive-focused' and 'negative-focused' scales (Cronbach's α = 0.89 and 0.82, respectively). In this sample, Cronbach's alpha for scores on both the adaptive and maladaptive scales was 0.82. The *Emotion Regulation Checklist* (ERC) assessed parents' perceptions of child emotion regulation on four-point scale (1 = *almost always*, 4 = *never*; Shields & Cicchetti, 1997). The ERC consists of two subscales: the negativity/lability scale and the emotion regulation scale. Only the emotion regulation subscale was used in the current study. An example item is "Can say when s/he is

feeling sad, angry or mad, fearful or afraid." High internal consistency ($\alpha = 0.83$) has been reported (Shields & Cicchetti, 1997). The alpha coefficient for this study was .60.

Program Implementation

While facilitators were advised to deliver all core components of the program as outlined in the manual, they completed a two-item Google Form after each session for experimenters to assess fidelity. Facilitators identified whether they "delivered the lesson content as described in the facilitator manual" or "delivered the lesson with deviations from the manual." If adaptations were made, facilitators were then required to answer an open-ended question to specify the adaptation made and why.

Data Analysis

Outcome analyses were derived from self-reports of anxiety and self-reports of adaptive and maladaptive cognitive emotion regulation, and parent reports of anxiety and cognitive emotion regulation. Participant age, sex, household income, household composition, parent education and baseline scores on all continuous variables were compared between groups using *t*-tests and χ^2 test. Participant age was the sole variable found to be significantly different between groups at baseline for schools, $F(7, 272) = 72.73$, $p = <0.001$) and classrooms, $F(18, 261) = 94.12$, $p = <0.001$), thus we controlled for age in all analyses. To examine whether HMHS had better effects on the improvement of anxiety and emotion regulation than the comparison group, post-test scores for both groups were compared using ANCOVA, with the pre-test scores used as covariates. Small effect sizes post-intervention are expected given existing research findings (Werner-Seidler et al., 2021). Reviews of school-based prevention programs targeting anxiety have demonstrated a similar pattern of results, though quite variable, with effect sizes ranging from 0.11 to 1.37 (Neil & Christensen, 2009)

At pre-test, the intervention and comparison groups included 198 and 99 children, respectively. Seventeen case outliers were excluded from the child dataset before analysis. An evaluation of these datapoints and corresponding raw data revealed significant discrepancies between participant's pre- and post-test scores; these participants appeared to appropriately select answer choices during pre-test, but circled zeroes for every item on their post-test questionnaire, or vice-versa. These participants were excluded from analyses. After removing outliers before analysis (n = 17), the intervention and comparison group had 186 and 94 children, respectively. The final sample for analysis included 254 children and 127 parents for whom both pre- and post-test data were available (see Figure 1). All analyses were conducted in SPSS with a significance level of $p < 0.05$. Simple percentages were used to report on fidelity data.

Results

Tests of Assumptions

All assumptions were met for analyses involving the CERQ-k scales and both parent outcomes. Standardized residuals for the child RCADS Total Anxiety scale were not normally distributed, as assessed by Shapiro-Wilks' test, and the dependent variable was transformed by applying a square root transformation. ANCOVA tests of assumptions were run on the transformed data and all assumptions were met.

Descriptive Statistics

Means and standard deviations (SD) for continuous variables at pre- and post-test and the results of the ANCOVA analyses are reported in Table 3. Measures of effect sizes (η_p^2) are also included in Table 3. The magnitude of the effect size was small for all results reported. Correlation analyses of pretest assessment scores demonstrated an association between ERC and RCADS-P (r = -.153, p = .040); RCADS-P and CERQ-k maladaptive strategies (r = .160, p =

0.32); RCADS and CERQ-k maladaptive strategies (r = .597, p = <.0001) and adaptive strategies (r = .202, p = <.001), CERQ-k maladaptive and CERQ-k adaptive strategies (r = .190, p = .001).

Outcome Analyses

Anxiety

After adjustment for baseline self-reports of total anxiety, the one-way ANCOVA revealed that the intervention group showed a greater decrease in their total score of anxiety at post-test relative to the comparison group, $F(1, 250) = 7.77$, $p = .006$, partial $\eta^2 = 0.03$. After adjusting for baseline parent reports of child total anxiety, the results of the one-way ANCOVA revealed no significant differences in parent reports of child anxiety between the two groups, $F(1, 123) = 0.50$, $p = .824$, partial $\eta^2 = 0.00$.

Emotion Regulation

After adjusting for baseline self-reports, the ANCOVA analyses for the students' cognitive emotion regulation revealed no significant post-test differences between the two groups in adaptive cognitive emotion regulation strategy use, $F(1,250) = 0.46$, $p = .498$, partial $\eta^2 = 0.00$, nor maladaptive cognitive emotion regulation strategy use, $F(1,250) = 0.50$, $p = .481$, partial $\eta^2 = 0.00$. Similarly, there was no statistically significant difference between groups at post-test in child emotion regulation, $F(1,123) = 0.00$, $p = .954$, partial $\eta^2 = 0.00$.

Program Implementation

The completion rate of the fidelity tracking forms was 94%. Of the completed forms (N = 113), 74% of lessons (n = 84) were delivered as described without any additions or modifications to program content or delivery. Of the lessons that included additions or modifications, most (69%, n = 25) involved adjusting the initial review of previous lesson content from a "think, pair, share" format, in which students discussed with a partner, to larger classroom discussion.

Additionally, 7% of modifications (n = 2) involved separating a lesson into two sessions due to time constraints; 3% (n = 1) involved using tablets instead of paper for an activity; and 21% (n = 6) resulted from completing an individual art activity as a group.

Discussion

The results from this pilot study indicated that children who participated in HMHS reported significant decreases in anxiety ratings relative to children in the comparison group. The effect sizes for these measures were small. These findings are comparable to research suggesting that universally designed CBT school-based programs can be effective in reducing symptoms of anxiety with small effect sizes (e.g., Neil & Christensen, 2009; Werner-Seidler et al., 2021). It is possible that effect sizes may reflect other classroom level variables (e.g., emotional support and classroom organization) that may impact children's social and emotional skill development (McCormick et al., 2015). Nonetheless, the small effect sizes found mirror those reported in recent reviews of school-based programs targeting anxiety (e.g., Werner-Seidler et al., 2021). As intended, universal prevention programs target a nonclinical population whose likelihood of developing clinical levels of anxiety is commonly low; as such, programs that demonstrate even small effect sizes still provide clinical and practical utility (Ahlen et al., 2015). This in turn highlights the importance of considering sub-clinical levels of anxiety, which may be critical in program development and validation (Schmitt et al., 2022).

While children as young as eight can use cognitions to regulate emotions (Terwogt & Stegge, 1995), we found no group effects for children's use of emotion regulation strategies. It is possible that participants had not yet encountered stressful situations in which they would need to implement cognitive coping strategies. It is also possible that significant effects were not found as the program did not teach every CERQ-k emotion regulation strategy explicitly (e.g.,

see Claro et al., 2015); rather, the program served to provide psychoeducation and tools for changing or replacing unhelpful thoughts with more adaptive thinking patterns in response to a negative event. As such, any possible changes in other known dimensions of emotion regulation (e.g., emotion awareness, emotion labelling), though measurable using other validated scales, would not be captured by the CERQ-k, accounting instead for a potential measure sensitivity limitation. The program did not have an impact on parents' perceptions of children's anxiety or emotion regulation. Because a child's experiences of anxiety can be subjective and this was not a clinical sample, it is possible that parents were not fully aware or had different views of their child's experiences of anxiety. Parents are also not able to observe children's thought processes and internal states (Hourigan et al., 2011), making assessment and reporting of emotion regulation strategies particularly challenging.

Seventy-four percent of lessons were delivered as prescribed in the facilitator manual, as reported by program facilitators. Adaptations made to program delivery or content did not deviate or omit core clinical components of the intervention. Examples of adaptations included using technology instead of paper and pencil and conducting a classroom wide discussion instead of discussing with a single partner. Programs with at least 60% fidelity have been shown to produce positive results (Durlak & DuPre, 2008), which may suggest that HMHS can produce positive findings even when the program delivery is adapted, although more rigorous research is required. In addition to reporting small and variable effect sizes in terms of program effectiveness, school-based CBT research has shown that treatment fidelity does not necessarily nor reliably predict anxiety outcomes (Husabo et al., 2021). This may suggest that flexible implementation may be a necessary consideration for the delivery of real-world school-based programs (Crooks et al., 2022). However, it is important to note that because of the adaptations

made to program content and delivery, we are unable to truly isolate the mechanisms of change in this study. To elucidate the impact of program modifications and identify components that drive program effects on measured outcomes, future research should include a comparison group of students who received the program exactly as prescribed.

Limitations and Future Research

This study is not without its limitations. The sample size, especially for the parent report, was relatively small, with an attrition rate of 29.4%. Efforts should be made to better entice parent participation in future studies. Convenience sampling, unequal groups and group differences at baseline, the quasi-experimental design, and missing information regarding students' inclusion in other school or external intervention or supports (e.g., counseling), reduced generalizability of findings. Also missing from this study was the input from teachers, who may have provided unique insights regarding students' skill development. The two-hour facilitator training may also pose as a study limitation as it may not be sufficient to offer an in-depth overview of the empirically supported components. Future research could consider the implementation of a training session that would span over at least one or two days to ensure the teaching of these components. The reliability estimate for the parent report measure of emotion regulation was not optimal and should be given consideration and interpreted with caution. Other limitations include failure to document participant attendance and lack of follow-up assessment. As such, we are unable to determine if the changes were associated to content received (i.e., attendance). Another consideration for future research is the inclusion of a follow-up assessment session, as this may have provided children with the opportunity to practice their newly learned skills, in turn increasing the effects of the program over time. This would be in line with research findings that suggest that the effects of CBT interventions for anxiety can increase over time as

individuals are able to practice the skills that they have acquired throughout the intervention (Kodal et al., 2018).

It should be noted that although 26% of lessons included some form of adaptation, this does not mean that the key components of the program were not delivered. Facilitators were instructed to deliver specific content, strategies, and activities, as outlined in the manual. In addition to this, facilitators documented any adaptations made. For the purpose of the pilot study, it was considered that facilitators implemented all required content as outlined in the manual unless they indicated otherwise in the implementation Google Form. However, we recognize that this methodology and the fidelity checklist in particular pose limitations to the interpretation of findings. While facilitators reported on aspects of implementation using a self-report form each week, the use of a single self-report method impacts the conclusions that can be drawn regarding the improvements seen in the children's anxiety scores. The quality of the fidelity measure should be enhanced by creating a checklist for each section of every lesson to ensure that facilitators have implemented all components. Observational, experience sampling, and/or video-recording methods will be necessary to support such expected outcomes. The absence of inter-rater reliability also poses a limitation and will be necessary for future research. It is also possible that social desirability bias could have affected facilitator ratings or the likelihood of disclosing adaptations.

Further to this, though it was not the goal of the present pilot study, we were not able to identify the true mechanisms of change and how the adaptations impacted the program. It will be important for future research involving the HMHS program to more rigorously examine group differences between groups of students who received the program content exactly as described and those who received the program with specific adaptations; doing so would allow us to better

identify which specific components of the program are necessary to produce meaningful change (i.e., the “active ingredients”). By measuring implementation fidelity, the beneficial effects of specific treatment components that contribute to successful outcomes can be isolated (Husabo et al., 2021).

Conclusion

HMHS is a unique program that was developed to be easily implemented by teachers with the aim of teaching skills in the context of a CBT framework by relying on empirically validated components (i.e., cognitive restructuring, validation, mindfulness, etc.). This short-term and directive approach may be appealing for school staff, as their time and school resources are often limited. This pilot study demonstrated preliminary evidence in support for HMHS for decreasing children’s self-reported anxiety symptoms. It also explored the role of program adaptations and provided directions for future research; specifically, making adaptations to program content and delivery may be an inevitable factor and worthwhile consideration for the successful transfer and sustainability of programs within the school setting. By allowing school staff to enhance program content, facilitators may be better able to match the program to student needs.

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Table 1

Baseline Characteristics by Intervention Condition

Variable	Intervention group (n = 186)	Comparison group (n = 94)	p-value
Demographics			
Sex: *N* (%)			.355[a]
Female	100 (53.76)	56 (59.57)	
Male	86 (46.24)	38 (40.43)	
Age in years: *M* (SD)	9.98 (.873)	9.60 (.645)	< .001[b]
Ethnicity/race: *N* (%)			.087[a]
White	55 (63.95)	39 (78.00)	
Other ethnicities	31 (36.05)	11 (22.00)	
Household income*: *N* (%)			.355[a]
Low to moderate	18 (15.52)	7 (10.61)	
Somewhat high to high	98 (84.48)	59 (89.39)	
Household composition: *N* (%)			.325[a]
Dual parent household	101 (84.17)	59 (89.39)	
Other	19 (15.83)	7 (10.61)	
Parent 1 education: *N* (%)			.217[a]
High school or less	6 (5.04)	1 (1.52)	
College or university	113 (94.96)	65 (98.48)	
Parent 2 education: *N* (%)			.062[a]
High school or less	19 (16.52)	4 (6.56)	
College or university	96 (83.48)	57 (93.44)	
Child Outcomes			
Total anxiety: *M* (SD)	35.28 (20.35)	39.64 (18.74)	.051[b]
Adaptive ER: *M* (SD)	56.09 (12.96)	55.74 (11.97)	.829[b]
Maladaptive ER: *M* (SD)	37.51 (10.26)	35.51 (9.30)	.114[b]
Parent Outcomes			
Total anxiety: *M* (SD)	14.02 (8.00)	13.76 (6.34)	.847[b]
ER: *M* (SD)	28.54 (2.77)	28.45 (2.46)	.849[b]

Note. An $\alpha = 0.95$ was used for all statistical comparisons. *P*-value significant at 0.05

*Low to moderate reflects household income of ≤ $15,000-$59,000; somewhat high to high reflects household income of $60,000-≥ $90,000

[a] Value obtained using χ^2 test

[b] Values obtained used independent *t* test

Table 2

Outline of Healthy Minds Healthy Schools Program

Session	Content of Session – Major Learning Objectives
Session 1	Program Purpose & Guidelines • Rapport building • Introduction to the program and its purpose • Establish group guidelines, including respect and kindness, creating a safe space, and confidentiality • Introduction to the thoughts and feelings 'check-in'
Session 2	Introduction to Thoughts • Understand the definition and purpose of thoughts • Discussion of noticing one's thoughts • Define and normalize automatic thoughts (i.e., racing thoughts) • Practice strategies for recognizing and responding to racing thoughts
Session 3	Introduction to Feelings • Understand the definition and purpose of emotions • Psychoeducation and identification of various emotions • Normalization of emotions • Introduction to anxiety and anxiety reactions • Discussion of the connection between thoughts, feelings and actions
Session 4	How My Body Reacts • Identify physiological sensations associated with various feelings • Review the connection between thoughts, feelings, and actions • Discussion of pleasant and unpleasant emotions (valence of emotions) • Discussion of the varying intensities of emotions • Identify and rate intensity of emotions on 'emotions thermometer'
Session 5	Labelling Emotions • Review the connection between thoughts, feelings, and actions • Label emotions based on body sensations and context
Session 6	Mindfulness & Relaxation (Part 1) • Introduction to mindfulness and what it means to be in the present • Practice mindful breathing strategies • Practice mindfulness using the five senses
Session 7	Mindfulness & Relaxation (Part 2) • Understand what it means to be mindful • Introduction to judgements and acceptance

	• Practice strategies for letting go of difficult emotions and navigating challenging situations • Introduction to yoga as a calming strategy
Session 8	Expressing Emotions • Discussion of how to effectively express emotions • Identify the importance of communicating unpleasant emotions to others
Session 9	Strengths, Skills, & Gratitude • Recognize personal strengths • Identify skills and supports • Discussion of uniqueness and respect for diversity • Understand what gratitude means • Practice strategies for showing gratitude and kindness to self and others
Session 10	Wrap Up • Reflect on skills and strategies learned

Table 3

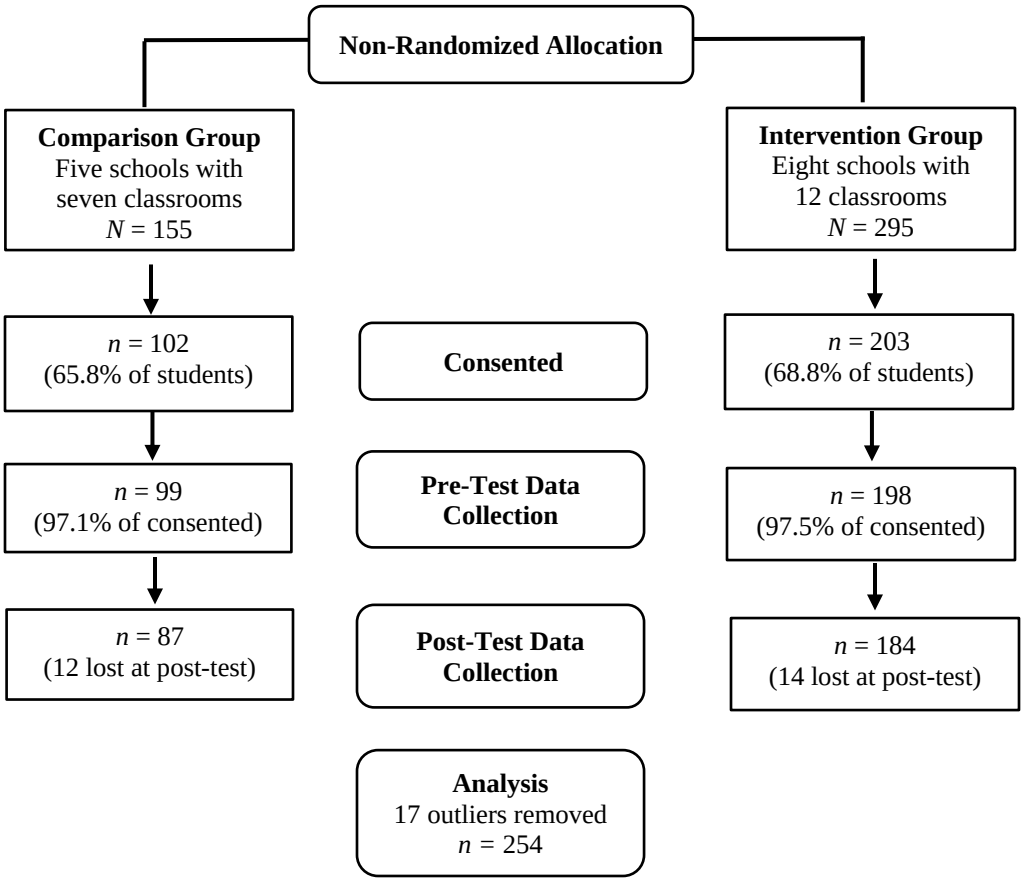
Summary of Treatment Outcomes

	Pre-Test		Post-Test		ANCOVA		
	Comparison group	Intervention group	Comparison group	Intervention group	*F*	*p*	η_p^2
Child Report: M (SD)							
Total Anxiety	39.64 (18.74)	35.28 (20.35)	37.01 (16.13)	29.79 (17.80)	7.77	.006	0.03
Adaptive ER	55.74 (11.97)	56.09 (12.96)	53.06 (12.99)	54.12 (12.74)	0.46	.498	0.00
Maladaptive ER	35.51 (9.30)	37.51 (10.26)	36.26 (8.79)	35.98 (8.62)	0.50	.481	0.00
Parent Report: M (SD)							
Total Anxiety	13.76 (6.34)	14.02 (8.00)	10.71 (5.98)	10.59 (6.07)	0.05[a]	.824	0.00
ER	28.45 (2.49)	28.54 (2.77)	28.29 (2.68)	28.26 (3.07)	0.00[a]	.954	0.00

Note. ER = emotion regulation
Note. Df = 250 unless otherwise specified
[a]df = 123
p-value significant at 0.05

Figure 1

Group Allocation, Consent Rate, and Data Collection of Student Participants



Chapter IV – Bridging Studies

The following research article expands upon Study 1 by providing a detailed qualitative analysis of students' and school-based facilitators' perspectives of the feasibility of the Healthy Minds, Healthy Schools program. Study 1 examined whether the program was effective in improving participants' symptoms of anxiety and emotion regulation skills. Small effect sizes of statistically significant anxiety improvements at post-test were reported by participants in the intervention group only. These results provided some preliminary evidence for the use and potential benefits of implementing CBT-based techniques in schools to assist students in managing anxiety-related symptoms. In addition, Study 1 explored teachers' fidelity and adaptation of program delivery, with 74% of lessons (n = 84) being delivered exactly as described without any additions or modifications to the program or its delivery. Adaptations made to the program were highlighted in Study 1. However, Study 1 did not thoroughly investigate facilitators' rationale behind making these adaptations, nor their perceptions of the program and its delivery more generally.

As such, the next step in this line of inquiry was to gather information related to facilitators' as well as students' perspectives of the program. Thematic analysis was used to evaluate the feasibility of the program, with a focus given to acceptability, implementation, and perceived utility. By using implementation science to explore challenges and barriers to the successful transfer of clinically based interventions to the school setting, Study 2 aims to further bridge the gap between research and practice in school-based mental health (Lucente et al., 2021; Lyon & Bruns, 2019). The results from this study provide invaluable information from key stakeholders regarding facilitators and barriers associated with a novel school-based CBT program. These findings can be further generalized to reflect facilitators and barriers to

implementing school-based mental health initiatives more generally and can ensure that student and facilitator voices are considered when implementing mental health programs in the classroom to ensure the sustainability of such programs in the school setting.

Chapter V – Manuscript Two

Acceptability, implementation, and perceived utility of a school-based cognitive-behavioural intervention: A qualitative feasibility study

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Tilley, M. A., & Montreuil, T. (2023). Acceptability, implementation, and perceived utility of a school-based cognitive-behavioural intervention: A qualitative feasibility study. *Psychology in the Schools, 60*(7), 2409-2429. https://doi.org/10.1002/pits.22870

Abstract

Understanding how cognitive-behavioural therapy programs can be best implemented within the school environment is critical for ensuring that preventative mental health efforts reach all children and are most effective. The purpose of this study was to provide a qualitative analysis of students' and school-based facilitators' perspectives of a cognitive-behavioural school-based intervention. Thematic analysis was used to evaluate the feasibility of the program, with a focus given to acceptability, implementation, and perceived utility. School-based facilitators (N = 10) provided data via weekly checklists. At the end of the program, facilitators also completed an online survey, and elementary students (N =186) completed a questionnaire and open-ended worksheet. Results indicated that the program was feasible for teaching important coping skills to elementary school students. While there were research protocol specific challenges and barriers reported regarding program implementation, the program was deemed useful, engaging, and beneficial for students overall. These findings provide invaluable information from key stakeholders that will permit revisions and improvements to the program post-validation. This study also serves to further bridge the research-to-practice gap by incorporating facilitator and student perspectives into existing interventions to ensure the successful and sustained transfer of clinical practice into the school setting.

Introduction

As many as 10-25% of children and adolescents are affected by mental health problems, such as anxiety, during their school years (Bains & Diallo, 2016; Kieling et al., 2011; Merikangas et al., 2010). Estimates suggest that while approximately a quarter of school-age children experience significant mental health challenges, less than 30% of these children receive services and supports (Paulus et al., 2016). If left untreated, these difficulties typically persist into adulthood (Jones, 2013). Given these concerns, the field of school psychology has continued to advocate for the transportability and increased access of mental health services in schools (Allen, 2011). Schools provide a convenient, cost-effective, and accessible way to establish social and emotional competencies and implement mental health prevention and intervention services for all children (Schwean & Rodger, 2013; Weist et al., 2017). Research suggests that approximately 80% of children and adolescents who do avail of mental health services receive such supports in schools (Merikangas et al., 2011).

Cognitive-Behavioural Therapy in Schools

Many evidence-based programs that promote these competencies include elements of cognitive-behavioural therapy (CBT), an approach which has been proven to be effective in reducing anxiety and emotional distress in children and adolescents through the teaching of coping strategies (Beck, 2011). In fact, CBT is one of the most commonly used interventions in school-based mental health (Werner-Seidler et al., 2021). Cognitive and behavioural practices have been considered a natural fit with existing practices and services that are offered within schools (Christner et al., 2007); for example, because CBT is typically short-term and solution focused, it may be an ideal approach to intervention in schools as time and resources are often limited (Smallwood et al., 2007).

Research to Practice Gap

Evidence in support of school-based CBT programs in improving mental health outcomes has been well-documented in the literature (see Sanchez et al., 2018; Šouláková et al., 2019; and Werner-Seilder et al., 2021 for reviews). However, while there is a growing body of literature investigating the effects of school-based CBT interventions (e.g., Mychailyszyn et al. 2012, Werner-Seilder et al., 2021), gaps in the literature regarding the effectiveness of school-based mental health programs remain. For example, despite extensive research support for CBT and its efficacy in treating various presenting concerns in young people (Hofmann et al., 2012), less is known about CBT and its use in real world settings, (Chiu et al., 2013; Mennuti & Christner, 2012), such as schools. School systems and characteristics are much different from the settings in which many interventions are developed and validated; for instance, many successful interventions are developed and evaluated using populations of university research students or clients of mental health agencies, only to be implemented in a population of primary and elementary school classrooms (Forman et al., 2013). Furthermore, although various interventions have demonstrated a positive impact on child and adolescent outcomes in controlled research, their quality and rate of implementation remains low in school settings (Ennett et al., 2003; Gottfredson & Gottfredson, 2002). As such, empirical evidence regarding the effectiveness of CBT programs in problem prevention or improving social, emotional, and behavioural outcomes has unfortunately not been adequately translated into clinical practice within the school setting (Forman & Barakat, 2011).

In addition to this problem, much of the research on the effectiveness of school-based mental health programs has been conducted with highly trained staff as program facilitators, rather than school staff in the natural school context (Owens et al., 2014; Rones & Hoagwood,

2000). This may not always be ideal in school settings, especially since teachers are considered critical to the successful implementation of many school-based mental health programs (Durlak et al., 2011; Franklin et al., 2012). Teachers are often expected to implement evidence-based programs with treatment integrity, which requires direct insertion of an intervention into an existing system with no flexibility in the methods of implementation (Klein & Knight, 2005). Interventions implemented without flexibility are often incompatible with school staffs' resources, values, and expertise; in fact, intervention compatibility (described as the contextual appropriateness or "fit" of an intervention to the intervention context) has been consistently identified as a key factor influencing implementation (Durlak & DuPre, 2008). This expectation of treatment integrity is problematic and presents as a critical barrier to the implementation of necessary and beneficial interventions, as even well-researched evidence-based interventions are of little value unless they can be implemented in varying classroom contexts (Forman et al., 2013).

Increased calls for further research on the successful transfer of CBT programs to schools have been made (Ludwig et al., 2015; Mychailyszyn et al., 2011). However, despite advocacy for the inclusion of evidence-based programs and practices in schools, there are many other barriers related to their implementation, such as cost, availability, fit, and training, which in turn can hinder uptake and sustainability of such services (Lyon et al., 2011; Owens et al., 2014; Schaeffer et al., 2005). As such, there has been an increasing awareness of the need to modify interventions explicitly for school-based implementation (e.g., Forman et al; 2013; Lyon & Bruns; 2019). To reduce this research-to-practice gap, mutual adaptation between researchers and facilitators (e.g., teachers) is a necessary step (Dusenbury et al., 2003; Reiser at al., 2013). In doing this, proposed changes to an intervention would better reflect the needs of the setting in

which the program takes place (Dusenbury et al., 2003), in turn potentially reducing the expectation of rigid treatment integrity without flexibility. Understanding how CBT programs delivered by school staff can be best implemented within the school environment is critical for ensuring that prevention efforts reach all children, in turn equipping the developing child with healthy regulatory skills during their early school years. This process of translating research into practice can be examined using implementation science, defined as the study of methods used to promote the transfer and adopt evidence-based practices, such as CBT, into real-world settings (Eccles & Mittman, 2006). Balancing intervention efficacy and feasibility is therefore critical for the successful integration and implementation of school-based programs (Forman et al., 2013); this may be achieved by adapting interventions to match student needs and school context, as well as collaborating with and obtaining input from end users of the intervention (e.g., teachers; Lyon & Bruns, 2019).

Current Study

As such, the aim of the current study was to explore the feasibility of school staff implementing Healthy Minds Healthy Schools (HMHS), a social-emotional program grounded in CBT that aims to reduce anxiety and promote adaptive emotion regulation through psychoeducation and the instruction of positive coping strategies. More specifically, we aimed to provide a qualitative analysis of students' and school staffs' perspectives of the program and its implementation by exploring the feasibility domains of acceptability, implementation, and perceived utility (Bowen et al., 2009). This included an analysis of weekly facilitator implementation checklists as well as facilitator and student surveys post-intervention. Gathering feedback from facilitators and students regarding the program and its delivery will provide

critical information needed to make improvements and adaptations to the HMHS program, in turn ensuring the successful transfer of research to clinical practice in the unique school context.

Method

Participants

Convenience sampling was used to recruit participants from 11 schools within the only school board in an Eastern Canadian province. Ethics approval was obtained by the school and university ethics boards. Eight schools agreed to participate, resulting in a total of 19 classrooms. Only participants with written parental consent were included in the research component of the study. Parents could refuse their child's participation in data collection but were advised that all children could participate in HMHS as it was a classroom-based initiative. The HMHS program was implemented in 12 classrooms, with seven classrooms serving as the comparison group. Only data from the intervention group is included in the current study. The groups varied in terms of grade, age, size, and facilitator, as presented in Table 1. Sessions were implemented weekly by either a regular classroom teacher or guidance counselor during regular school hours (n = 10). There were 186 students in the intervention group who completed the post-test measures.

Intervention

Healthy Minds Healthy Schools is a universal social-emotional program for elementary school children. This 10-session pilot program employs a manualized approach using a CBT framework to aid children in modifying unhelpful thoughts and behaviors through the implementation of coping and emotion regulation strategies (Beck, 2011). Core components of the program include psychoeducation regarding thoughts, feelings, and actions, and to promote the acquisition of various coping and relaxation strategies, such as emotion identification and

regulation; positive thinking and self-talk (i.e., cognitive restructuring); and relaxation and mindfulness techniques, such as deep breathing, imagery, paying attention to one's body and physical sensations. The program also focuses on promoting psychological wellness through an exploration of positive feelings, gratitude, and identifying personal strengths and skills. A description of lesson content is presented in Table 2. Given presenting school staff concerns regarding the lack of available time and resources in schools, each session of our program was designed to average 60 minutes delivered once weekly. The sessions begin with a "check-in" regarding how students are feeling, followed by homework review then the introduction of the new lesson content. Each session ends with another emotion "check-in." Teaching methods used in the program are eclectic and include personal reflections, group discussions and small group work, arts and crafts, strategy practice and videos.

All facilitators completed a standardized two-hour training session with the principal investigator prior to beginning the program. The training included an introduction to active listening techniques (e.g., validation, reflection, reformulation, summarizing) and a review of the content for each session. Facilitators were provided with a manual for program delivery and were advised to implement the program as described. Facilitators were asked to outline any adaptations using an online tracking form.

Procedure

This study was part of a larger pre-post-test quasi-experimental design in which child participants in the intervention and comparison groups completed measures of anxiety and emotion regulation before and after receiving the intervention. These results are reported elsewhere. As part of the current study, child participants in the intervention group completed a questionnaire at post-test which assessed their enjoyment and perceived utility of the program.

Child participants also completed a worksheet which consisted of open-ended statements, and were asked to finish the statement (e.g., "I learned how to…") with a sentence or two. Students were supervised by the principal investigator and several undergraduate and graduate research volunteers during the pre- and post-test data collection sessions. The principal investigator provided explanations on how to complete the measures and provided demonstrations. The students sat in small groups with one to two volunteers per table. While the students read and completed the questionnaire items on their own, the principal investigator and research volunteers were available to provide clarification and answer any questions. The volunteers read the items to students who had difficulty reading independently, and helped students with spelling if they required assistance, although correct spelling was not a requirement.

Facilitators completed weekly checklists regarding aspects of intervention implementation and participant engagement. These checklists also included a section for open-ended comments. At the end of the intervention, facilitators were also invited to complete a survey regarding their experience implementing the program. Five of the 11 facilitators completed this post-intervention survey.

Measures

Following the completion of the 10-session program, facilitators and students in the intervention group completed a feedback questionnaire developed specifically to map onto the current pilot study's research objectives. Facilitators also completed a brief survey after implementing each session. This survey was also created for this pilot study.

Weekly Implementation Surveys

Facilitators were asked to complete a four-item online survey via Google Forms which assessed aspects of intervention implementation following the delivery of each session. Each

survey included ratings of fidelity, in which facilitators were required to identify whether they delivered the lesson content as described, with minor deviations, or with major deviations. If facilitators made adaptations to program delivery, they were asked to specify the adaptations using an open-ended response format. The form also included a 5-point Likert scale rating of student engagement in which facilitators were asked to indicate their perceived level of student engagement/interest in the lesson (1 = *very low*, 5 = *very high).* This data is presented in simple percentages. Finally, the survey included an optional open-ended comment box in which facilitators could provide additional feedback on any aspect of the program, including its delivery and/or utility. Data collected from these responses were included in the thematic analysis.

Post-intervention Facilitator Feedback Questionnaire

Facilitators were asked to complete a 33-item online survey following the completion of the HMHS program. The survey included 5-point Likert scale ratings in which facilitators were asked to rate their level of agreement with each statement (1 = *strongly disagree*, 5 = *strongly agree)*. The goal of the survey was to assess facilitators' satisfaction with the program and to gather information related to facilitators' opinions of the training they completed prior to starting the intervention (e.g., "I felt well-prepared to deliver this program"); the facilitator manual (e.g., "The manual was easy to use"); the program activities (e.g., "The activities facilitated students' skill acquisition and learning of material"); the perceived benefits to students (e.g., "I felt like this program had a positive impact on the well-being of my students"); challenges to and improvements for implementation (e.g., "What was challenging about delivering the program?"), and overall satisfaction (e.g., "Overall, I was satisfied with the content of this program."). Simple percentages were used to present this data. The survey also included open-ended questions,

including space for facilitators to add additional comments, which was coded as part of the thematic analysis.

Post-intervention Student Feedback Questionnaire

Student participants completed a 6-item Likert rating scale that was developed to correspond to the goals and content of the HMHS program. Students were asked to rate their level of agreement with each statement on a 3-point scale (1 = *agree (yes),* 2 = *half and half,* 3 = *disagree (no)*). This measure assessed acceptability of the program and overall lesson content (e.g., "I thought that the activities were fun" and "I enjoyed most of the lessons"), as well as perceived utility of the strategies in managing emotions and stress (e.g., "I think that I will use the strategies that I have learned to help me when I am feeling big emotions like anger, sadness, or anxiety" and "I now feel like I have more control over stress when I feel nervous."). Other statements included on this measure were: "I learned a lot of useful information and strategies from the lessons" and "I would like to do more lessons and activities related to thoughts and emotions." Data collected from this 6-item scale is presented in simple percentages. Students were also presented with three written prompts that addressed acceptability, perceived benefits, and suggestions for improvement, and were asked to finish the sentences. These prompts were: "My favorite thing about the program was…", "I learned how to…" and "One thing I would change about the program is…" Data collected from these responses were included in the thematic analysis.

Data Analysis

The qualitative data collected from the weekly implementation surveys and facilitator and student feedback questionnaires were analyzed together using thematic analysis (Braun &

Clarke, 2006). Given the small sample size and short length of checklists and surveys, the researchers decided to not use qualitative coding software for analysis.

The coding process using thematic analysis as described by Braun and Clarke (2006) involved an active process of reading and re-reading the data, with codes and themes being further refined throughout the process. First, three broad categories were identified based on the study aims: acceptability, implementation, and perceived utility. Initial codes were then generated from the survey data that corresponded to these three main research objectives related to acceptability, implementation, and perceived utility. Once all data was initially coded, the first author identified and organized the codes into main, overarching themes related to the research objectives. Identification of sub-themes also occurred at this stage; sub-themes were grouped together based on similarities and were created to provide further structure to the broader and more complex themes. Once the first author had developed the main themes and sub-themes, they were again reviewed and refined at the level of the coded extracts to ensure their relevance to the overarching themes. At this point, the interpretations were reviewed by the second author and a third reviewer who did not contribute to the writing of the manuscript. Feedback was provided to the first author and changes were made as necessary. Once this refinement process was complete and the themes were finalized, the first author selected quotes for each theme to further highlight the essence of that theme. This approach to analysis offers a rich account of the data while also permitting flexibility for the emergence of themes without predetermined hypotheses (Braun & Clarke, 2006), making it an ideal approach for gaining insight into students' and facilitators' perspectives.

The results presented below were obtained from all facilitators (N = 10) who completed the weekly implementation checklists; however, only half of the facilitators completed the final

facilitator questionnaire post-intervention (n = 5). Students with parental consent who participated in the program and were present at post-test data collection completed the student feedback questionnaire (N = 186).

Results

Data collected from the weekly implementation surveys and post-intervention facilitator and student feedback questionnaires were combined to analyze the results using thematic analysis (Braun & Clarke, 2006). Three main themes were identified, and two sub-themes were identified within each overarching main theme. Within these sub-themes, several categories are presented. This information is presented in Table 3 and described in detail in the following sections.

Theme 1: Acceptability

Two subthemes were identified within the broader theme of acceptability: positive response to the HMHS program and suggestions for program improvement.

Positive Response to Program

Both students and facilitators described a positive response to the program, with a high degree of acceptability found across all measures. Acceptability of the HMHS program was related to students' enjoyment of the activities completed and specific strategies taught, as well as facilitators' perceptions of the content, facilitator manual, and students' experiences.

On the student feedback questionnaire, 50% of students expressed enjoyment of the program by endorsing the statement "I thought that the activities were fun" on a 3-point scale of "yes," "half and half," and "no." Furthermore, responses from this questionnaire revealed that 41.3% of students agreed with the statement "I enjoyed most of the lessons," with only 9.3% of participants expressing disagreement with the statement. Facilitators also referred to students'

enjoyment of the program and activities, as they made comments such as “students loved the collage activity,” and “students loved this lesson and loved the video and asked to watch the video again.” Facilitators also commented on how much the students appeared to enjoy the discussions and sharing personal examples and stories with the larger group. Several facilitators commented that the program provided a “safe space” for sharing and learning. One school guidance counselor described the following:

> *Students gave very personal examples of anxiety. 2 students who shared have diagnosed anxiety disorders and they felt comfortable doing so in the large group indicating a safe place to learn. Very meaningful.*

While students identified a variety of activities and strategies that they enjoyed, a large majority of students identified that their favorite thing about the HMHS program was the glitter jar activity. For this activity, students filled a jar with water and glitter. Facilitators explained that a calm and relaxed mind looks like the jar when it is still and the glitter is settled, but that when we experience racing thoughts or difficult emotions, our mind looks like the shaken glitter jar. Students were then taught mindful breathing while they watched the glitter in their jars settle. Students frequently described this activity as “fun,” “cool,” and “relaxing.” Several students alluded to enjoying this activity in particular because it helped with “calming the mind.” Facilitators also commented on how students particularly enjoyed this activity. For instance, one facilitator said, “the glitter jars were a big hit! They also really liked learning about the strategies and a lot of them used them at school to help self-regulate.”

Data gathered from the final facilitator feedback questionnaire indicated a general approval of the facilitator manual. When asked to rate their level of agreement with statements regarding the organization, clarity, and ease of use of the facilitator manual, all facilitators who

completed the final questionnaire (n = 5) indicated that they either strongly agreed or agreed with the statements such as “The facilitator manual was well-organized.” Facilitators also commented that the manual was “easy to use” and “very thorough.” Activities were described as “engaging and well thought out to allow for movement and frequent changes to keep students’ attention.” One facilitator provided additional comments on the manual, and indicated that it was:

> *Such a fabulous resource and one of the easiest facilitations I’ve ever used. Very little preparation required and most everything was included right in the resource. It was phenomenal for team teaching as well as we always knew where the other person had left off.*

Facilitators rated students’ level of engagement during each session on a 5-point scale (1 = *very low* and 5 = *very high*). The average level of engagement reported by facilitators over the course of the program was 87.16%, suggesting a high level of engagement overall. One teacher reported high levels of engagement from as early as the first session. They said:

> *Students were really engaged and intrigued by the program. One even raised his hand to ask why no other teachers would have chosen to do this, cause it seemed so cool! By the end, even students who didn’t ask any questions or share any answers were raising their hands to share as well. Off to a lovely start!*

Similarly, another facilitator commented on student engagement during the first lesson:

> *Children were very engaged with this lesson. They took the strategies very seriously and participated well… the children would close their eyes and practice the strategy. You could hear a pin drop.*

Facilitators also commented on students’ increased engagement over time. For example, one facilitator reported that students were “definitely becoming more engaged with the material

and have a good grasp on what is being taught. Some are making personal connections, which is great."

Suggestions for Program Improvement

Facilitators and students were asked to provide suggestions for how the HMHS program could be improved. To provide this information, students were asked to complete the following open-ended statement: "One thing I would change about the program is…" Most student participants did not identify any areas in need of improvement. For instance, many students expressed enjoyment of the program and answered the prompt with the word "nothing."

Despite a general acceptability of the program, several students did provide suggestions for improving the program for future use, most notably a desire to add to the program. For example, students suggested having more art activities, games, videos, and exercises for mindfulness. A few students also suggested that "more movement" and "less seat work" be incorporated into the lessons. For instance, one student indicated that one thing they would change about the program would be so "that we don't just sit in our seats the whole time," while another student expressed a desire for the lessons to be "less in your seats and [instead] all around the classroom doing more active things." Similarity, some students requested the addition of "more interactive" and hands-on activities. This sentiment was also expressed by one facilitator. They stated:

> *I wish there were more hands-on activities or tasks to better balance the teaching aspect. [It] was sometimes hard to keep their attention during some of the lessons with a lot of talking.*

A recurring comment from many students was related to facilitators' use of a script (as outlined in the facilitator manual and required for research protocol purposes). Many students

expressed a desire for "less talking" and that they would change the program so that their teacher "didn't have to read from the script."

Similar sentiments were expressed by some facilitators. For example, one facilitator indicated that "there is a lot of script for [the students]" and that the students "…did settle to watch the videos but they do find sitting and listening to the teacher harder." It was also suggested that the program could be improved with "a better balance of talking versus doing." Another facilitator expressed concerns regarding listening expectations for the students during a session, stating that:

> *[There was] way too much talking "at" the children. There is too much listening required of the students Student learning is more about exploration, not listening. They really enjoyed the glitter activity however.*

Another facilitator voiced similar sentiments:

> *I am still finding it hard to keep them focused when there is a lot of material to talk about and they participate more when [the lesson] is chunked (activity – talking – activity – talking).*

Some students felt that the 60-minute lessons were too long. One student said that they would alter the length of the session because "it was a bit long and [it] started to get hard to focus." Similarly, one facilitator stated the following:

> *The lessons in each plan were actually longer than the time indicated to deliver. There was a lot of repetition and a number of activities in the lessons. For primary/ elementary children shorter lessons over time may be more beneficial. We had to modify and shorten lessons to accommodate behavior and restlessness. I completed 4 classes and each class handled the material differently based on the class dynamics*

and size of the group. The detailed lesson plans may have also been because any educator/individual could delivery this program with less experience than a seasoned counselor.

Theme 2: Implementation

Within the main theme of implementation, two subthemes were identified: challenges and barriers to program facilitation, and adaptations made to program content and/or delivery.

Challenges and Barriers to Program Delivery

Overall, facilitators reported that they completed all program sessions. Frequently reported challenges and barriers were related to adhering to the script/lack of flexibility in delivery of the content; managing classroom dynamics and individual differences within the larger classroom context; ensuring students grasped lesson content; and time constraints.

A challenge most reported by facilitators was the lack of flexibility permitted in program delivery. In particular, many facilitators expressed that it was often challenging to "stick with the script" by adhering to program fidelity and not deviating from or making additions to the content outlined in the facilitator manual. Some facilitators felt that "there was a lot of script for [the students]." It was clear from facilitator's responses that flexibility in program delivery is essential for classroom-based programs. For example, one facilitator expressed that "flexibility in the language and examples based on your students is important." Another facilitator shared:

As an educator with a counseling background, I found it difficult to stick to the "script." While I did, there were times that I would have done things a little differently depending on the student and situation.

When asked how the delivery and implementation of the program could be improved, most facilitators commented on the importance of flexibility. For instance, one facilitator stated:

> *Flexibility in the delivery of lessons is important. I know this was for research and standards were required. Outside of the research study I am sure that flexibility with modifications to the delivery and script could be beneficial in classroom settings. I found that when I engaged and told stories related to our school, current situations or personally, I received more positive participation from children who would not be as receptive [otherwise].*

Several students also referred to this theme in their responses to the statement about what they would change about the program. As previously highlighted, many students indicated that they did not enjoy how their facilitator was required to stick to the script and "read from a piece of paper."

Many facilitators also commented on how managing individual differences or classroom dynamics impacted their ability to facilitate the lesson as instructed, or influenced students' understanding of the material. Facilitators who implemented the program in more than one classroom were noted to comment on differences between classrooms of the same grade level. For example, one facilitator commented that one classroom "appeared to have more experience with the language used in the content delivered" and that "they seemed to have much more knowledge regarding the guidelines without being taught." Within class differences were also observed; for example, one facilitator explained how one activity took longer than indicated in the manual because many students "were not ready to move on not the next part of the activity when needed to move on." This facilitator further commented on the "diversity of the class in terms of think time and their own comfort," which may highlight challenges in implementing a universal program within the classroom context. One facilitated further highlighted this:

> *In my school and as we know all children are different, I felt that the lessons were most beneficial for children who recognized they had anxiety or more worry at that given time than others. Some children had difficulty relating to strategies if it was not meaningful to their current situation. If all children in class would sit and be immersed in the concepts they would certainly benefit just by exposure. There were times certain children who would be more vocal or became unengaged about how they felt…it would interrupt those students who were benefitting. I have used many ideas from the lesson to teach skills in a target group successfully. I know the idea is to reach many children with opportunities for social emotional learning however at this age level they may not mature enough to realize its benefit anyhow it can support them.*

Other factors that posed challenges for successful delivery or understanding of the program included working with students with diagnosed exceptionalities and managing disruptive behavior. For example, one facilitator commented that "there were some students in the class with ID (intellectual disability) and/or autism who really struggled to grasp the material." Another facilitator highlighted the following as a challenge:

> *The biggest concern was the dynamics of the class and student behavior. There were children in each class with challenging behavior and other diagnoses such as [attention-deficit/hyperactivity disorder] and [oppositional defiant disorder]. At times the lesson was affected dependant on their mood or functioning that day. It was unfortunate that some children who needed the activities were not receptive at that time. We all know that sometimes behavior is rooted in anxious behavior.*

Some facilitators reflected on students' level of understanding of the lesson content; for example, one facilitator indicated that the students seemed "to be grasping the concept of mindfulness and how they are in control of their thoughts and emotions." However, there were also some lessons in which a few facilitators commented on issues or challenges related to students' ability to grasp the content, and therefore needing to spend additional time on the lesson to further explain the material and ensure student comprehension. According to one facilitator, they:

> *… spent a little more time emphasizing the thought-feeling-action chain at the end of the lesson to ensure the students had grasped the concept. Our initial conversations had them confusing thoughts and feelings at times, so we did several examples to make sure they understood the difference.*

Similarly, another facilitator indicated that they needed to "slow down the discussion" related to labeling emotions and describing physiological sensations associated with emotions. This facilitator explained:

> *We really slowed down the discussion around the body reactions and also when naming pleasant and unpleasant feelings. The kids seem to always fall back on "happy" and "sad," so we wanted to spend more time elaborating on these. Also, the concept of "intensity" was a bit tricky for them. With the examples and the thermometer, they were able to grasp it but we spent a lot of time discussing it and thinking of concrete ways to explain it.*

By providing further explanation and examples, some facilitators therefore required additional time to complete the lesson. One facilitator explained that the lesson that introduced the concept of feelings was:

> *…a bit longer than the others and we actually had to finish the last section the next day because we went over the allotted 1-hour time. This may also be because we spent more time discussing examples, but we found this was necessary for the kids' understanding. The concepts in this lesson were a little more abstract so it required a bit more attention.*

Comments regarding time constraints as a barrier were observed for reasons other than ensuring that students grasped the lesson content. Concerns regarding time constraints were largely reported to be the result of some lessons being "content heavy" or not having enough time to permit all children to share their experiences or complete an activity. For instance, one facilitator reported that "some students could follow the example and were done without guidance, but the majority [of students] were detailed and really thinking about the final product. Three facilitators reported that they were required to split lesson content into two separate sessions. One facilitator explained:

> *We actually had to split the activities into two separate sessions. We wanted to maintain the quality of the kids' 'tree of me' activity, so we finished it with them in class. This left no time to do the gratitude poem, so we finished it the next morning. In total the lesson took closer to 2 hours to complete.*

Some facilitators commented on the need to make minor modifications (outlined in the section below) "in the interest of time" or "due to time constraints." Others noted that they did not have time to complete an activity and that it was later "completed with the homeroom teacher after the lesson." Student behavior and classroom dynamics were also alluded to as creating time constraints and impacting program delivery When asked to provide suggestions on how the program could be improved, one facilitator made the recommendation of "looking at the number

of activities to shorten time of delivery and repetition of idea/concepts in each lesson."

Adaptations in Program Content and/or Delivery

While 74% of lessons were delivered as described without any adaptations, some facilitators reported that minor modifications were made to program delivery for various reasons such as time constraints, ensuring that students grasped the content, and to better attend to student needs or group dynamics.

Several facilitators reported that while they delivered all content as outlined in the facilitator manual, they also used their discretion to add resources that complimented the lesson on occasion. Examples included reading a story out loud, playing a game, and showing additional videos that corresponded to the lesson content. For instance, one facilitator indicated that they finished the lesson by reading a story and "tying it to the personal activity in the front of [the students'] duotang [folders]." Another facilitator reported reading a book that explored emotions and described how they felt physically on the inside, which complimented the lesson on physiological sensations in the body related to emotions. Two facilitators also chose to incorporate additional videos on meditation and yoga to further teach the concepts and poses, while another facilitator "sent [students] home with a sheet of the basic yoga poses so they could teach a family member," which was not outlined in the facilitator manual. In the lesson on expressing emotions, a facilitator reported that the class also "played a game at the end where [the students] rolled a dice and answered the question [on the dice] … questions were like, "I feel sad when…" or "I feel jealous when…" One facilitator described deviating from the lesson content to incorporate further relevant discussion. This facilitator explained:

> *We extended the lesson by [discussing] talking to people you trust, which led to the chemical that is responsible for your mood. So, we spoke about serotonin and what it does for the body.*

The most reported modification to program delivery was employing a whole group format for discussion or the completion of an activity instead of using a paired or individual format, as instructed in the facilitator manual. Each lesson started with a "think, pair, share" activity in which students were asked review questions about the previous lesson and were tasked with first thinking about their answer individually, then pairing up with a student to share their thoughts on the answer to the question posed. A few facilitators reported that they did not use the "think, pair, share" method, but instead posed the review questions to the class as a whole and engaged the group in a larger discussion. There were also a few facilitators who reported using a whole-class approach when completing an activity or craft that was designed to be completed individually. For example, one facilitator reported that during the mindfulness lesson, students did not make individual glitter jars but instead made one jar for the class, while still discussing the purpose of the jar as described in the manual.

Time constraints also appeared to play a role in some facilitators' choice to use a larger group discussion or to complete an activity as a group instead of individually, as described. For example, one facilitator reported:

> *Because of the time spent on the tree activity, we just discussed kindness and spent more time on gratitude with examples of real life.*

Another modification reported included one facilitator using technology to complete an activity instead of completing it individually using paper and pencil. For example, this facilitator

had students use their Chromebooks to create a slideshow about emotions instead of creating a poster board about emotions using paper, markers, and other classroom materials.

Very few facilitators omitted lesson activities. Of the five who did, they reported doing so due to time constraints. The ninth session appeared to be the lesson with the most comments regarding not having enough time to complete all activities.

> *We had allotted 50 minutes for this lesson because of scheduling but were running out of time. The part on kindness was quickly a discussion of about a minute because we had talked about kindness throughout with a couple of examples. We looked at gratitude but there was not enough time to do the acrostic poem, so it was omitted. [We] spent more time discussing gratitude and giving examples at their level. Good discussion.*

Five facilitators reported that they combined two lessons into one session. One facilitator explained:

> *[We] combined the lesson with the previous lesson. When we worked on the emotions in the lesson before, we talked about everything covered in this lesson as well, including naming emotions and when/why we may feel them.*

Theme 3: Perceived Benefits

The theme of perceived benefits explored facilitators' and students' perceptions of the utility of the program. The two subthemes identified related to the specific coping and relaxation strategies that students learned, and students becoming better able to manage difficult thoughts and situations.

Learned Coping and Relaxation Strategies

Students reported learning and enjoying a variety of specific and tangible coping and relaxation strategies to better manage their emotions. While the program sought to teach numerous strategies, there were three strategies in particular that appeared to resonate most with students, as these strategies were referenced most frequently. These included mindfulness breathing techniques, such as belly, balloon, or bubble breathing; using the glitter jar as a visual to assist with breathing and settle thoughts; and using the conveyor belt strategy to "let go" of thoughts (e.g., by 'watching them go by' on a conveyor belt). Facilitators reported similar observations. For example, one facilitator explained:

> *Two lessons that had the most impact on the students were the glitter jar activity and the lesson on strategies in managing racing thoughts. I still have students who reference these same activities and lessons when we talk. One example – "Miss, remember when we learned how to put our thoughts in the box on the conveyor belt? I will try this."*

Similarly, another facilitator stated:

> *The students embraced the mindfulness activities and talked about using the strategies provided to handle problems and worries that arose in their day-to-day life. They also really enjoyed the gratitude lesson and identifying things they are grateful for.*

Better Able to Manage Difficult Thoughts and Situations

Not only did students highlight the specific strategies they learned, but they also made reference to how they felt that they were better able to manage difficult thoughts and situations more generally after participating in the program. For example, many students highlighted how they were now better able to manage difficult emotions, such as sadness, anger, and anxiety, and

that they were better equipped to deal with stress. One student explained that they learned how to "calm and deal with my bad and stressful moment," while another stated that they learned how to "control my emotions when there is a problem." Students also frequently reported how they learned how to let go of unpleasant or unwanted thoughts or judgments. For instance, one student voiced that they learned how to "think about myself in a nice way when I'm insecure." Reference to feeling better prepared to handle future difficult situations was also regularly mentioned. One student indicated:

> *I liked this program because it helped me stay more calm and it helped me deal with harder situations in the future."*

Information gathered from the student feedback questionnaire revealed that 39% of students indicated that they thought that they would use the strategies that they learned to help them when they are feeling big emotions like anger, sadness, or anxiety. Similarly, 48.5% of students felt that after participating in the program, they now felt like they had more control over stress when they felt nervous.

Discussion

The purpose of this feasibility study was to explore students' and school staff's perspectives of the acceptability, implementation, and perceived benefits of HMHS, a newly developed school-based CBT intervention for elementary students. Overall, facilitators and students reported positive engagement and enjoyment of the lessons, highlighting the acceptability of implementing this program in the school setting. This is an important finding, as school-based intervention research often disregards this domain of feasibility (Zakszeski, Ventresco, & Jaffe, 2017). Facilitators also expressed a strong endorsement of the facilitator manual, approving its organization, clarity, and ease of use, which may increase the ease of

program delivery for school staff who may have minimal experience with CBT (Bennett-Levy et al., 2010), especially considering that intervention complexity has been cited as a key barrier to the implementation of evidence-based practices (Lyon & Koerner, 2016). These findings regarding program acceptability are promising and fill gaps in school-based intervention research related to acceptability, as support and buy-in from key stakeholders, such as school administration and the school staff responsible for implementing the program, plays a critical role in the consideration, adoption, effective implementation and sustainability of an intervention delivered within the school setting (Nadeem & Ringle, 2016).

While there was a general consensus for the acceptability of HMHS, facilitators also identified several barriers to successfully delivering the program. These challenges centered mostly on implementation, in large part due to the context surrounding the required "rigidity" of research design context, which is required for program validation. Many well-known preventive and intervention programs adhere to a manualized approach to treatment, which though effective, pose many limitations including lack of flexibility in how the program is delivered. Evidence-based interventions implemented without flexibility can be insensitive to diverse student needs or populations (La Roche & Christopher, 2008) and are often mismatched with school culture, available resources, and teacher expertise and values (Durlak & Dupre, 2008). This is an important consideration for future research involving the HMHS program, as it may be necessary for facilitators to make minor adaptations, while still adhering to core program content, in order to better match the program to the needs of students and the unique classroom context.

To address these challenges related to implementation, and fidelity and lack of flexibility in particular, some facilitators reported that they made minor adaptations to program content and/or program delivery. Research has shown that when evidenced-based interventions are

delivered in local, real-world settings, those delivering the program often make changes or modifications, or even eliminate core components of the program to better suit their needs or to better match the intervention to the context or conditions (Rogers, 2003; Rohrbach et al., 2006). Traditionally, such changes would be considered a deviation from the treatment protocol, resulting in poor implementation and therefore an invalid intervention (Fixsen et al., 2005). However, it has been suggested that adaptations be viewed as additions to the program that serve to enhance program delivery and participants' learning, rather than the inability to adequately deliver the program with fidelity as described (Berkel et al., 2011). While it has been established that the level and quality of implementation of evidence-based programs is essential for producing desired outcomes, adaptations to intervention protocols have also been positively linked with student outcomes (Durlak & DuPre, 2008). Therefore, it is important to consider the perspectives of key stakeholders regarding program delivery and flexibility to effectively design interventions that match the context in which the intervention is implemented (McGrath et al., 2009). Furthermore, interventions that are adapted have an increased likelihood of being maintained over time (Berkel et al., 2011; Rogers, 2003). Sustainability of universal evidence-based programs within schools is critical to ensure that all students continue to develop important skills, coping strategies, and resiliency throughout their formative school years. These adaptations may be necessary to facilitate the successful transfer of interventions to real-world settings (Atkins et al., 2003; Weisz et al., 2005). Because program adaptations may be inevitable, it is imperative that facilitators document all adaptations made in order to inform future research regarding core program components.

Overall, students expressed that they perceived the program to be beneficial. Students reported that they learned explicit and tangible coping and relaxation strategies to better manage

their emotions and to effectively deal with unpleasant thoughts or situations. They also alluded to being better equipped to manage difficult thoughts and situations more generally. These qualitative findings mirror results from quantitative studies suggesting that there are preventative effects of psychological school-based programs, particularly CBT, for anxiety (Werner-Seidler et al., 2021). In particular, students frequently referenced their enjoyment and use of mindful breathing and strategies for "letting go" of unwanted thoughts or emotions. These strategies have been found to be effective for reducing anxiety and promoting resiliency (e.g., FRIENDS for Life, 2017). Furthermore, the HMHS program utilizes similar evidence-based methods and techniques as the widely studied FRIENDS program (FRIENDS; Barrett, Webster, & Turner, 2000), teaching both cognitive (e.g., positive self-talk) and behavioural (e.g., relaxation) strategies to manage emotions (Barrett & Pahl, 2006).

Limitations and Future Directions

The use of qualitative data from both facilitator and student perspectives at multiple timepoints (i.e., weekly feedback, post individual session and end-of-program) made it possible to measure the acceptability, implementation, and perceived utility of the HMHS program. Given the 50% facilitator response rate on the end-of-program survey, it might initially make the generalizability of the findings somewhat questionable. However, as reported anecdotally, the timing of the research project termination may have impacted facilitators' availability to complete the post-intervention survey due to competing end-of-year teaching-related duties. The program was still being implemented in late June, a time when teachers are busy preparing for the end of the school year by attempting to meet curriculum objectives, preparing for final evaluations, and completing report cards. This is also a busy time for schools as they typically plan various activities for students to celebrate the end of the school year. Since the program was

still being facilitated during this time, both student and facilitator data collection took place very close to the end of the school year, where there exist important competing interests. While it is possible that those facilitators who did not complete the survey may have not enjoyed nor supported the program, this scenario is highly improbable given the fact that all facilitators provided positive weekly feedback as part of the implementation surveys. Efforts were made to increase participation on the end-of-year survey, such as follow up emails sent to facilitators in June and at the start of the following school year, but these attempts were unsuccessful. Considering all these elements (i.e., positive weekly facilitator feedback, end-of-year teaching demands, etc.) it is just as likely that facilitators simply did not have enough time to complete the survey than it being indicative of questionable acceptability, implementation, and perceived utility of the HMHS program.

The study was also limited since it relied solely on self-report measures to collect data. All options were carefully weighed (i.e., individual qualitative interviews or focus group, etc.), yet to respect facilitators' demanding and heavy teaching schedules and other reported time constraints, the decision to use self-report measures only remained the most feasible. However, we recognize that as with any research designs, this decision may be viewed as a potential study limit. Future research involving the HMHS program, or the implementation of any other school-based mental health program, should aim to conduct focus groups with facilitators and students or random individual qualitative interviews to gain a deeper and more nuanced understanding of their views and impressions of the program and its implementation framework.

Furthermore, demographic data for facilitators was not collected; this data may be important for future research in order to better understand whether teaching position (e.g., classroom teacher versus guidance counselor), years of teaching experience, training in mental

health, and experience with delivering school-based interventions impacts facilitator perspectives related to program acceptability, implementation, and utility. It would also be beneficial to include observation methods of intervention fidelity (i.e., video recording, audio recording, in vivo, etc.), as opposed to only self-report forms; doing so would ensure that facilitators are effectively implementing CBT, while also systematically tracking intervention adaptations and ensuring that facilitators adhere to delivering the core content of the program. Information gathered from this qualitative study can be incorporated into revisions of the program. This is essential given the role that school staff play in the delivery of school-based mental health programs (Durlak et al., 2011; Franklin et al., 2012).

Conclusion

Overall, this qualitative study suggests that HMHS is a feasible, endorsable, and as such, promising program for teaching important coping skills to elementary school students. While the scale of this study is small, it nonetheless provides important information regarding the acceptability, implementation, and perceived utility of the program from the perspectives of both facilitators and students alike. While there were reported challenges and barriers to implementing HMHS, the program overall was deemed to be useful, engaging, and beneficial for students. These findings provide invaluable information from key stakeholders that will permit revisions and improvements to the HMHS program, followed by more rigorous evaluation of the program and specific outcome measures in the future. Findings will also contribute to bridging the research-to-practice gap by incorporating facilitator and student perspectives into existing interventions to ensure the successful and sustained transfer of clinical practice to the school setting.

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Table 1

Characteristics of participant groups

Grade	Participants (*N*)[†]	Mean age	Sex	Facilitator	Class size[‡]
5	10	10 years	50.0% female	Teacher	23
4	13	9.08 years	69.2% female	Guidance	27
4	18	9.06 years	66.7% female	Guidance	26
5	16	10.13 years	62.5% female	Teacher	16
4	17	9.06 years	35.3 female	Guidance	27
4	8	9.13 years	50.0% female	Guidance	27
6	19	10.89 years	42.1% female	Teacher	26
4	11	9.00 years	72.7% female	Guidance	24
5	24	10.13 years	45.8% female	Guidance	28
5	21	10.05 years	52.4% female	Guidance	28
6	13	11.31 years	46.2% female	Guidance	20
6	16	11.25 years	62.5% female	Teacher	23

[†]This reflects the number of students with signed parental consent for whom data was collected for.
[‡]This reflects the number of students in each class who participated in the intervention. Note that all students participated in the program as it was a classroom wide initiative endorsed by the teacher and school principal.

Table 2

Outline of Healthy Minds Healthy Schools program

Session	Content of Session – Major Learning Objectives
Session 1	Program Purpose & Guidelines • Rapport building • Introduction to the program and its purpose • Establish group guidelines, including respect and kindness, creating a safe space, and confidentiality • Introduction to the thoughts and feelings 'check-in'
Session 2	Introduction to Thoughts • Understand the definition and purpose of thoughts • Discussion of noticing one's thoughts • Define and normalize automatic thoughts (i.e., racing thoughts) • Practice strategies for recognizing and responding to racing thoughts
Session 3	Introduction to Feelings • Understand the definition and purpose of emotions • Psychoeducation and identification of various emotions • Normalization of emotions • Introduction to anxiety and anxiety reactions • Discussion of the connection between thoughts, feelings and actions
Session 4	How My Body Reacts • Identify physiological sensations associated with various feelings • Review the connection between thoughts, feelings, and actions • Discussion of pleasant and unpleasant emotions (valence of emotions) • Discussion of the varying intensities of emotions • Identify and rate intensity of emotions on 'emotions thermometer'
Session 5	Labelling Emotions • Review the connection between thoughts, feelings, and actions • Label emotions based on body sensations and context
Session 6	Mindfulness & Relaxation (Part 1) • Introduction to mindfulness and what it means to be in the present • Practice mindful breathing strategies • Practice mindfulness using the five senses
Session 7	Mindfulness & Relaxation (Part 2) • Understand what it means to be mindful • Introduction to judgements and acceptance

	• Practice strategies for letting go of difficult emotions and navigating challenging situations • Introduction to yoga as a calming strategy
Session 8	Expressing Emotions • Discussion of how to effectively express emotions • Identify the importance of communicating unpleasant emotions to others
Session 9	Strengths, Skills, & Gratitude • Recognize personal strengths • Identify skills and supports • Discussion of uniqueness and respect for diversity • Understand what gratitude means • Practice strategies for showing gratitude and kindness to self and others
Session 10	Wrap Up • Reflect on skills and strategies learned

Table 3

Themes, subthemes, and categories within subthemes

Main Themes	Subthemes	Categories within Subthemes
Acceptability	Positive response to program	Students enjoyed hands-on activities, discussions and practicing strategies
		Approval of manual content
		High level of student engagement overall
	Suggestions for improvement	Adding more hands-on activities and videos
		Less manualized script to follow/less facilitator talking
		Having shorter lessons
Implementation	Challenges and barriers to program delivery	Lack of flexibility in program delivery
		Managing individual differences and student behavior
		Ensuring student understanding of lesson content
		Time constraints
	Adaptations in program content and/or delivery	Adding complimentary material
		Modifying method of program delivery
		Omitting or combining activities and lessons
Perceived Benefits	Learned coping and relaxation strategies	Mindful breathing techniques
		Using glitter jar to settle thoughts
		Letting go of thoughts using conveyor belt strategy
	Better able to manage difficult thoughts and situations	Learned how to manage difficult emotions
		Learned how to manage stress
		Learned how to let go of unwanted thoughts and judgements
		Better prepared to deal with difficult situations in the future

Chapter VI – General Discussion

Anxiety disorders are one of the most diagnosed mental health disorders among children and adolescents (Lawrence et al. 2015; Merikangas et al. 2010), with a median age of onset before age 13 (Solmi et al., 2022). Difficulties with emotion regulation have been identified as a significant risk factor in the development and maintenance of childhood anxiety (Malhi et al., 2017). Although cognitive-behavioural therapy (CBT) has been identified as an effective approach to treatment for child and adolescent anxiety and emotion dysregulation (Hugh-Jones et al., 2020; Suveg et al., 2009; Vallis et al., 2020), less than 30% of school-age children who experience significant mental health challenges receive appropriate and timely services (Paulus et al., 2016). A proposed solution to this mental health crisis has been the transfer of clinical interventions to the school setting (Neil & Christensen, 2009), as schools conveniently offer a cost-effective and ecologically valid setting to provide prevention and intervention efforts (Lyon & Bruns, 2019; Mychailyszyn et al., 2011; Smallwood et al., 2007).

Although the effectiveness of school-based programs, including CBT programs, in improving child anxiety has been well-established (e.g., Neil & Christensen, 2009; Mychailyszyn et al., 2012; Werner-Seidler et al., 2017; Werner-Seidler et al., 2021), the research base on school-based programs that explicitly target and measure emotion regulation skills (or challenges) and their relationship to childhood anxiety pales in comparison (Suveg et al., 2018). Even when appropriate interventions are available, there remain many challenges and barriers that hinder the effective implementation and sustainability of such mental health efforts, particularly those delivered by school staff; for example, barriers such as cost, availability, fit, and training can hinder uptake and sustainability of such services (Lyon et al., 2011; Owens et al., 2014; Schaeffer et al., 2005). Additionally, rigid manualized programs do not always meet

the needs of students or teachers (Paulus et al., 2016). As a result, there has been a growing interest in and awareness of the need to modify interventions explicitly for school-based implementation (e.g., Forman et al; 2013; Lyon & Bruns; 2019). Implementation science can help to close this research to practice gap by addressing challenges and barriers to successful school-based implementation of clinical interventions, in turn bridging the gap between research and practice in school-based mental health (Lucente et al., 2021; Lyon & Bruns, 2019).

As such, the purpose of this dissertation was to develop, implement, and examine the effectiveness and feasibility of a novel CBT-based program in the school setting. In addition, this dissertation also aimed to advance our understanding of school-based intervention delivery by teachers, specifically as it relates to how to best balance fidelity and flexibility of implementation. This was accomplished through the completion of two separate studies. The aim of the first study was to conduct a pilot evaluation of the Healthy Minds, Healthy Schools (HMHS) program in improving child and parent reported symptoms of anxiety and emotion regulation skills in a sample of elementary students, while reporting on aspects of facilitator fidelity and adaptations. To the second study used qualitative methods to gain a deeper understanding of school staffs' and students' perspectives on the feasibility of HMHS, including its implementation.

Summary of Findings

Study 1 – Preliminary Investigation of the Healthy Minds, Healthy Schools Program

The objective of Study 1 was to conduct a preliminary evaluation of HMHS using a quasi-experimental design. More specifically, Study 1 sought to explore whether students participating in the HMHS program demonstrated significant changes in symptoms of anxiety and cognitive emotion regulation skills relative to a comparison group based on self and parent

reports. A second objective of Study 1 was to explore and report on aspects of intervention implementation, specifically the extent to which facilitators reported maintaining intervention fidelity and/or making program adaptations.

The results from this pilot study indicated that students who participated in the HMHS program demonstrated small but significant changes in anxiety symptoms at post-test based on self-report relative to those in the comparison group. The results from Study 1 provide original contributions to the school-based mental health literature by providing further preliminary support for the transfer of CBT techniques to the school setting to target anxiety symptoms. These findings from Study 1 are in line with existing systematic reviews and meta-analyses that highlight how school-based CBT programs can successfully improve symptoms of anxiety in children and adolescents, even with small effect sizes (e.g., Neil & Christensen, 2009; Werner-Seidler et al., 2021). Given that universal programs can reach many students, it can be argued that even small effects can be meaningful from a public health perspective (Hoare et al., 2021).

Conversely, statistically significant changes in parent reports of their child's anxiety symptoms were not found between groups from pre-to post-intervention. In general, children appear to report more severe levels of anxiety than parents (Cosi et al., 2010); therefore, it may be possible that parents were not fully aware of or had different views of their child's experiences of anxiety, especially given that this was not a clinical sample. Given that children and youth can report and provide insights into their own experiences related to health and wellbeing (Deighton et al., 2014), discrepancies between child and parent reports may reflect divergent perspectives rather than differences in accurate reporting (De Los Reyes, 2011). This is particularly apparent when children's anxiety symptoms occur within the school setting (Comer

& Kendall, 2004). Similar patterns of responding are documented in school-based CBT research (e.g., Stallard et al., 2014).

We also found no group effects for children's use of emotion regulation strategies based on self- and parent report. Our most plausible explanation for the lack of change in child reported emotion regulation is that the program did not necessarily teach every CERQ-k emotion regulation strategy explicitly (e.g., see Claro et al., 2015), and this was therefore not reflected in the measure used; rather, the program served to provide psychoeducation and tools for changing or replacing unhelpful thoughts with more adaptive thinking patterns in response to a negative event. As such, any possible changes in other known dimensions of emotion regulation (e.g., emotion awareness, emotion labelling), though measurable using other validated scales, would not be captured by the CERQ-k. We also did not observe any changes in parent reported emotion regulation. Because parents are unable to observe children's thought processes and internal states (Hourigan et al., 2011), it can be especially difficult for parents to assess and report on regulatory strategies in children, particularly cognitive regulation, which is an internal process. As such, observational measures and experience sampling are important for the investigation of regulatory behaviors (Lewis et al., 2010), and should be included in future research to measure emotion regulation more precisely as it is experienced.

Study 2 – Perceived Feasibility of the Healthy Minds, Healthy Schools Program

The primary aim of Study 2 was to gain further insight into facilitators' and students' perspectives on the HMHS program. Of particular interest was facilitators' rationale behind their decisions regarding program implementation. An understanding of how school staff can most effectively deliver school-based CBT programs is critical, as this can have important implications for student outcomes and the sustained implementation of such programs. An

exploration of school-based facilitators' perspectives is especially important in the context of the acceptability of the program, perceived benefits, and balancing adherence to core clinical program components and flexibility in delivery to meet student needs. Therefore, the aim of Study 2 was to shed light on facilitators', as well as students', perspectives of the HMHS program and its implementation. Specifically, the feasibility of HMHS was explored in relation to three domains, including acceptability, implementation, and perceived utility, as outlined by Bowen and colleagues (2009).

The findings from Study 2 suggested that there was a high degree of acceptability of the program manual and the program more generally, with both facilitators and students citing positive student engagement and enjoyment. Despite a consensus for the acceptability of the program, facilitators nonetheless identified several barriers to program delivery, with most of the challenges outlined being related to implementation. More specifically, most facilitators referred to barriers related to fidelity and the rigidity of the research design, which in turn hindered flexibility in how they delivered the program. Several facilitators commented on the importance of flexibility in school-based implementation. This is in line with recent research which suggests that flexibility may be necessary when implementing interventions in real-world settings such as the school environment (Crooks et al., 2022). While some facilitators reported feeling that they could not deviate from the program manual in the interest of preserving research integrity, others opted to make minor adaptations to program content and/or delivery. For example, some facilitators added complimentary material to the lesson, such as reading a book or playing a game related to lesson content. Other facilitators were required to shorten activities or complete them as a class instead of individually in the interest of time. Study 2 also revealed that participants generally reported that they perceived HMHS to be beneficial, with students

identifying that they learned various coping and relaxation strategies and were now able to better manage challenging thoughts and situations. Facilitators also reported that they noticed these perceived benefits in their students. Mirroring findings of many large-scale quantitative meta-analyses (e.g., Werner-Seidler et al., 2021), the findings from this qualitative thematic analysis suggest that the HMHS program can produce positive student outcomes and is perceived as beneficial by students and facilitators alike.

General Limitations and Directions for Future Research

As presented in the discussion of each study, this dissertation has several limitations which need to be considered when interpreting the research findings. For example, the sample size across both studies was small, especially in Study 2, which can impact the likelihood of observing relationships among variables. Other limitations include convenience sampling, unequal groups and missing demographic data, among other limitations previously outlined in Studies 1 and 2. Future research should ensure the randomization of an equal number of participants to the experimental and comparison conditions to assist with the generalizability of findings. It will also be important to collect demographic data for parents and facilitators to further examine how these variables may impact the results.

There are a few limitations that stand out as they play a bigger role in the interpretation and generalizability of study findings. For instance, in Study 1 we found that students who participated in HMHS reported decreases in anxiety symptoms at post intervention relative those in the comparison group. While this finding is promising for a pilot study, we acknowledge that the flexibility permitted in intervention delivery makes it difficult to ascertain the extent to which the small but significant changes observed were truly associated with the intervention content itself. In order to truly understand the effectiveness of the HMHS program, it would be necessary

to thoroughly examine program adaptations made; ideally, by comparing a "fidelity" version of the program in which all components are delivered exactly as described, without any additions or modifications, with a "flexible" version, or even two distinct flexible versions, in which specific adaptations are permitted and any and all adaptations are permitted based on facilitator discretion. This would provide novel insights into the "amount" of flexibility that could be permitted in school-based interventions while still adhering to core content and producing meaningful change in outcome measures. It would also be particularly important that observational methods be used when conducting future research as it can be problematic to rely solely on self-report data.

Throughout the research phase of this dissertation, a primary aim was to conduct data collection in a way that was methodologically sound, but also mindful of the complexities and barriers of conducting school-based intervention research. As such, when required to collect data from school staff, whose time and resources are limited, we opted to create measures that were clear, concise, and not time consuming to complete. In both Studies 1 and 2, we acknowledge that the prioritization of teacher needs was to the detriment of a more rigorous measure of fidelity and adaptation, which again makes it challenging to accurately understand the true effectiveness of the program. Future research may wish to explore more sophisticated self-report measures of program implementation that also balance school staffs' needs and limitations.

Original Contributions and Key Implications for Research and Practice

Despite the above mentioned study limitations, as well as non-significant findings and small effect sizes found in Study 1, it is important to note that this dissertation nonetheless provided novel contributions to the fields of school psychology and implementation science, particularly as it relates to school-based mental health promotion, in distinct ways; first, the

HMHS program was purposefully designed to include strategies and activities to explicitly teach children how to better identify and regulate their emotions. Having access to resources in schools such as this is extremely important given the critical role of emotion regulation to child development (Mihalca & Tarnavska, 2013). The HMHS program is particularly timely because there are so few programs that target difficulties in emotion regulation; according to Suveg and colleagues (2018), "the potential benefits of including content to build broad emotion regulation skills into treatment programs for anxious youth have yet to be fully realized" (p. 570).

Secondly, while it is not uncommon for some anxiety intervention efforts to target emotion regulation skills (Ehrenreich-May et al., 2017; Myles-Pallister et al., 2014), the inclusion of an explicit measure of emotion regulation in these intervention studies is often absent, with many researchers citing improvements in related outcomes (e.g., anxiety) as a sign of improvements in emotion regulation (Loevass et al., 2019). This is problematic given that emotion regulation is a complex, multi-dimensional construct that encompasses biological, social, behavioural, and cognitive processes, which would require explicit measurement to appropriately identify possible changes (or lack thereof) in this construct. By including the CERQ-k, a direct measure of cognitive emotion regulation, we were able to confirm, and not speculate, that the HMHS program did not produce changes in emotion regulation. While we did not find statistically significant change in emotion regulation skills, the strategies included in the HMHS program are based on clinically validated techniques and may still be useful for student skill building on a practical level. Further research and revisions to the research protocol, such as the addition of a measure of emotion awareness and changes to the measure of emotion regulation, may be helpful to further explore whether HMHS can be a useful evidence-based program for promoting positive change in emotion regulation over time.

This dissertation also contributes to the literature base related to school staff as facilitators of school-based intervention efforts. Although further research is necessary, the findings from these studies provide preliminary support for the inclusion of teachers in delivering mental health efforts. With respect to school staffs' implementation of the intervention, the results obtained from Study 1 indicated that 74% of HMHS lessons were reported to be delivered exactly as outlined in the facilitator manual, without any additions or modifications. Facilitators reported on any adaptations made, all of which did not deviate from or omit core clinical components. These findings may suggest that the HMHS program could still be effective in improving child anxiety even when facilitators make adaptations to program content or delivery. This is in line with recent research to suggest that programs with at least 60% fidelity have been shown to produce positive results (Durlak & DuPre, 2008), and treatment fidelity does not always reliably predict anxiety outcomes (Husabo et al., 2021). Although still in its infancy, results from this research provide some evidence for permitting flexibility in school-based program delivery. However, we recognize that further research would be needed to make this claim.

By exploring students' and facilitators' experiences with the HMHS program in depth in Study 2, we gained unique insights into their perspectives of participating in a school-based CBT intervention. These findings not only help to further improve the HMHS program but can also be generalized and applied to the implementation of school-based mental health efforts more generally. These findings highlight the importance of including student and facilitator feedback when developing programs and their facilitation manuals. Most notably, Study 2 provides novel insights into the fidelity/flexibility debate; while we know that adherence to core clinical components of an intervention is necessary, the findings from this study suggest that flexibility

in implementation is equally important, if not perceived as more important, from the viewpoint of those who are on the ground delivering the intervention within students' daily school environment. As such, it is imperative that the voices of school staff who partake in school-based mental health promotion are heard and integrated into the research process. This critical piece is often lacking in the literature, especially when quantitative methods are used. As such, the combination of mixed methods used in this dissertation uniquely permits us to see that a program that produces significant but small changes, or even no changes, as reported by quantitative methods can still be perceived as having practical utility and make a meaningful impact when explored at a deeper and more nuanced level using qualitative methods.

The conceptualization, development, and dissemination of the HMHS program itself cannot be forgotten and must be acknowledged as a significant original contribution to the literature. First and foremost, an overarching goal of this dissertation was to create a novel program that aimed to provide psychoeducation and foster skills related to emotion awareness and regulation. This was accomplished by identifying evidence-based concepts and practices that have been shown to reduce anxiety and emotional dysregulation and to produce positive change in these areas (e.g., cognitive restructuring, mindfulness, etc.). In addition to maintaining evidence-based components, it was equally as important to consider the feasibility and uptake of the program from a school-based lens, and to do so at the start of program development and not only during the final stages of program delivery. Many well-known evidenced based programs have been developed and validated in research or clinically based settings (e.g., hospitals), only to be later transferred to the school setting. HMHS is distinct in that it was created specifically for the school context with unique consideration of implementation facilitators and barriers from its inception. Therefore, in addition to drawing from evidence-based practices to promote child

and adolescent mental wellbeing, the components and implementation of HMHS were designed with end users (i.e., teachers) in mind.

There is recent research in which teachers have identified short, easy, and reliable practices as key mechanisms for effective school-based social and emotional interventions (Peddigrew et al., 2022). In line with this research, we were intentional about creating brief and simple to administer exercises, particularly to offset barriers that are often associated with school-based social and emotional programs (Durlak et al., 2011), such as program cost, length, and rigidity (Crooks et al., 2022). Through this lens of implementation science, we were able to carefully consider implementation elements of the intervention itself. This was a process that began while developing HMHS, and it will continue with further evaluations and revisions to the program. All lessons were created to be tailored to the classroom setting, with lessons being 60-minutes in length to mirror a typical school period. The practices were also simple, easy to administer, and located in a single, freely available manual with clear script and directions. The facilitator manual was also designed with teachers in mind; the description of each lesson was designed to mimic a typical teacher lesson plan which clearly stated the lesson objectives, skills to build, and time for each component of the lesson. The intervention manual (book) itself was also carefully designed to be visually appealing and engaging for students and teachers alike.

Most importantly, we acknowledged that teachers often modify interventions to meet the needs of their students (Durlak, 2016) and took this into consideration when devising the program. We not only asked the question, "does this program work?" but also "*how* does this program work?" By asking questions and soliciting feedback from teachers about the conditions under which the program works, and for which student populations the program is best suited for, we are then better able to identify how and what elements of the program can be adapted to

meet the individual needs of students, teachers, and classrooms. With a focus on being evidence-based while also ensuring flexibility and responsiveness to varying implementation contexts (Weist et al., 2017), the HMHS program itself, as well as the research methodology behind it, further contributes to the rapidly growing literature on evidence-based, implementation-sensitive approaches to school-based mental health (Crooks et al., 2022).

Overall, this program of research provides preliminary evidence for a novel school-based program within a CBT framework. It provides further support for the transfer of cognitive-behavioural techniques into the school setting and offers an avenue for fostering important skills in children and improving symptoms of anxiety. Because CBT is short-term and solution focused, the HMHS program may be highly appealing for school psychologists, teachers, and other school staff, as their time and school resources are often limited. Further to this, by exploring students' and facilitators' perspectives of the HMHS program, we have gained a deeper understanding of what makes clinically based programs feasible (and challenging) to implement within the school setting. This has important implications for further development and improvement of the HMHS program, but also for the development of future school-based programs in general. By considering school staffs' and students' impressions of program content and delivery, researchers can ensure that clinical interventions are not only evidence-based, but also considerate of school staffs' time, expertise, and knowledge of diverse student needs. The findings presented in this dissertation can have implications for how researchers approach school staff to initiate school-based mental health programming in their schools; by understanding teacher needs, researchers can use this information to hopefully increase buy-in from school staff and other key stakeholders. Finally, this research contributes to the fields of school psychology and implementation science as it explores program adaptations, which may be a critical and

inevitable factor for the successful transfer of clinical interventions to the school setting. By permitting a flexible approach to implementation, which may include additions or modifications to content (except for core components) or delivery, school staff may be better able to match the program to the needs of their students and classroom context, therefore increasing future implementation and the sustainability of a program.

Summary and Conclusions

The development of child anxiety disorders is likely to have an onset during middle childhood (Solmi et al., 2022), and this timeframe also reflects an important window for the development of emotion regulation skills (Uhl et al., 2019), in turn highlighting the necessity of prevention and early intervention efforts. This dissertation centers around the development of Healthy Minds, Healthy Schools (HMHS), an original school-based program that is grounded in cognitive-behavioural techniques. The focus of the two studies was to explore whether students participating in HMHS would demonstrate changes in symptoms of anxiety and cognitive emotion regulation skills as measured by self- and parent reports, and to explore the feasibility of implementing HMHS based on both student and teacher perspectives. HMHS was developed with the overarching aim that it could be more easily facilitated by teachers by adapting empirically validated components (i.e., cognitive restructuring, validation, mindfulness, etc.) to a format designed specifically for the classroom setting (i.e., manualized content with flexible implementation that resembled teacher lesson plans). The results from these studies suggest that children who received the HMHS program did report significant decreases in anxiety at post-test relative to a comparison group. However, it is important to consider study limitations, such as program delivery as well as the measure of intervention implementation when interpreting these findings. The results also highlight the importance of student and facilitator feedback regarding

the feasibility of an intervention and its implementation, particularly as it relates to the acceptability; perceived utility; and implementation, including the challenges and barriers associated with program delivery. The findings from this dissertation suggest that HMHS demonstrates small effect sizes in improving elementary students' self-reported anxiety, and that it is perceived overall as an acceptable and beneficial program for teaching students positive social and emotional skills to reduce anxiety and better regulate emotions. In addition, the results suggest that many school staff prefer to use interventions and treatment protocols that are less rigid, in favor of a more flexible approach to intervention delivery that permits them to use their knowledge and expertise to adequately meet the unique needs of their students.

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Appendix A

Ethical Approval

McGill

Research Ethics Board Office
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Research Ethics Board III
Certificate of Ethical Acceptability of Research Involving Humans

REB File #: 23-0618

Project Title: Emotion Regulation and School-based Intervention: Implications for Child and Adolescent Mental Health

Principal Investigator: Micah Tilley

Department: Educational and Counselling Psychology

Status: Ph.D. Student

Supervisor: Professor Tina Montreuil

Approval Period: August 2, 2018 –August 1, 2019

The REB-III reviewed and approved this project by delegated review in accordance with the requirements of the McGill University Policy on the Ethical Conduct of Research Involving Human Participants and the Tri-Council Policy Statement: Ethical Conduct For Research Involving Humans.

Lynda McNeil
Associate Director, Research Ethics

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* Approval is granted only for the research and purposes described.
* Modifications to the approved research must be reviewed and approved by the REB before they can be implemented.
* A Request for Renewal form must be submitted before the above expiry date. Research cannot be conducted without a current ethics approval. Submit 2-3 weeks ahead of the expiry date.
* When a project has been completed or terminated, a Study Closure form must be submitted.
* Unanticipated issues that may increase the risk level to participants or that may have other ethical implications must be promptly reported to the REB. Serious adverse events experienced by a participant in conjunction with the research must be reported to the REB without delay.
* The REB must be promptly notified of any new information that may affect the welfare or consent of participants.
* The REB must be notified of any suspension or cancellation imposed by a funding agency or regulatory body that is related to this study.
* The REB must be notified of any findings that may have ethical implications or may affect the decision of the REB.

PROG-309-B

Newfoundland & Labrador English School District

Chairperson: Goronwy Price
CEO/Director of Education: Anthony Stack

Research Approval Conditions

Research Title & Investigator(s): Micah Tilley Social Emotional Learning Date: Sept 27, 2018

Your request to conduct this research is NOT approved: _____

Your request to conduct research in our district is approved subject to the conditions/requirements checked below:

1. A list of potential schools for this research has been submitted. ☑
2. Final approval to conduct this study will rest with the principal of each targeted school and the targeted group of teachers students/parents where applicable. ☑
3. Conducting the research will in **no way negatively impact instructional time for students and teachers.** ☑
4. Conducting this research must not put any burden of responsibility on school administrators or other staff unless they specifically agree to it. **Such agreement must not negatively impact instructional time.** ☑
5. **Participation in the study will be voluntary** and participants will be able to opt out at any time without prejudice. This must be clearly communicated to the participants at the outset. ☑
6. For students under 19 years of age, **the researcher(s) must secure parental consent and confirm such consent with the principal before the research proceeds.** Students 19 years of age and older must provide their own consent. Regardless of age, youth must be clearly informed from the outset that they may refuse to participate, even if their parents consented to their participation. ☑
7. Ensuring anonymity of participants and confidentiality of all data generated and collected throughout the research. ☑
8. Before the research project can begin, **it must receive final approval from your university's Research Ethics Committee** and a copy of this approval must be sent to the Senior Education Officer (HR) as per the contact information listed below. ☑

   8a. Ethics Committee approval letter has been received ☑ 8b. Not applicable ☐
9. If there is potential risk in this research project that some participants may relive a traumatic experience which can cause emotional or psychological stress, counselling services and other appropriate supports must be available during and subsequent to the data collection process. **Researchers are responsible for providing such supports. This service will not be provided by the NLESD.** ☑
10. A copy of the research findings and resulting papers/reports must be directed to the CEO/Director of Education or designate. ☑
11. Research results must be made available to the schools involved and the individual participants who request them. ☑
12. The Newfoundland and Labrador English School District takes no responsibility in conducting this research, and will not be held liable for any negative impacts relating to this research effort. **The full responsibility to organize and conduct this research rests with the researcher(s).** ☑

Recommended by: Deborah Cooke Date: Oct. 1, 2018
Senior Education Officer

Signature of Approval: Lucy Warren Date: Oct 3, 2018
Associate Director of Education

Signature of Compliance: _____ Date: _____
Researcher

A signed copy of this form MUST be returned to the address below and to the potential schools before research can begin:

Attention: Associate Director of Education
Newfoundland and Labrador English School District
95 Elizabeth Avenue
St. John's, NL
A1B 1R6

Appendix B

Consent Forms

Facilitator Consent Form

Thank you for your participation in delivering the Healthy Minds, Healthy Schools program. We invite you to provide feedback on your experience delivering the program. This brief survey assesses your satisfaction of the Healthy Minds Healthy Schools program. This evaluation will allow the involved researchers to review the content as well as the delivery of the program in the aim of improving program content to meet the expectations and the needs of future students. We wish to thank you in advance for your important contribution toward the improvement of our program. Please consider the following information before you agree to participate by completing the survey.

Requirements: You will be asked to complete a brief survey via Google Forms. This will take no longer than 10 minutes to complete. Your participation is voluntary and you may end your participation in the survey at any point without repercussions and without having to explain why.

Risks and Inconveniences: This survey does rely on any procedures that could knowingly cause discomfort or create a risk of injury.

Privacy and Confidentiality: You will not be asked to enter any personal or identifying information into the Google Form. As such, all entries will remain anonymous. All information will be used for research purposes only.

If you have any questions regarding the study, feel free to direct your queries to the school principal or the principal investigator and all concerns will be addressed as best as possible.

Declaration of the teacher:
I have read the study description and have been fully informed about the procedures, demands, risks and benefits involved in of my participation. Participation is voluntary and I may withdraw at any time for any reason, without any reprisals.

Please indicate "yes" below if you have read the above information and consent to your participation in this study. Agreeing to participate in this study does not waive any of your rights or release the researchers from their responsibilities. To ensure the study is being conducted properly, authorized individuals such as a member of the Research Ethics board may have access to your information. You may print a copy of this consent form for your records. By indicating "yes" on this consent form, you are allowing such restrictive access.

If you have any questions or concerns, you may contact the researchers using the contact information listed below. If you have questions regarding your child's rights and role in this study, you can contact the McGill Research Ethics Officer at 514-398-6831 or lynda.mcneil@mcgill.ca.

Sincerely,

Micah Tilley, M.A., R.Psych. (Prov.)
Ph.D. Candidate
Faculty of Education, McGill University
3700 McTavish, Room 614
H3A 1Y2
Email: micah.tilley@mail.mcgill.ca
Telephone: 709-743-4236

Tina Montreuil, Ph.D.
Assistant Professor
Faculty of Education, McGill University
3700 McTavish, Room 614
H3A 1Y2
Email: tina.montreuil@mcgill.ca
Telephone: 514-398-3454

Parental Consent Form

RESEARCH CONSENT FORM

Institution: Faculty of Education, McGill University

Title of Project: Emotion Regulation and School-based Intervention: Implications for Child and Adolescent Complete Mental Health

Researcher: Micah Tilley, PhD Candidate **Supervisor:** Dr. Tina Montreuil

Dear Parent or legal tutor,

We invite you and your child to participate in a research project about emotion regulation, mental health, and school-based intervention. Please consider the following information before you agree to your and your child's participation.

What is the purpose of the study?

The purpose of the study is to better understand the relationship between **emotion regulation**, defined as the ability to monitor, evaluate, and change the intensity and timing of an emotional response, and **mental health outcomes,** such as anxiety, depression and well-being. Furthermore, we want to examine whether participation in Healthy Minds Healthy Schools (HMHS), a **social-emotional school-based program**, will lead to improved emotion regulation and mental health outcomes for your child.

What will your child be required to do?

Your child's class will be assigned to one of the following groups: the intervention group that will receive the Heathy Minds Healthy Schools program, or the no intervention group. Group assignment will be determined by the teacher and administration, in consultation with the principal investigator. The program sessions will take place in the classroom for 60 minutes once a week for 8 weeks. Should your child be assigned to the no intervention group, your child could be offered the program (with your consent) once the study is completed.

Your child will also be asked to complete **six short questionnaires** in the presence of the principal investigator and her research team. Questionnaires will be completed outside of the classroom (e.g., in the library) during class time. Your child's participation will require two brief 30-minute sessions before the program, and again upon completing the program (for a total of four 30-minute sessions). The questionnaire sessions will be coordinated with your child's classroom teacher to ensure that your child does not miss instruction time in core subjects (e.g., math, science, language arts). You will also be asked to complete a **demographic information form and four questionnaires** before and after the program. These documents should take no longer than 20 minutes to complete. Questionnaire completion is irrespective of your child's group assignment (i.e., intervention versus no intervention). Both child and parent questionnaires assess child emotion regulation and indicators of mental health.

Your participation/your child's participation in this study is **voluntary** and you and your child **may withdraw at any point** without repercussions and without having to explain why. Whether

your child participates or not will have no effect on his or her school grades. Note that you may refuse your child's participation in the research component of the study (i.e., data collection), but that all students will participate in the Healthy Minds Healthy Schools program as it is a classroom-based program endorsed by the teacher and school principal. Also note that your child's teacher will be asked to fill out questionnaires about your child's emotion regulation abilities and social-emotional functioning.

Risks and Inconveniences

The study does not use any procedures that cause discomfort or create a risk of injury. The risk associated to your child's involvement in the study is no greater than those encountered by the participant in aspects of their everyday life. However, there is always the possibility that your child may become frustrated or bored while completing the questionnaires. Under such circumstances, we will address any related issues, answer questions and help your child understand all of the information in the questionnaires.

Benefits

If your child participates in the Healthy Minds Healthy Schools Program, we hope that he or she learns techniques for relaxation, managing thoughts and feelings, among other tools and strategies. However, there may not be any direct benefits to your/your child's participation. If not, we hope this study will benefit the development of future school interventions involving emotion regulation and mental health.

Privacy and Confidentiality

Your child's information will be **coded** (e.g., 002) and his or her name **will not be shared under any circumstances** and will only be known by the principal investigator. All information will be designated by that number and therefore, **no personal or identifying information will be provided**. The primary investigator will **ensure confidentiality** with respect to your child's information and will keep files under key at all times by controlling access to the data and coding key. Coded information will be locked in a cabinet, away from the data set. Individual assessment scores will **not** be shared to school staff/officials. Confidentiality may be broken if there is reasonable cause for concern for the welfare of a child and will be reported to the relevant authorities. At the end of the study, a summary report will be produced using aggregate and unidentified data. When this research is presented, identifying information will not be revealed as all information will be used for research purposes only.

Declaration of the parent or legal tutor:

To ensure the study is being conducted properly, authorized individuals such as a member of the Research Ethics Board may have access to your/your child's study information. Agreeing to participate in this study does not waive any of your rights or release the researchers from their responsibilities. A copy of this consent form will be given to you and the researchers will keep a copy.

I have read the study description and have been fully informed about the procedures, demands, risks and benefits of the study. I freely and voluntarily consent for my participation and my child's participation in this study program:

Name of participant (child) Child's date of birth

Name of participant (parent/guardian) Signature of parent/legal tutor
Date

Parent email

If you have any questions or concerns, you may contact the researchers using the contact information listed below. If you have questions regarding your child's rights and role in this study, you can contact the McGill Research Ethics Officer at 514-398-6831 or lynda.mcneil@mcgill.ca.

Sincerely,

Micah Tilley, M.A.
Ph.D. Candidate
Faculty of Education, McGill University
3700 McTavish, Room 614
H3A 1Y2
Email: micah.tilley@mail.mcgill.ca
Telephone: 709-743-4236

Tina Montreuil, Ph.D.
Assistant Professor
Faculty of Education, McGill University
3700 McTavish, Room 614
H3A 1Y2
Email: tina.montreuil@mcgill.ca
Telephone: 514-398-3454

Signature of investigator Date

Appendix C

Healthy Minds, Healthy Schools Program Information Sheet

Who We Are

The Childhood Anxiety and Regulation of Emotions (C.A.R.E.) Research Group consists of several Master's and PhD students in the Department of Educational & Counseling Psychologist at McGill University in Montreal, QC. The Research Group is led by Dr. Tina Montreuil, an Assistant Professor and registered Clinical Psychologist. Our areas of expertise are in school-based mental health, early universal prevention and intervention, emotion regulation and anxiety, as well as social-emotion development and learning.

Our Program

Healthy Minds Healthy Schools is a curriculum-based program for primary and elementary school children aimed at improving children's emotional regulation and overall mental health. The program was developed by Dr. Tina Montreuil and Micah Tilley, a PhD Candidate of C.A.R.E. Research Group. Our unique program integrates multiple social-emotional components to provide children with practical strategies to use in everyday life. Children will have the opportunity to practice emotion regulation and relaxation strategies to deal with unpleasant thoughts and emotions.

How Does it Work?

Through guided instruction, reflection, group activities, and videos, children will have the opportunity to improve their emotion regulation skills. Schools have the option to have the lessons implemented by their school staff or a senior member of the C.A.R.E. Research Group.

In just 8 lessons, children will learn how to:

- Identify and understand emotions
- Link thoughts, feelings, and bodily sensations
- Regulate negative emotions (anxiety, worry, anger, and sadness)
- Practice mindfulness
- Self-reflect

Benefits of our program may include:

- Resilience to stress and anxiety
- Increased executive control (attention, inhibition and cognitive flexibility)
- Enhanced academic performance
- Reductions in problem behaviours
- Improved social skills
- Positive self-concept

Appendix D

Healthy Minds, Healthy Schools Summary of Lessons

HEALTHY MINDS HEALTHY SCHOOLS

LESSON 1: INTRODUCTION TO THOUGHTS

Purpose of lesson

This lesson is an introduction to thoughts. Students will be taught the definition of a thought, what it means to have racing thoughts, as well as how to deal with racing thoughts.

Materials needed

- Student activity folder
- Pencil
- Computer with internet (to show Google image picture and/or video)
- Pasta strainer (optional; for strategy demo)

Skills to build

- Understand the definition of *thoughts* and *racing thoughts*
- Implement strategies to deal with *racing thoughts*

Vocabulary to highlight/clarify

- Thought: a little voice inside your head; ideas or opinions in your mind
- Racing Thoughts: many thoughts happening at once that you can't control
- Strategy: a method used to achieve a goal

Chronology of lesson

- Check-in
- What is a thought?
- Racing thoughts
- Conveyor belt strategy
- Pasta strainer strategy
- Check-in

HEALTHY MINDS HEALTHY SCHOOLS

LESSON 2: INTRODUCTION TO FEELINGS

Purpose of lesson

Students will learn about the definition and purpose of emotions (also referred to as feelings). A focus is given to anxiety. Students will receive an explanation of anxiety and its purpose. An explanation of how thoughts and feelings are connected will also be provided.

Materials needed

- Student activity folder
- Pencil
- Computer with internet (optional; to show Google image of compass)

Skills to build

- Understand the definition and purpose of *emotions*
- Understand the definition and purpose of *anxiety*
- Illustrate how *thoughts* and *feelings* are connected

Vocabulary to highlight/clarify

- Feeling/Emotion: a response to something you are thinking or doing
- Anxiety: feeling worried, uneasy, or nervous about a situation or not knowing what will happen (uncertainty)

Chronology of lesson

- Check-in
- Review of previous lesson
- What is a feeling?
- Common feelings we have
- All about anxiety
- The purpose of emotions
- Emotions activity
- Thoughts influence feelings
- Check-in

HEALTHY MINDS HEALTHY SCHOOLS

LESSON 3: HOW MY BODY REACTS

Purpose of lesson

The goal of this lesson is to explore how one's body reacts to different emotions. Students will learn that some emotions are pleasant, whereas others are more unpleasant (i.e., the *valence* of emotions). Students will complete an activity about identifying various physical sensations that are associated with certain emotions. Furthermore, students will learn that the *intensity* of their emotions and associated body sensations can range. Importance will be given to normalizing these bodily sensations.

Materials needed

- Student activity folder
- Pencil
- Colouring pencils/crayons

Skills to build

- Knowledge of *pleasant* and *unpleasant* emotions
- Identification of how one's *body reacts to emotions*
- Understanding that one can *experience two emotions at once,* and at *different intensities*

Vocabulary to highlight/clarify

- Pleasant: giving a feeling of happy satisfaction or enjoyment
- Unpleasant: causing unhappiness or discomfort
- React/reaction: behaving in a certain way because of something that happened
- Body sensations: something you feel in your body (e.g., heart beating fast)
- Strategy: a method used to achieve a goal

Chronology of lesson

- Check-in
- Review of previous lesson
- How my body reacts to my emotions
- Pleasant and unpleasant emotions activity
- Sensations in my body
- Mind/body connection
- Valence and intensity of emotions
- How does my body react? activity
- Check-in

HEALTHY MINDS HEALTHY SCHOOLS

LESSON 4: LABELING EMOTIONS

Purpose of lesson

The goal will be to teach students about labeling one's emotions and the emotions of others. The connection between emotion, body sensation, and situation will be elaborated on in more detail in this session. Specifically, discussion will focus on how to label emotions by linking bodily sensations (e.g., butterflies in stomach) to the current situation (e.g., class presentation in 10 minutes). A list of emotions related to happiness, anger, sadness, fear and anxiety will be provided.

Materials needed

- Student activity folder
- Pencil
- Colouring pencils/crayons
- Scissors
- Glue
- Bristol board or large sheet of chart paper

Skills to build

- *Identify* and *label one's emotions* and the emotions of others
- *Identify* which *body sensations/situations* are linked to certain emotions

Vocabulary to highlight/clarify

- Feeling/Emotion: a response to something you are thinking or doing
- Body sensations: something you feel in your body (e.g., heart beating fast)

Chronology of lesson

- Check-in
- Review of previous lesson
- Labeling emotions
- Experts on emotions activity
- Check-in

HEALTHY MINDS HEALTHY SCHOOLS

LESSON 4: MINDFULNESS & RELAXATION (PART 1)

Purpose of lesson

This lesson will be an introduction to mindfulness. Students will learn the definition of mindfulness and will be taught strategies for being mindful or in the present moment. These strategies include deep breathing, also referred to as "anchor breathing."

Materials needed

- Student activity folder
- Pencil
- Colouring pencils/crayons
- Balloon (optional)
- Plastic jars or water bottle, glitter, and water (for glitter jar activity)

Skills to build

- Understand the definition of *mindfulness*
- Identify what it means to be mindful *in the present moment*
- Implement *mindful breathing strategies*
- Identify the connection between *mindfulness and the five senses*

Vocabulary to highlight/clarify

- Mindfulness: listening, focusing, and paying attention in the present moment
- Present moment: right here and right now, exactly in this very moment
- Mindful breathing: paying attention to your breath going in and out

Chronology of lesson

- Check-in
- Review of previous lesson
- What is mindfulness (+ video)
- Mindfulness and the senses guided activity
- Mindful breathing strategies
- Glitter jar activity
- Check-in

HEALTHY MINDS HEALTHY SCHOOLS

LESSON 5: MINDFULNESS & RELAXATION (PART 2)

Purpose of lesson

This lesson will be a continuation of the previous lesson on mindfulness and relaxation. Students will learn about alternative practices to judging themselves or others, such as practicing acceptance. Students will be taught strategies to assist with acceptance and how to let go of unwanted thoughts or feelings. In addition, students will continue learning about mindful breathing and being in the present moment through yoga.

Materials needed

- Student activity folder
- Pencil, Colouring pencils/crayons
- Carpet space or mat to practice yoga

Skills to build

- Understand the definition of *mindfulness*
- Identify what it means to be mindful *in the present moment*
- Understand and identify *judgments*
- Practice *acceptance* and *letting go strategies*
- Use *yoga as a tool* for practicing mindfulness and acceptance

Vocabulary to highlight/clarify

- Mindfulness: listening, focusing, and paying attention in the present moment
- Present moment: right here and right now, exactly in this very moment
- Mindful breathing: paying attention to your breath going in and out
- Judgement: thinking about the way something could or should be; forming an opinion about something

Chronology of lesson

- Check-in
- Review of previous lesson
- Judging vs. accepting
- Letting go strategy
- Riding the wave strategy
- Clouds floating by strategy
- Yoga
- Check-in

HEALTHY MINDS HEALTHY SCHOOLS

LESSON 7: EXPRESSING EMOTIONS

Purpose of lesson

This lesson will focus on expressing emotions. Students will learn what it means to express their emotions, and how the expression of emotions can either be helpful or harmful. Discussion will also focus on how students may express one emotion externally (e.g., anger), when in fact they feel other emotions internally (e.g., jealousy, embarrassment). Furthermore, discussion will focus on the importance and benefits of communicating emotions to others.

Materials needed

- Student activity folder
- Pencil
- Colouring pencils/crayons

Skills to build

- Appropriate *expression of emotions*
- Understand that a specific emotion can be expressed on the outside (e.g., anger), but that another emotion can be felt on the inside (e.g. embarrassment)
- Identify the *importance of communicating unpleasant emotions* to others

Vocabulary to highlight/clarify

- Expression/expressing: showing someone how you feel or what you think using your words, facial expressions, or body language

Chronology of lesson

- Check-in
- Review of previous lesson
- Expressing my emotions
- Telling others what's on the inside
- Iceberg analogy
- Iceberg activity
- Helpful and harmful emotion expression
- Check-in

HEALTHY MINDS HEALTHY SCHOOLS

LESSON 8: STRENGTHS, SKILLS & GRATITUDE

Purpose of lesson

The goal of this lesson is to teach students about individual differences and that everyone is unique. The focus of the lesson will be for students to further reflect on what makes them unique, by identifying their own personal strengths and skills. Students will also be introduced to related concepts such as kindness and gratitude. Discussion will focus on how one should be grateful for their strengths and skills. Students will be provided with practical examples on how to practice gratitude and kindness every day.

Materials needed

- Student activity folder
- Pencil
- Colouring pencils/crayons
- Large sheet of chart paper
- Marker

Skills to build

- Recognize *personal strengths* and *identify skills*
- Understand the *importance of being unique*
- *Respecting diversity/uniqueness*
- Understand the definition of *gratitude*
- Practice *gratitude and kindness*

Vocabulary to highlight/clarify

- Unique: no one else like you; special
- Strength: a positive characteristic or ability to describe you
- Skill: something you are good at; something you can do well
- Gratitude: thinking about what I am thankful for; showing appreciation and kindness

Chronology of lesson

- Check-in
- Review of previous lesson
- Strengths and skills
- Tree of me activity
- Kindness
- Gratitude
- Gratitude acrostic poem activity
- Check-in

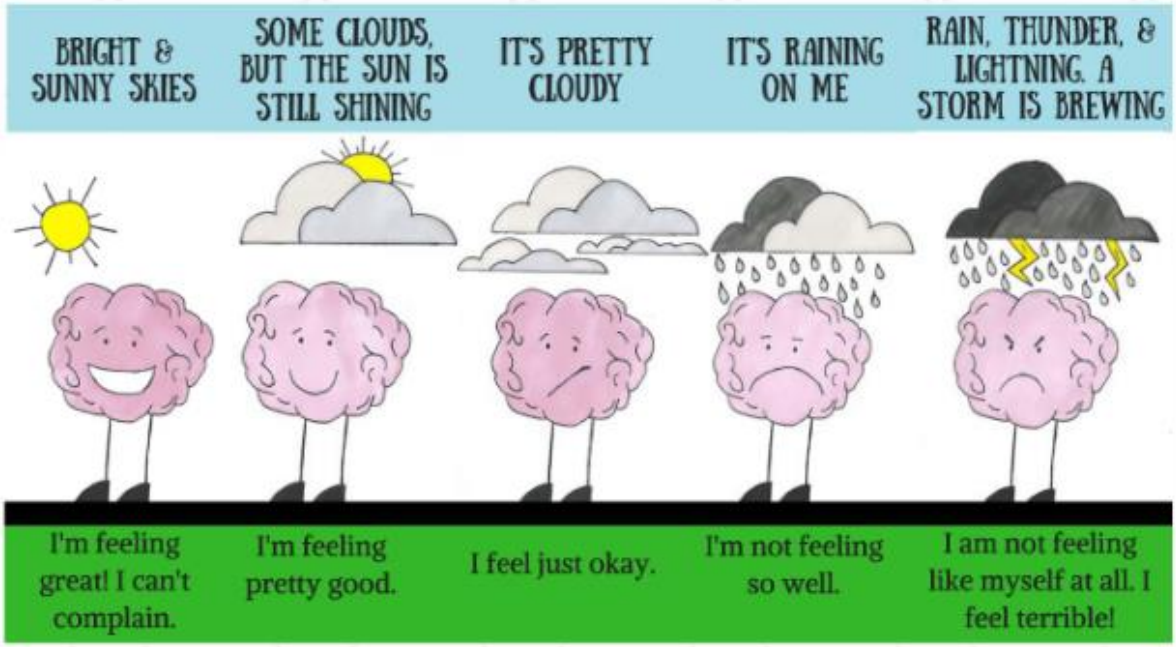
Appendix E

Healthy Minds, Healthy Schools Lesson Sample

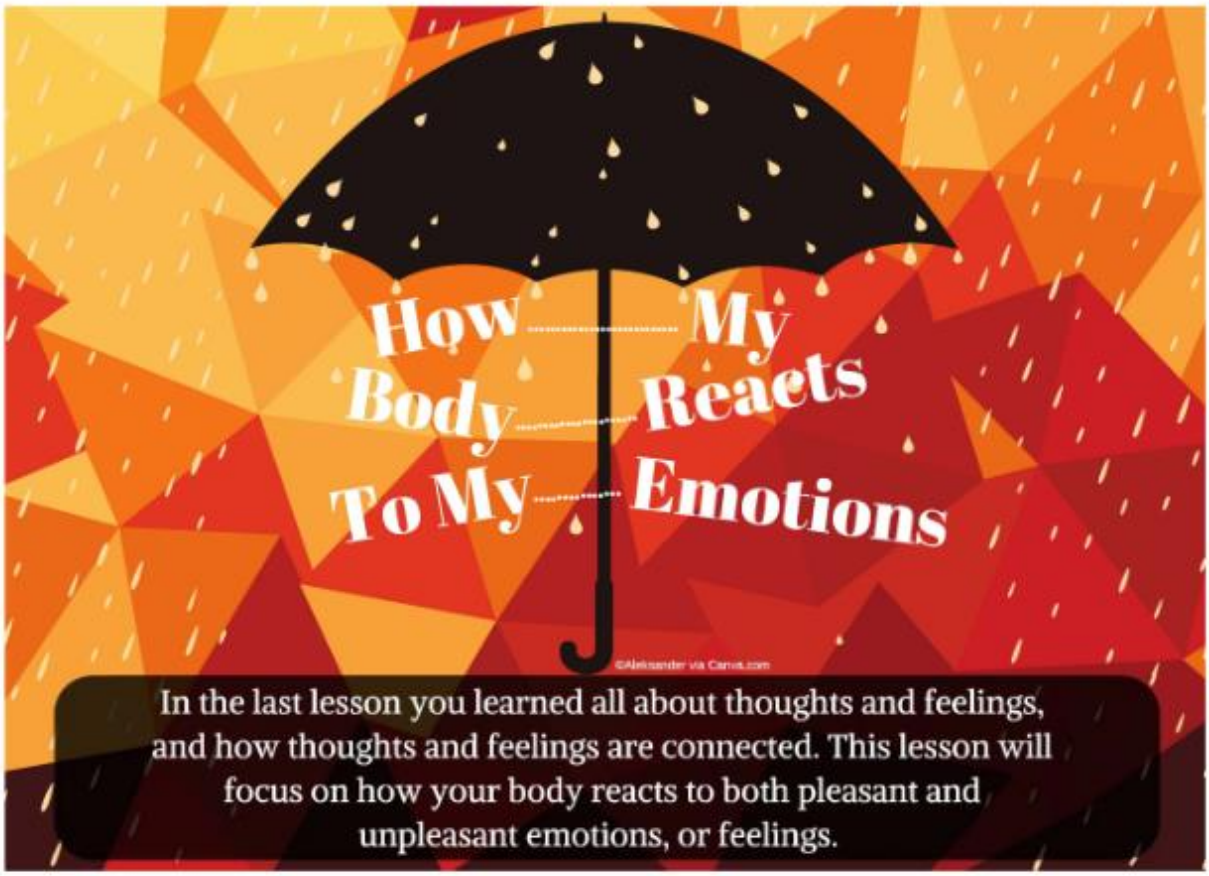
HOW AM I FEELING RIGHT NOW?

C.A.R.E. Check-In Before Lesson

Circle the brain that best describes how you are feeling right now, in the present moment.



Can you describe why you are feeling this way? Perhaps something happened on your way to school, or maybe you have a thought stuck in your mind that you cannot get rid of. Please write more information about the situation that caused you to feel this way in the space below.



If an emotion is pleasant, it means that it makes you feel good. You like when you have that emotion.

However, if an emotion is unpleasant, it means that you do not like that emotion because it doesn't make you feel good. These types of emotions can also be difficult to deal with.

But remember, it's okay to have unpleasant emotions, like anxiety and anger. For example, it's okay to be angry with your friend for hurting your feelings. Everyone experiences these feelings from time to time.

The important thing is that you learn how to deal with unpleasant emotions so that you can come back to neutral–calm, relaxed, and focused!

Which emotions feel pleasant for you? Which feel unpleasant? Make a list.

UNPLEASANT

NEUTRAL

PLEASANT

-	- Calm	-
-	- Relaxed	-
-	- Focused	-
-	-	-
-	-	-

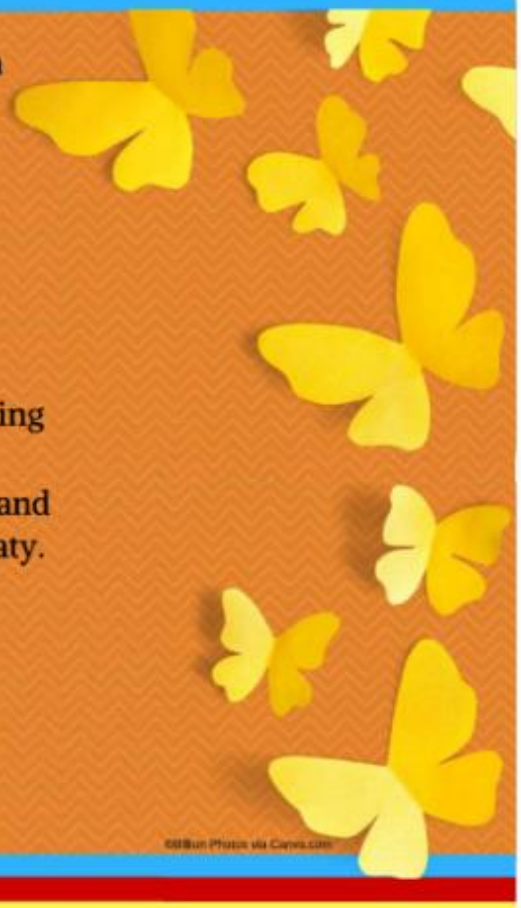
SENSATIONS IN MY BODY

Your body reacts differently depending on what emotion you are experiencing.

This means that your emotions trigger sensations in different parts of your body.

For example, if you are nervous about having to speak in front of the class, you may feel tightness or "butterflies" in your stomach, and the palms of your hands may become sweaty.

Each feeling you have can be paired with a different body sensation, which we will discuss later.



Keep in mind that all of the body sensations you experience are completely normal! Noticing these sensations should not worry or scare you. These sensations are simply your body's response to emotions felt by your brain!

Examples of How My Body Reacts

ANGRY

- Face feels hot
- Red face
- Jaws/fists clenched
- Squinted eyes
- Heart pounding
- Sweating
-
-

SAD

- Head hanging low
- Tears in eyes
- Looking downward
- Lips trembling
- Frowning
- Shaking
-
-

HAPPY

- Smiling
- Eyes wide/sparkling
- Tingling feeling
- Standing tall
- Head held high
- High energy
-
-

AFRAID

- Heart pounding
- Knees and legs like jelly
- Fast, heavy breathing
- Hands shaking
-
-

ANXIOUS

- Butterflies in stomach
- Heart beating fast
- Lump in throat
- Tapping hands/feet
- Fast breathing
- Sweaty palms
-
-

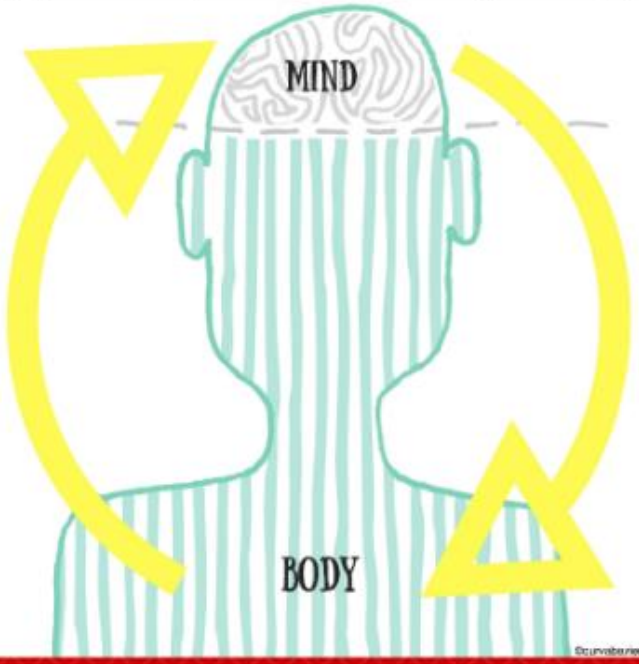
EMBARRASSED

- Head hanging low
- Covering face
- Red face (blushing)
- Holding back tears
- Heart beating fast
-
-

Remember, your mind and body are connected. This means that your thoughts and feelings, and the way your body reacts to these thoughts and feelings, influence one another.

Your facial expressions and body posture reflect how you feel in your mind. For example, if you are feeling angry, your fists may be clenched, your eyebrows may be pulled down, and your body may feel tight.

Your facial expression and body posture can actually influence the way you feel. For example, if you stand tall with your head held high, you can make yourself feel confident. This will also send a signal to others around you that you are feeling good about yourself and are ready to bring your "A game".



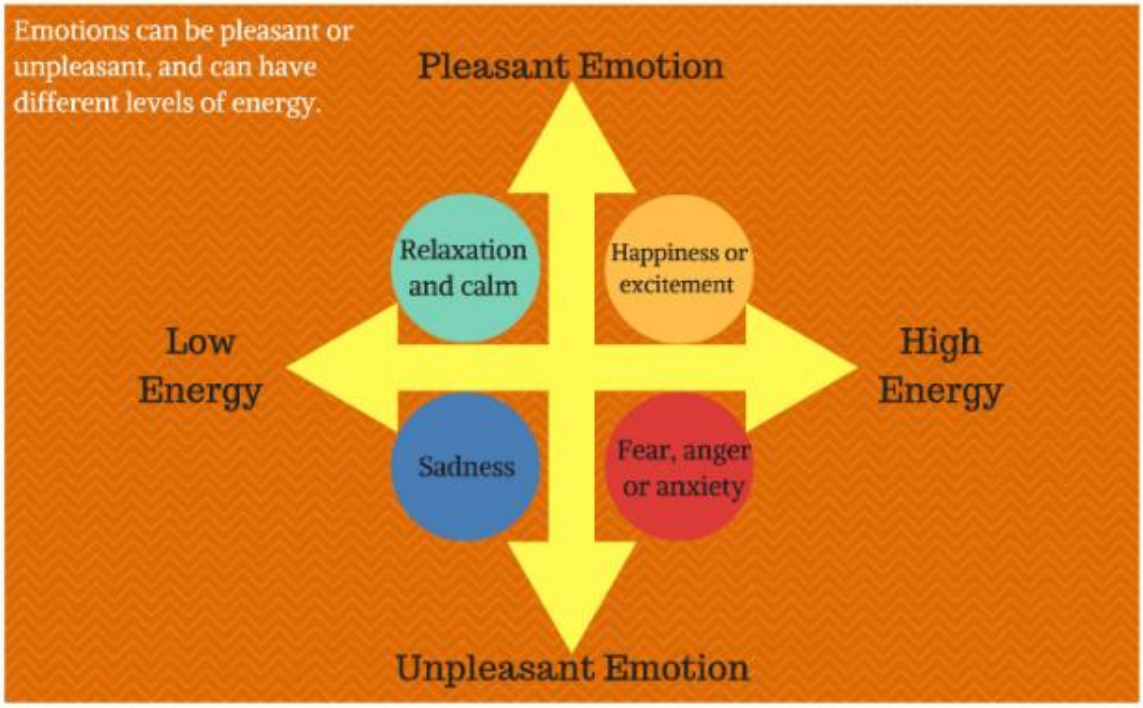
It is especially important to be mindful of your facial expressions because your brain uses your expressions as cues to feel emotions. For example, if you smile for a few minutes, your brain will get the message that you are smiling. This can actually make you feel happy, even if you were sad before! If you want to, give it a try! You should start to feel good.

Like we just discussed, you have different body sensations depending on which emotion you are feeling. But did you know that you can have different intensities of the same emotion? This means that you may feel an emotion very strongly sometimes, but at other times it may feel weaker.

Think of your emotions as being on a thermometer. Now pretend you can't find your favourite toy. You may feel a small bit of anger. Perhaps this anger is a 1 on the thermometer. Now pretend you lose the championship soccer game. This may leave you feeling very strong anger. This anger may be a 5 on the thermometer.

All this means is that you can have the same emotion, but just at different levels of strength or intensity, depending on the situation.

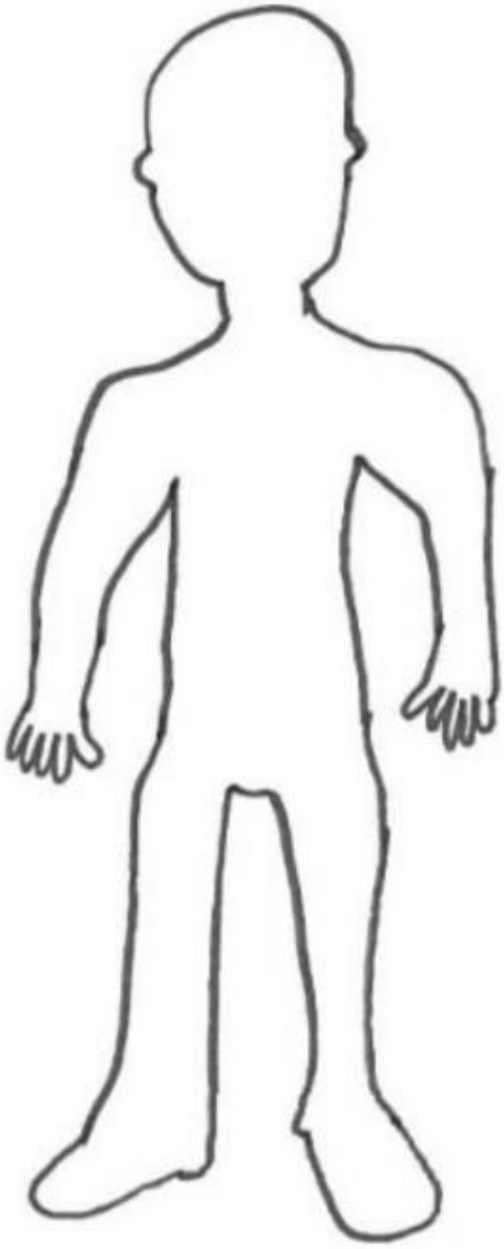
You can also experience two emotions at once with different intensities. For example, you may feel really happy that school is out for the summer, but a little bit sad because you won't see some of your friends until September.



How does my body react to

ANGER?

Where do I feel it?
What does it look like?

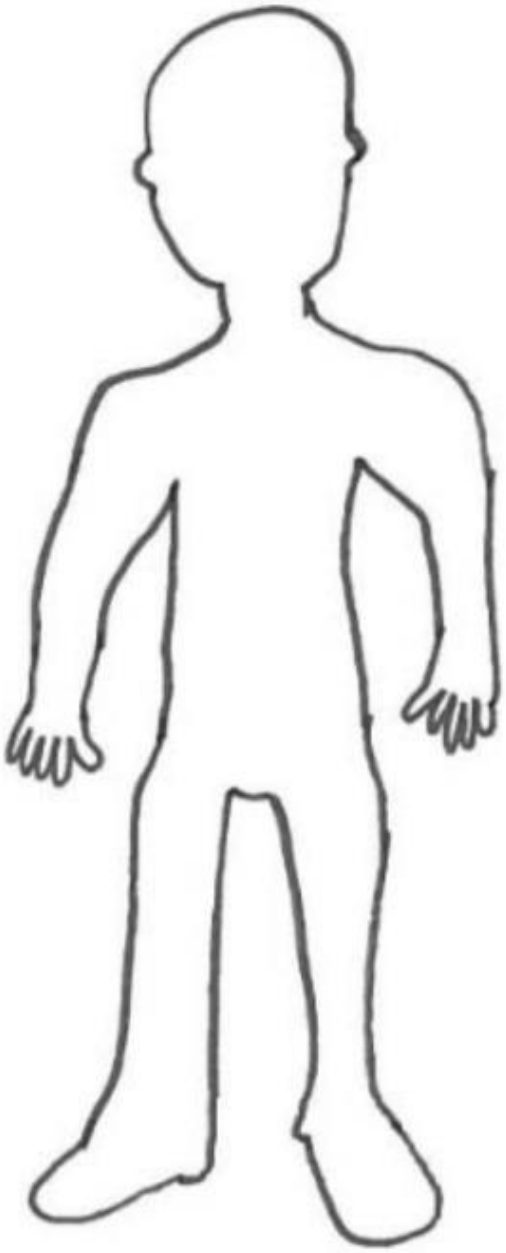


When I am angry I will...

How does my body react to

SADNESS?

Where do I feel it?
What does it look like?

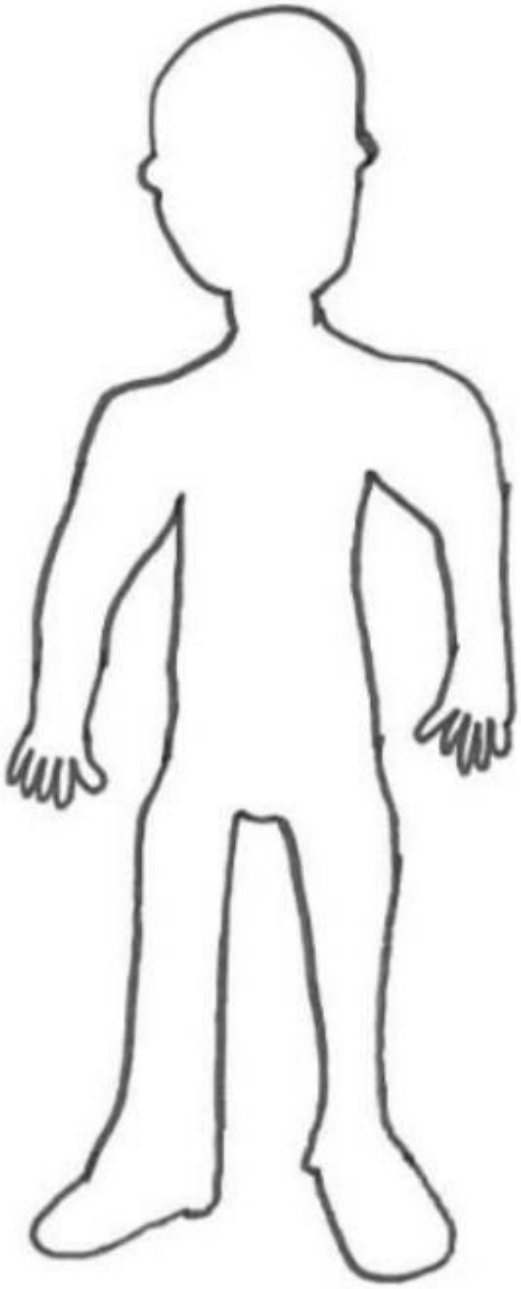


When I am sad I will...

How does my body react to

HAPPINESS?

Where do I feel it?
What does it look like?

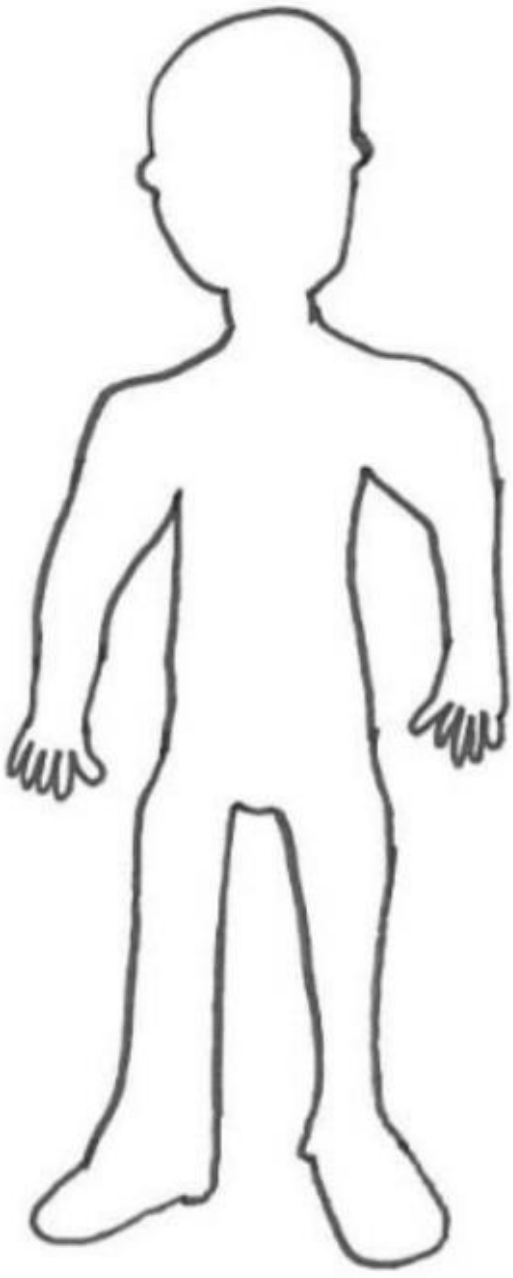


When I am happy I will...

How does my body react to

FEAR?

Where do I feel it?
What does it look like?

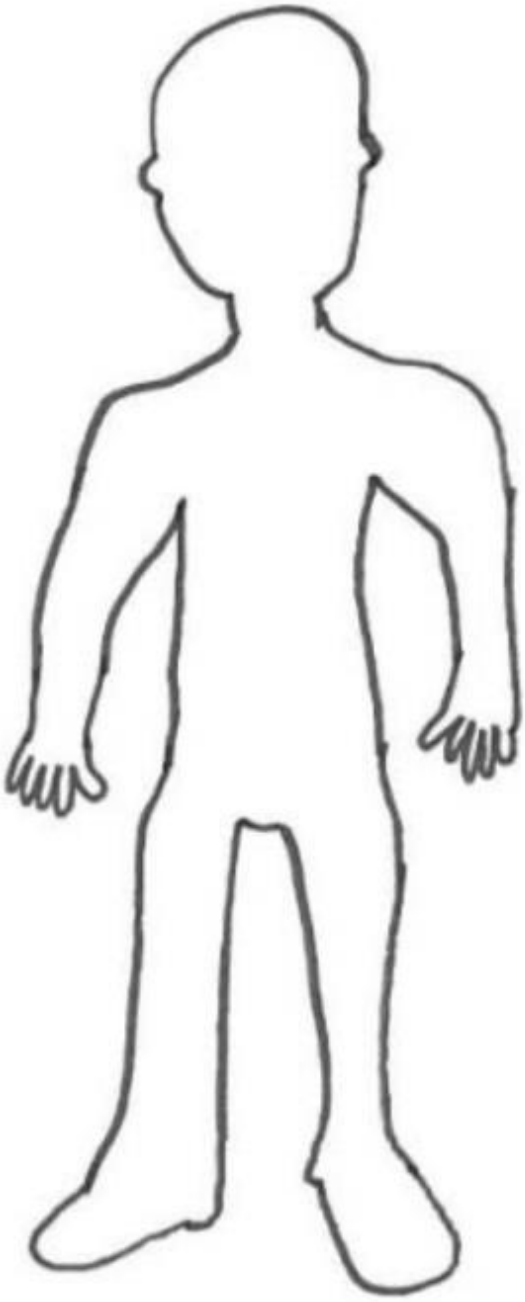


When I am afraid I will...

How does my body react to

ANXIETY?

Where do I feel it?
What does it look like?

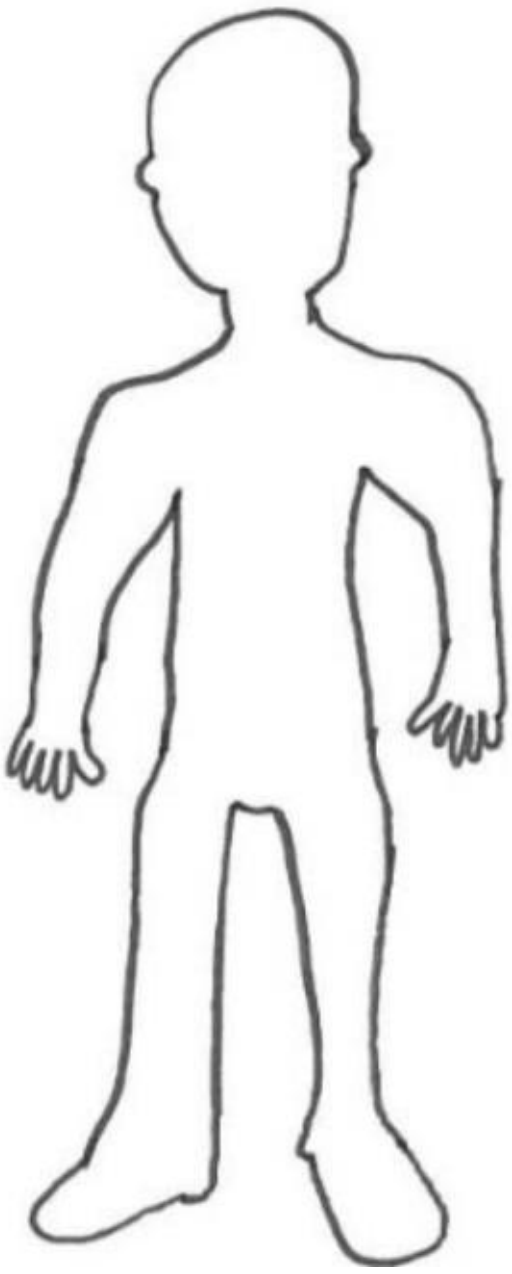


When I am anxious I will...

How does my body react to

EMBARRASSMENT?

Where do I feel it?
What does it look like?

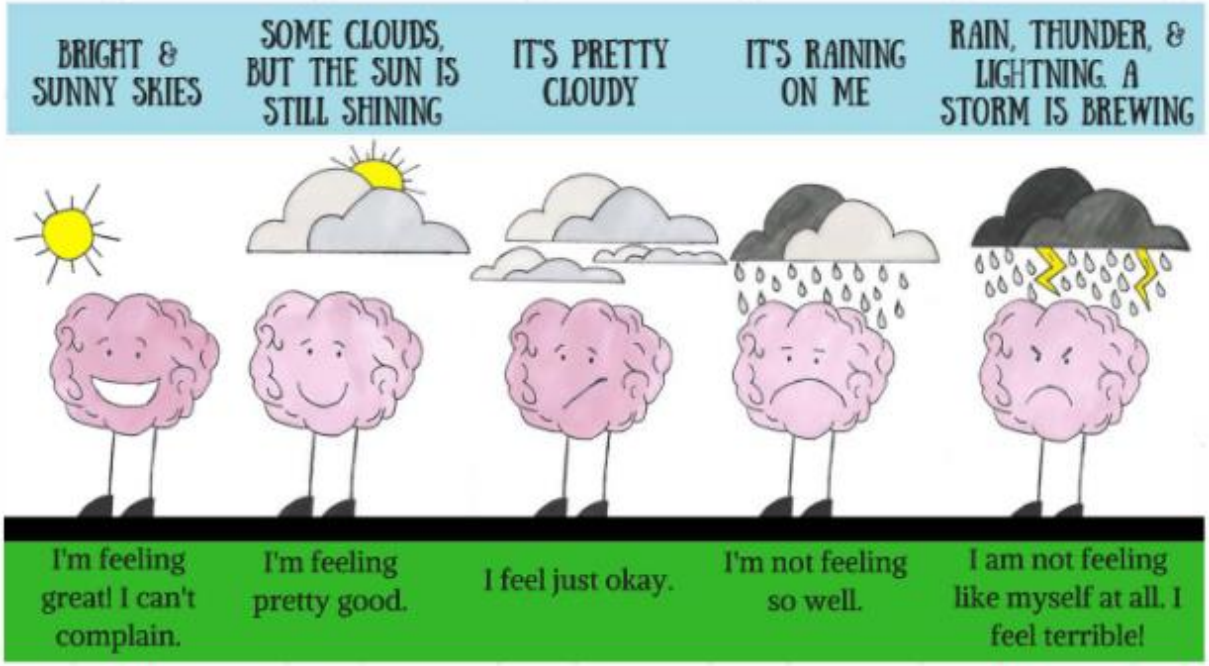


When I am embarrassed I will...

HOW AM I FEELING RIGHT NOW?

C.A.R.E. Check-In After Lesson

Circle the brain that best describes how you are feeling right now, in the present moment.



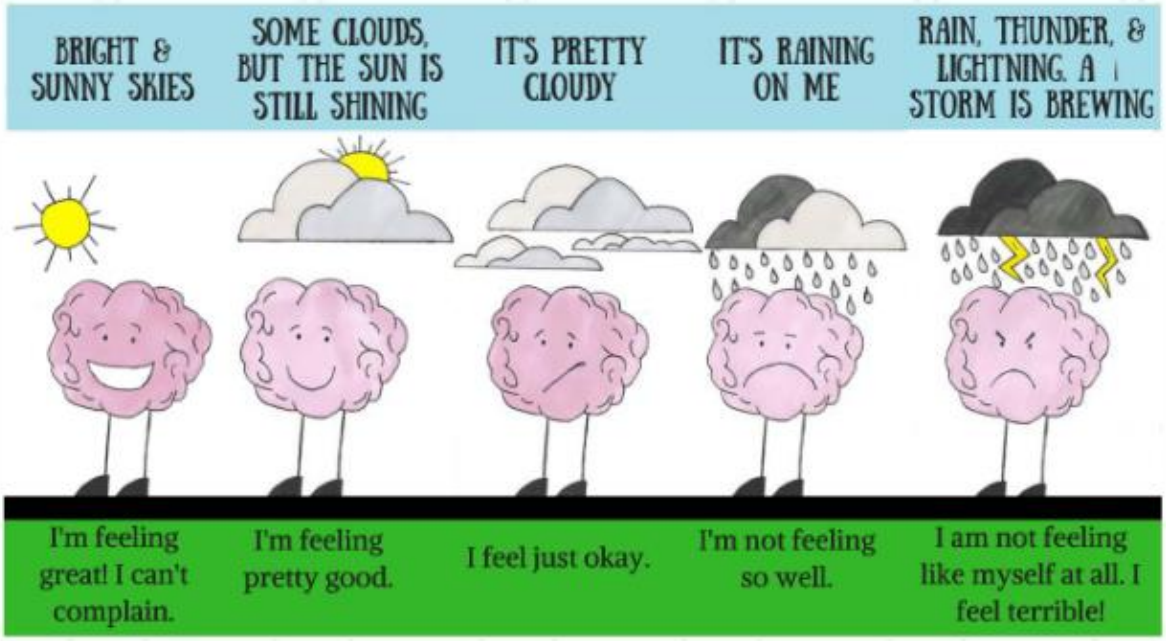
Did anything change since your previous check-in before you started the lesson? Why or why not? Can you describe how you are feeling right now? Why are you feeling this way? Please write more information about how you feel right now, in the present moment, here below.


5
C. A. R. E.
Lesson five

HOW AM I FEELING RIGHT NOW?

C.A.R.E. Check-In After Lesson

Circle the brain that best describes how you are feeling right now, in the present moment.



Did anything change since your previous check-in before you started the lesson? Why or why not? Can you describe how you are feeling right now? Why are you feeling this way? Please write more information about how you feel right now, in the present moment, here below.

What is mindfulness?

If you are paying attention to being "here" and are aware of what is going on in this exact moment, you are being mindful.

Mindfulness is all about focusing on what is happening inside you and around you. It is about noticing your thoughts, feelings, and surroundings as they are happening.

Every day you should try to take a moment to stop and be mindful of what surrounds you. Doing this can help you to think before you act. Practicing mindfulness throughout your day can also help you make smart choices.

When you are mindful, you purposely use your senses to focus on the world around you.

For example, if you pay attention to your surroundings by looking at the trees and carefully listening to the birds chirp on your way to school, you are being mindful.

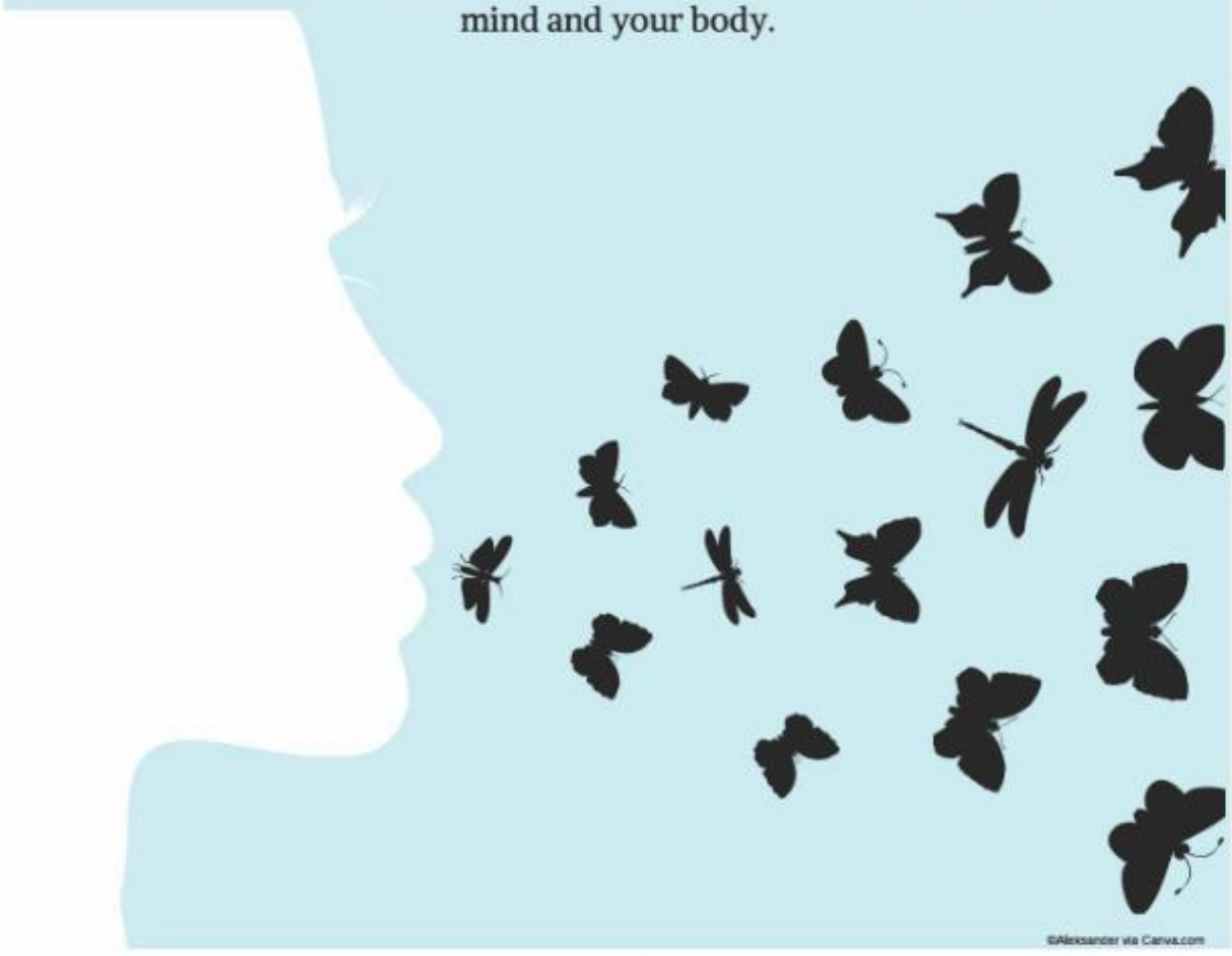
How Can I Practice Mindfulness?

Use your breath!

As soon as you start to pay attention to the movement of your breath, you become more focused about being in the present moment.

Mindfulness takes place because you are not thinking about the past or future. You are thinking about the "now".

You start to focus on how you're feeling on the inside, both in your mind and your body.

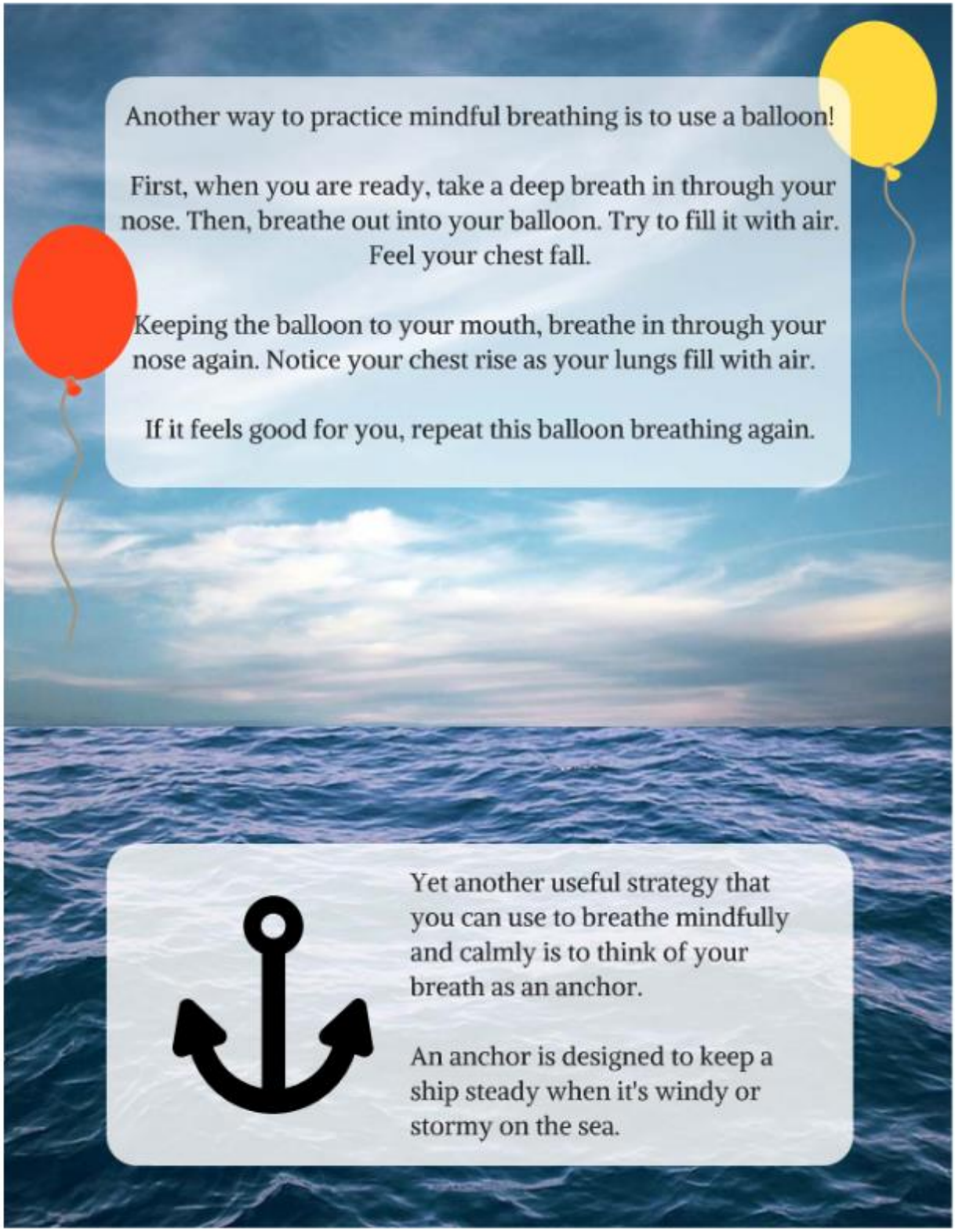


How Do I Breathe Mindfully?

When you are ready, place one hand on your chest and the other on your belly. Take a long, slow breath in through your nose. Imagine the air going in through your nose, down your throat, and all the way into your lungs!

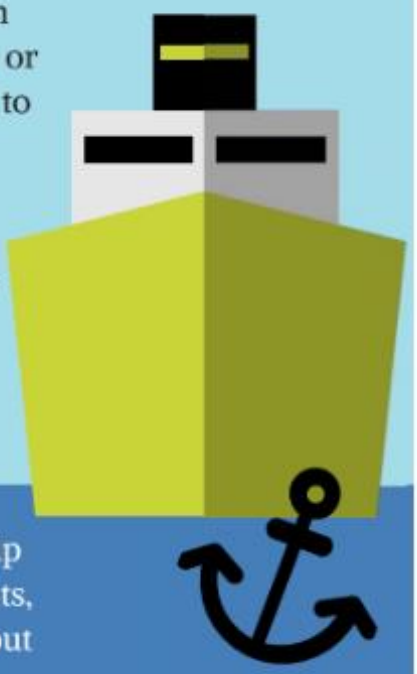
Now breathe out through your mouth. Shape your mouth as if you were blowing a bubble, then slowly let out all of that air!

All illustrations credit: Natalie Schneck


Another way to practice mindful breathing is to use a balloon!
First, when you are ready, take a deep breath in through your nose. Then, breathe out into your balloon. Try to fill it with air. Feel your chest fall.
Keeping the balloon to your mouth, breathe in through your nose again. Notice your chest rise as your lungs fill with air.
If it feels good for you, repeat this balloon breathing again.
Yet another useful strategy that you can use to breathe mindfully and calmly is to think of your breath as an anchor.
An anchor is designed to keep a ship steady when it's windy or stormy on the sea.

Sometimes you may feel like you have many thoughts that are being tossed around in your mind, like a ship getting tossed around by big waves.

Do you think you could use something, like an anchor, to make you feel steady and slow down or stop your thoughts from being tossed from left to right in your mind?



Your breathing follows you everywhere. It is something that you always have with you.

Your breathing can be used as an anchor to help you feel steadier and calmer when your thoughts, or even the world around you, seem rough or out of control, just like stormy waves.

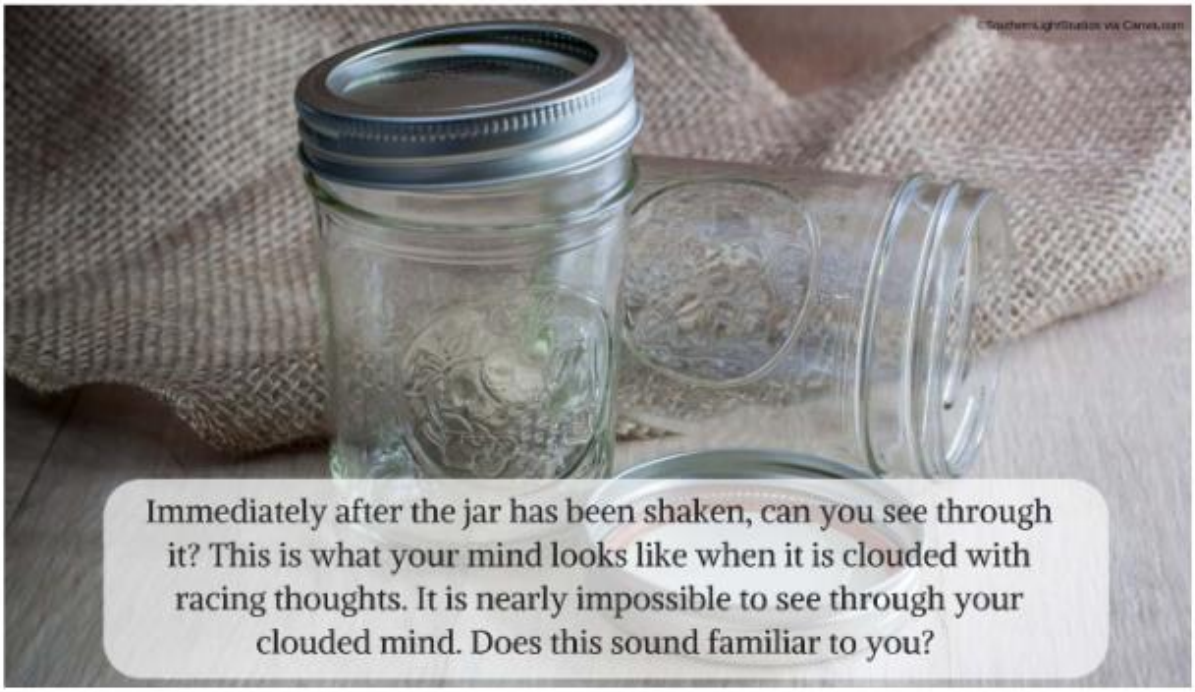
SETTLE YOUR GLITTER

Now let's do a fun activity to better help you understand just how useful being mindful can be. You will fill a jar with glitter and water. Think of your jar as your mind.

Now shake your jar. Just like the shaken glitter jar, with glitter moving in all directions, your mind is sometimes busy or full of unwanted and uncontrollable thoughts.

When this happens, it can be hard to relax and see the way through your clouded mind. It can also be difficult to find the answer to a challenging math problem or the best way to react to a conflict with your friend. This is especially difficult when your mind is clouded.

Has this ever happened to you?

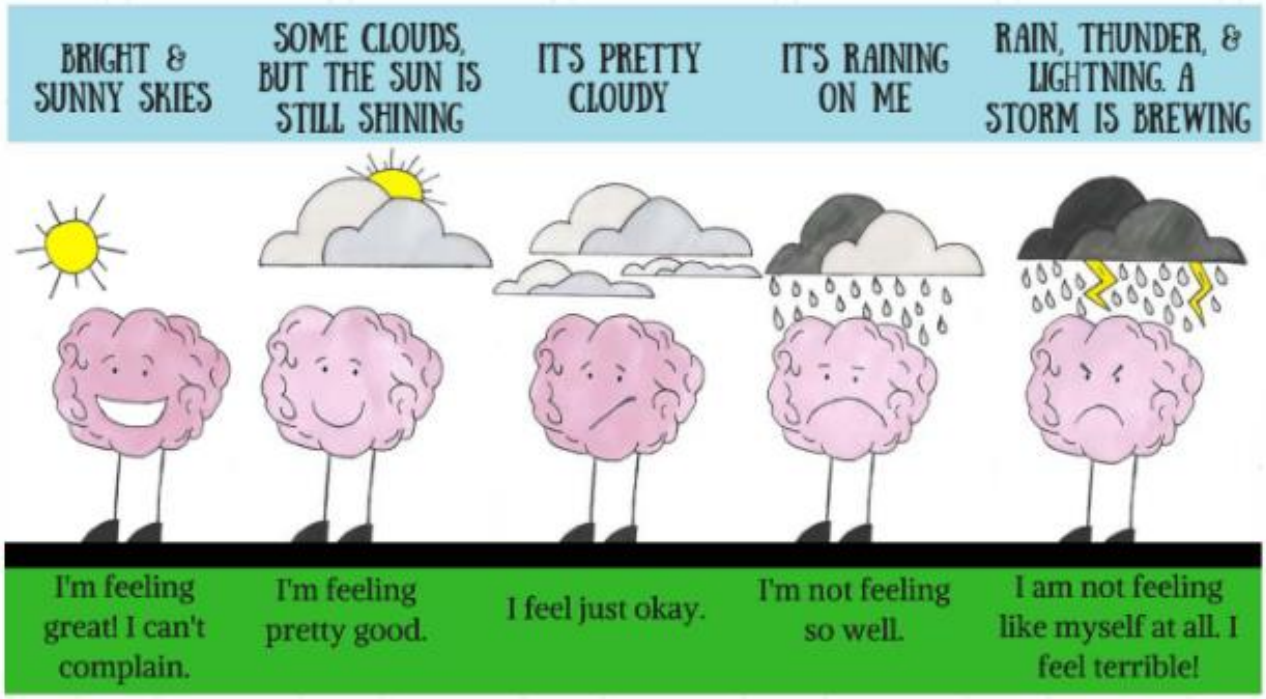


Immediately after the jar has been shaken, can you see through it? This is what your mind looks like when it is clouded with racing thoughts. It is nearly impossible to see through your clouded mind. Does this sound familiar to you?

HOW AM I FEELING RIGHT NOW?

C.A.R.E. Check-In After Lesson

Circle the brain that best describes how you are feeling right now, in the present moment.



Did anything change since your previous check-in before you started the lesson? Why or why not? Can you describe how you are feeling right now? Why are you feeling this way? Please write more information about how you feel right now, in the present moment, here below.

Appendix F

Healthy Minds, Healthy Schools Facilitator Manual Sample

Healthy Minds Healthy Schools

Lesson 3: How My Body Reacts (4th session)

Purpose of Lesson

The goal of this lesson is to explore how one's body reacts to different emotions. Students will learn that some emotions are pleasant, whereas others are more unpleasant (i.e., the *valence* of emotions). Students will complete an activity about identifying various physical sensations that are associated with certain emotions. Furthermore, students will learn that the *intensity* of their emotions and associated body sensations can range. Importance will be given to normalizing these bodily sensations.

Preparation

As always, review the content from the previous session and become familiar with the content for the present lesson. By now, students should be familiar with the Check-In process. Students should need less time to complete their Check-Ins as they progress through the program.

Skills to Build

- Knowledge of pleasant and unpleasant emotions
- Identification of how one's body reacts to emotions
- Understanding that one can experience two emotions at once, and at different intensities

Vocabulary to Highlight

- Pleasant: giving a feeling of happy satisfaction or enjoyment
- Unpleasant: causing unhappiness or discomfort
- React/reaction: behaving in a certain way because of something that happened
- Body sensations: something you feel in your body (e.g., heart beating fast)
- Strategy: a method used to achieve a goal

Required Materials

- Student activity folder
- Pencil
- Colouring pencils/crayons

Chronology of Lesson

Topic	Page(s)	Estimated time
Check-In	30	5 minutes
Review of Previous Session	--	10 minutes
How my Body Reacts to my Emotions	31	3-4 minutes
Pleasant & Unpleasant Emotions Activity	32	6-7 minutes
Sensations in My Body	33-34	5-6 minutes
Mind / Body Connection	35	3-4 minutes

Topic	Page(s)	Estimated time
Valence & Intensity of Emotions	36	7-8 minutes
How Does My Body React? Activity	37-42	15 minutes
Check-In	43	5 minutes

REMINDERS

- Read lesson content with minor deviations
- Acceptable to explain something in a different way to provide clarification or give example that is not described
- Essential that key concepts are delivered and that language used reflects what is outlined below to ensure that implementation of program is standardized across facilitators
- You will be asked to complete brief checklist after each lesson to ensure quality implementation
- All lesson content presented in *italicized*, blue font in "quotation marks"
- Pause frequently to ensure students are following and understand content

Check-In

By now you should not need to demonstrate a Check-In example; rather, students should be familiar with the process and able to complete the activity independently. Continue to circle the class to monitor students' completion of the activity and prompt students and/or quickly brainstorm with individuals who need extra help.

Review of Previous Session

To review the content from the previous session, students will use the Think - Pair - Share strategy.

THINK - PAIR - SHARE

Start by posing a question to the class, then:

Think: provide students time to think and gather their thoughts individually

Pair: after sufficient time has passed, instruct students to pair with student next to them

Share: instruct students to share their thoughts on their answer to question posed

Proceed by coming back together as a group and soliciting answers from several students.

Say: "In the last lesson you learned all about feelings, and also how thoughts and feelings are connected. Let's review some of the things we learned by first thinking about these questions then sharing your thoughts by discussing them with a partner."

Questions to ask the class:

1. How and why do we do the Check-In before and after each lesson?
2. What is a feeling? Why do we have feelings?
3. Why are emotions like a compass?
4. What is anxiety? What does it mean to be anxious?
5. How are thoughts and feelings connected? How can they influence how you act or behave?

Pose each question, one at a time. After each THINK - PAIR - SHARE, come back together as a class and select a few students to share their answers. Add or clarify the students' answers if necessary. Ensure that all students understand the content taught last week before moving on to today's lesson.

How my Body Reacts to my Emotions

OPTION TO DISPLAY PAGE 31 OF PDF BOOK ON SMART BOARD

This section will focus on the *valence* of emotions; that is, some emotions are deemed to be "good" (i.e., positive valence), whereas others are thought to be "bad" (i.e., negative valence). Note that emotions are never referred to as "good" or "bad" throughout the Healthy Minds, Healthy Schools program. Rather, words like "pleasant," "unpleasant," and "unwanted" are used instead. We want to teach students that *all* emotions are normal and okay to feel.

⇒ *"If an emotion is pleasant, it means that it makes you feel good. You like when you have that emotion. Can anyone tell me an example of a pleasant emotion?"* Solicit answers from 2-3 students.

⇒ *"However, if an emotion is unpleasant, it means that you do not like that emotion because it doesn't make you feel good. These types of emotions can also be difficult to deal with. An example of an unpleasant emotion is sadness. Can anyone tell me another example of an unpleasant emotion?"* Solicit answers from 2-3 students.

⇒ *"Remember, it's okay to have unpleasant emotions, like anxiety, sadness, and anger. For example, it's okay to be angry with your friend for hurting your feelings. Everyone experiences these feelings from time to time. The important thing to remember is that you learn how to deal with these unpleasant emotions so that you can come back to normal - calm, relaxed, and focused!"*

Pause to gauge students' understanding before moving on to the next section.

Pleasant & Unpleasant Emotions Activity

OPTION TO DISPLAY PAGE 32 OF PDF BOOK ON SMART BOARD

Create a large print version of Appendix A on the whiteboard or SMART board. As a class, brainstorm emotions that generally feel unpleasant and pleasant. A list of 'neutral' emotions has been provided.

Throughout this activity, place an emphasis on the fact that all emotions are ok to feel, even the ones that may make them feel unpleasant or uncomfortable.

Sensations in My Body

OPTION TO DISPLAY PAGE 34 OF PDF BOOK ON SMART BOARD IF STUDENTS NEED HELP BRAINSTORMING ANSWERS FOR THE ACTIVITY

⇒ *"Your body reacts differently depending on what emotion you are experiencing. This means that your emotions trigger or cause sensations in different parts of your body. For example, if you are nervous about having to speak in front of the class, you may feel tightness or 'butterflies' in your stomach, and the palms of your hands may become sweaty. Has this ever happened to you?"*

⇒ Ask: *"Can anyone think of some other body sensations that we commonly have?"* Solicit answers from 2-3 students.

Movement Break Idea

Have students stand up and run on the spot for 30 seconds. Do they notice their heart beating fast? Ask whether they've felt this same body sensation while sitting still. What feeling might they have experienced?

⇒ *"Each feeling you have can be paired with a different body sensation. Keep in mind that all of the body sensations you experience are completely normal! Noticing these sensations should not worry or scare you. These sensations are simply your body's response to emotions felt by your brain."*

Pause to ask if there are any questions or comments and then refer to Appendix B. For each emotion, ask students for examples of how their body might react.

For example, say:

⇒ *"When you are angry, what body sensations might you have? For example, your face may feel hot, or it may become red. Can you think of any other examples?"* Solicit answers from 3-4 people. Repeat this for each emotion. Be sure to read the content listed in Appendix B If students do not come up with all of the answers themselves.

Pause to ask if there are any questions or comments.

Mind / Body Connection

OPTION TO DISPLAY PAGE 35 OF PDF BOOK ON SMART BOARD

⇒ *"Remember, your mind and body are connected. This means that your thoughts and feelings, and the way your body reacts to these thoughts and feelings, influence one another. Your facial expressions and body posture reflect how you feel in your mind. For example, if you are feeling angry, your firsts may be clenched, your eyebrows may be pulled down, and your body may feel tight."*

Pause to ask if there are any questions or comments.

⇒ *"Your facial expression and body posture can actually influence the way you feel. For example, if you stand tall with your head held high, you can make yourself feel confident or proud. This will also send a signal to others around you that you are feeling good about yourself and are ready to bring your A game!"*

⇒ *"It is especially important to be mindful and aware of your facial expressions because your brain uses your expressions as cues to feel emotions. For example, if you smile for a few minutes, your brain will get the message that you are smiling. This can actually make you feel happy, even if you were sad before! Let's give it a try now. You should start to feel good!"*

Movement Break Idea

Have students stand up and demonstrate "angry" as outlined above. Next, have them demonstrate "proud" as outlined in the text on the left. What other emotions can they act out? Can they explain a mind - body connection for these emotions?

Valence & Intensity of Emotions

OPTION TO DISPLAY PAGE 36 OF PDF BOOK ON SMART BOARD

⇒ *"Like we just discussed a few minutes ago, you have different body sensations depending on which emotion you are feeling. We also discussed that you can have emotions that are pleasant, and others that are unpleasant. But did you know that you could have different intensities of the same emotion? This means that you may feel an emotion very strongly sometimes, or with more energy, but at other times the emotion may feel weaker, or with less energy."*

Draw the a thermometer with numbers 1-5 as you say the following:

⇒ *"Think of your emotions as being on a thermometer. Now pretend you can't find your favourite toy. You may be feeling a small bit of anger. Perhaps this anger is at a level 1 on the thermometer. Now pretend that you have lost the championship soccer game. This may leave you feeling very strong anger. This anger may be a level 4 or 5 on the thermometer."*

⇒ *"All this means is that you can feel the same emotion, in this case it was anger, at different levels of strength or intensity depending on the situation. Also keep in mind that what might be a level 5 for you might only be a level 3 for someone else. Everyone experiences their emotions differently."*

Pause to see if there are any questions or comments.

⇒ *"You can also experience different emotions at the same time with different intensities. For example, you may feel really happy that school is out for the summer, but a little bit sad at the same time because you won't see some of your friends until September."*

Continue to explain this concept of *valence* and *intensity* by explaining the figure in Appendix C. It may also be helpful to draw it on the board.

How Does My Body React Activity

OPTION TO DISPLAY PAGEs 37-42 OF PDF BOOK ON SMART BOARD

OPTION TO DISPLAY PAGE 28 OF PDF BOOK ON SMART BOARD TO HELP STUDENTS BRAINSTORM FOR THIS ACTIVITY

Referring to Appendix D, instruct students to turn to the same page in their activity folder. Students will have 6 pages for this activity (one for each of the following emotions: anger, sadness, happiness, fear, anxiety, and embarrassment).

Referring to the example in Appendix D, say:

⇒ *"For this activity you will need to think about how your body reacts to different emotions. Let's do the first one together."*

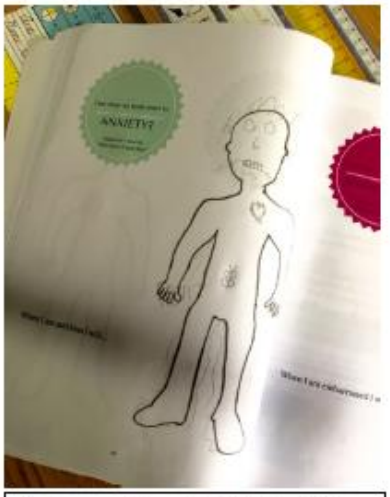
Instruct students to open their activity folders to the example that says "Anger." Draw a silhouette, like the one pictured in Appendix D, on chart paper or the Smart board. Complete the first example as a class.

⇒ *"Now think about the body sensations you have when you are angry. How does your body react? Where do you feel anger? What does it look like? Maybe you are red in the face, or your fists start to shake."* Draw these examples on the silhouette.

⇒ *"Where else do you feel anger in your body?"* Solicit answers from 2-3 students, drawing each student's example onto the silhouette.

Pause to see if there are any questions or comments. Clarify the instructions, if needed, and then instruct students to continue with the remaining emotions. Circle around the class as students complete the activity. Once everyone has finished, ask students if anyone would like to share their drawings with the class. Two examples are presented below.

Body sensations depicted in this image: eyebrows turned down, red face, heart beating fast, fisted clenched, knees shaking



Body sensations depicted in this image: fast breathing, heart beating fast, butterflies in stomach, knees shaking

Check-In

Complete a Check-In after the lesson.

SUGGESTED HOME ACTIVITY

Suggest to students that they keep track of their emotions and body sensations for two days by writing them down. What emotions do they feel? What are the associated body sensations? Challenge them to keep track of the number of body sensations they have!

NOTE: Please ask students to bring in magazines or newspapers for an art activity during the next session.

Healthy Minds Healthy Schools

Lesson 5: Mindfulness & Relaxation Part I (6th session)

Purpose of Lesson

This lesson will be an introduction to mindfulness. Students will learn the definition of mindfulness and will be taught strategies for being mindful or in the present moment. These strategies include deep breathing, also referred to as "anchor breathing."

Preparation

As always, review the content from the previous session and become familiar with the content for the present lesson. You will also need glitter and plastic water bottles for the glitter jar activity. It is recommended that you have a sample glitter jar prepared in order to explain its purpose. By now, the Check-In process should be automatic for students.

Skills to Build

- Understand the definition of mindfulness
- Identify what it means to be mindful in the present moment
- Implement mindful breathing strategies
- Identify the connection between mindfulness and the five senses

Vocabulary to Highlight

- Present moment: right here and right now, exactly in this very moment
- Mindfulness: listening, focusing, and paying attention in the present moment
- Mindful breathing: paying attention to your breath going in and out

Required Materials

- Student activity folder
- Pencil
- Colouring pencils/crayons
- Balloon (optional)
- Plastic jars or water bottle, glitter, and water (glitter jar activity)

Chronology of Lesson

Topic	Page(s)	Estimated time
Check-In	56	3 minutes
Review of Previous Session (video)	--	10 minutes
What is Mindfulness? (+ 1 video)	57	10 minutes
Mindfulness and the Senses Guided Activity	--	5-6 minutes
Mindful Breathing Strategies	58-61	7-9 minutes
Glitter Jar Activity	62	20 minutes
Check-In	63	3 minutes

REMINDERS

- Read lesson content with minor deviations
- Acceptable to explain something in a different way to provide clarification or give example that is not described
- Essential that key concepts are delivered and that language used reflects what is outlined below to ensure that implementation of program is standardized across facilitators
- You will be asked to complete brief checklist after each lesson to ensure quality implementation
- All lesson content presented in *italicized*, blue font in "quotation marks"
- Pause frequently to ensure students are following and understand content

Check-In

By now you should not need to demonstrate a Check-In example; rather, students should be familiar with the process and able to complete the activity independently. Continue to circle the class to monitor students' completion of the activity and prompt students and/or quickly brainstorm with individuals who need extra help.

Review of Previous Session

Instead of using the THINK - PAIR - SHARE strategy, students will watch a video to review the content from the previous session.

Video

Explain to students that they will be required to identify how the characters in the video are feeling based on their facial expressions and the situation they are in. Follow this link to access the video: https://www.youtube.com/watch?v=jKOR0kin-M8&feature=youtu.be

What is Mindfulness?

OPTION TO DISPLAY PAGES 57 OF PDF BOOK ON SMART BOARD

Explain to students that what they will learn in today's lesson will help them to be calm, relaxed, and peaceful when they feel overwhelmed or experience other unpleasant emotions or racing thoughts.

⇒ *"We are going to learn about mindfulness. Has anyone ever heard of this word, mindfulness, before? What do you think it means?"* Solicit answers from 1-2 students.

⇒ *"If you are paying attention to being here, in this room, in this very moment, and you are aware of what is going on in this exact moment, you are being mindful. Mindfulness is all about focusing on what is happening inside you and around you. It is about noticing your thoughts, feelings, and surroundings as they are happening."*

Video

After reading the content on the above, show students this video on what it means to be in the present moment. Search on YouTube - "*Mindfulness for kids: What does being present mean?*" https://www.youtube.com/watch?v=fmWYD6aHLhg

After watching the video, pause to gauge students' understanding. Ask if there are any questions or comments before continuing.

⇒ *"Just like we've seen in this video, you should try to take a moment to stop and be mindful of what surrounds you each and every day. Doing this can help you to think before you act. Practicing mindfulness throughout your day can help you make smart choices. For example, let's say you get into a heated argument with your best friend. You might become so angry that you just start yelling at her without really thinking about what you are saying. However, if you were using mindfulness, maybe you would stop, breathe, and take a brief moment to notice how you are feeling on the inside, while also taking a quick moment to think about how your friend might feel if you yell at her. Maybe if you took less than 15 seconds to do this, you could prevent a very nasty argument with your friend!"*

Pause to ask if there are any questions or comments.

⇒ *"When you are mindful, you purposely use your senses to focus on the world around you. For example, if you pay attention to your surroundings by looking at the trees and carefully listening to the birds chirp on your way to school, you are being mindful."*

⇒ *"Sometimes your mind may wander, and you may think about all sorts of things. This is perfectly normal! The main thing is that you bring your attention back to the here and now when you catch your mind wandering. It is key that you notice and are aware that your mind is wandering so you can bring it back to the present moment. If you find yourself thinking over and over again about something unpleasant that happened yesterday, just try to let go of that thought and focus on what is happening around you right now, and not what was happening to you yesterday! This is what mindfulness is all about."*

Mindfulness & the Senses Guided Activity

⇒ *"To pay attention to something or someone in the present moment means that you have an awareness of the world around you. Being aware means that you are noticing what is happening. This awareness comes from your senses. Can anyone tell me how many senses we have? What are the five senses?"* Solicit answers.

Next, students will complete a guided mindfulness activity. Read the passage slowly, with pauses. Say:

"When it feels good for you, close your eyes. Try to let go of all thoughts. Try to let go of feeling silly doing this activity. This is meant to be a relaxing experience for everyone. Try to focus on what you hear. Do you hear anything? Maybe you hear something or someone in the hall, or perhaps something inside this room. Perhaps the lights above your head are buzzing. Or, maybe you can hear the person next to you breathing. Maybe you even hear your own breath! Just let these sounds come and go. Now pay attention to what you feel. Perhaps you can feel the smooth texture of your pencil as you rub your fingers on it. Do you feel the weight of your body on the chair you are sitting on right now? Can you feel your feet on the floor? Or maybe you notice how soft your sweater feels. Just notice this feeling for what it is. Next, let's turn out attention to our sense of smell. Can you smell anything at the moment? Maybe you can, maybe you can't. When you are ready, open your eyes. What is the first thing you see? Without staring at anyone in the classroom, move your attention to an object in the class. What does it look like? Is it bright and colourful? What are some of the details you notice? Simply observe things with your eyes here and now in the present moment." After reading the passage, pause for a moment, and then continue with the lesson.

⇒ *"Just here and now, you practiced being mindful because you were not thinking about anything else but what was taking place in the moment. How did this activity make you feel?"* Solicit comments from 3-4 students.

⇒ *"You can also be more mindful in many different ways when you are on your own. For example, when you go out for recess or lunch, maybe you can look around and think about what you see. Maybe you notice how blue the sky is, or you notice a beautiful butterfly. While eating your snack,*

perhaps you can take a moment to focus on what you are eating. How does it taste? Is it sweet? Salty? Sour? These are things that we often do not pay much attention to."

Pause to ask if there are any questions or comments.

⇒ *"Our senses are important for developing mindful attention. Everything you see, hear, smell, taste and touch is in the here and now. You can only use your senses in the present. For example, you cannot go back in time and smell something from yesterday, or touch something from the future! It is important to pay attention to your senses because they can help you better understand your thoughts and feelings, and how your bod reacts to these thoughts and feelings."*

Mindful Breathing Strategies

OPTION TO DISPLAY PAGES 58-61 OF PDF BOOK ON SMART BOARD

⇒ *"There are many different ways we can practice mindfulness. One way is to use your breath! It's as simple as that. As soon as you start to pay attention to the movement of your breath, you become more focused about being in the present moment. This can help you to be calm."*

⇒ *"Mindfulness takes place because you are not thinking about the past or future. You are thinking about the 'now.' You start to focus on how you're feeling on the inside, both in your mind and body. You may be wondering, "How do I breathe mindfully?" We are going to practice this mindfulness and relaxation strategy together."*

Refer to Appendix A for instructions on how to breathe mindfully. You can also display page 59 of the PDF book on the Smart board. Before you read the instructions to the class, demonstrate an example of how to breathe mindfully by placing one hand on your chest and the other on your stomach while taking long, slow inhales in through your nose and out through your mouth. After the demonstration, say:

⇒ *"When you are ready, place one hand on your chest and the other on your belly. Take a long, slow breath in through your nose. Imagine the air going in through your nose, down your throat, and all the way into your lungs!"*

⇒ *"Now shape your mouth as if you were blowing a bubble, then slowly let out all of that air through your mouth! Let's repeat this breathing in and out a few times. You may find it more relaxing to close your eyes as you do it. This is completely up to you."*

Movement Break Idea

For this activity, encourage students to get up from their desks and find a quiet, comfortable space somewhere in the classroom.

Practice the mindful breathing strategy for a few minutes, until you have observed everyone to try it. Next, explain that there are several different techniques or ways to do mindful breathing. Explain that you won't practice them together as a class, but that they are encouraged to try them at home.

Balloon breathing. Note that you can pretend that you have a balloon for this demonstration.

⇒ *"Balloon breathing is one way to practice mindful breathing. First, you need a balloon. When you are ready, take a deep breath in through your nose. Feel your lungs will up with air."*

⇒ *Then, put your balloon to your lips, and breathe out through your mouth into your balloon. Keeping the balloon to your mouth without letting any air out, breathe in through your nose again. Notice your chest rise as your lungs fill with air. It may take a few tries to get your balloon full with air!"*

Facilitator Note

It may be helpful to display this breathing visual aid video while students practice their breathing: "*Calm Breathe Bubble | Breathing Exercises*" on Youtube (https://www.youtube.com/watch?v=5DqTuWve9t8)

Anchor breathing.

- ⇒ *"Think of your breath as an anchor. Can anyone tell me what an anchor is used for?"* Solicit answers from 1-2 students. *"An anchor is designed to keep a ship steady and controlled when it's windy or stormy. Let me tell you how we can use anchor breathing to keep us steady and in control. Sometimes you may feel like you have unpleasant feelings or many thoughts that are being tossed around in your mind, like a ship getting tossed around by big waves. Do you think you could use something, like an anchor, to make you feel steady or to stop your thoughts from being tossed around in your mind?"* Wait for students to respond. Answer any questions.

- ⇒ *"Your breathing follows you everywhere. It is something that you always have with you. Your breathing can be used as an anchor to help you feel steadier and calmer when your thoughts, or even the world around you, seem rough or out of control, just like stormy waves."*

Glitter Jar Activity

OPTION TO DISPLAY PAGE 62 OF PDF BOOK ON SMART BOARD

For this activity, students will need a plastic jar or water bottle, glitter, and water. Have a sample glitter jar prepared in order to demonstrate the purpose of the glitter jar while reading the description below. To prepare the glitter jar, insert a small amount of glitter into the jar, and then fill it with water. Ensure that the lid is secured tightly, as you will be shaking the jar.

First, distribute the materials, then say:

- ⇒ *"Now we will do a fun activity to better help you understand just how useful being mindful can be. You will fill a jar with glitter and water. I will explain the purpose of the jar before you fill your jars."*

- ⇒ Holding a completed, unshaken (i.e., settled) glitter jar, say: *"Think of this jar as your mind. It is calm. It is settled. When your mind is like this, you are not worried or thinking about a million things. You are relaxed. Now, watch what happens when I shake the jar. Glitter is moving in every direction. Just like this shaken glitter jar, with glitter moving out of control, your mind is sometimes busy, out of control, or full of unwanted and uncontrollable thoughts."*

- ⇒ Continue shaking the glitter jar. Pause to see if there are any questions or comments. *"When this happens, it can be hard to relax and to see the way through your clouded, busy mind. It can also be difficult to find the answer to a challenging math problem, or the best way to react to a conflict with your friend. This is especially difficult when your mind is clouded. Has this ever happened to you? Does anyone else find that it is sometimes difficult to think or make decisions when they are overwhelmed with many thoughts?"* Solicit answers and comments from 2-3 students.

- ⇒ Continue to shake the jar and say: *"Immediately after the jar has been shaken, can you see through it? No. This is what your mind looks like when it is clouded with racing thoughts. It is nearly impossible to see through your clouded mind. Does this sound familiar to you?"* Wait for students to respond.

- ⇒ Stop shaking the jar. As the glitter slowly settles, say: *"The good news is that the glitter eventually settles softly and becomes calm, and so too will your mind. As you watch the glitter slowly fall and settle, it is the perfect opportunity to practice your mindful breathing. Just breathe in and out, in and out, as you watch the glitter settle. At this point, you can start to see clearly through the jar. The same is true of your mind. By using your breathing and being mindful, your mind becomes clearer and you become calm, making it possible to focus and pay better attention."*

Pause to see if there are any questions or comments.

⇒ *"By stopping for a moment to pay attention and breathe deeply, your busy mind will slowly start to settle. Your mind and body will become peaceful and relaxed. If your mind begins to cloud over again, you just pay attention, breathe, and let your mind settle once more."*

Read the following reflection questions one at a time. Explain to students that they do not need to provide an answer out loud; rather, they should sit and quietly reflect on their answer.

1. What thoughts make you feel shaken up and stormy like the glitter jar?
2. Are you ready to let go of these thoughts (or feelings)?
3. Are you willing to try the Glitter Jar strategy if you feel like your mind is cloudy?

Check-In

Complete a Check-In after the lesson.

SUGGESTED HOME ACTIVITY

Suggest that students to practice their mindful breathing strategy every day this week. Encourage them to also try the balloon breathing or anchor breathing strategies!

Appendix G

Child Measures – Study 1

RCADS

Put a circle around the number that shows how often each of these things happens to you. There are no right or wrong answers.

		Never	Sometimes	Often	Always
1	I worry about things.	0	1	2	3
2	I feel sad or empty.	0	1	2	3
3	When I have a problem, I get a funny feeling in my stomach.	0	1	2	3
4	I worry when I think I have done poorly at something.	0	1	2	3
5	I would feel afraid of being on my own at home.	0	1	2	3
6	Nothing is much fun anymore.	0	1	2	3
7	I feel scared when I have to take a test.	0	1	2	3
8	I feel worried when I think someone is angry with him/her.	0	1	2	3
9	I worry about being away from my parent.	0	1	2	3
10	I am bothered by bad or silly thoughts or pictures in my mind.	0	1	2	3
11	I have trouble sleeping.	0	1	2	3
12	I worry that I will do badly at my school work.	0	1	2	3
13	I worry that something awful will happen to someone in my family.	0	1	2	3
14	I suddenly feel as if I can't breathe when there is no reason for this.	0	1	2	3
15	I have problems with my appetite.	0	1	2	3
		Never	**Sometimes**	**Often**	**Always**
16	I have to keep checking that I have done things right (like the switch is off, or the door is locked).	0	1	2	3
17	I feel scared if I have to sleep on my own.	0	1	2	3
18	I have trouble going to school in the mornings because I feel nervous or afraid.	0	1	2	3
19	I have no energy for things.	0	1	2	3
20	I worry I might look foolish.	0	1	2	3
21	I am tired a lot.	0	1	2	3
22	I worry that bad things will happen to me.	0	1	2	3
23	I can't seem to get bad or silly thoughts out of my head.	0	1	2	3
24	When I have a problem, my heart beats really fast.	0	1	2	3
25	I cannot think clearly.	0	1	2	3
26	I suddenly start to tremble or shake when there is no reason for this.	0	1	2	3
27	I worry that something bad will happen to me.	0	1	2	3

28	When I have a problem, I feels shaky.	0	1	2	3
29	I feel worthless.	0	1	2	3
30	I worry about making mistakes.	0	1	2	3
31	I have to think of special thoughts (like numbers or words) to stop bad things from happening.	0	1	2	3
32	I worry what other people think of me.	0	1	2	3
33	I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds).	0	1	2	3
34	All of a sudden, I feel really scared for no reason at all.	0	1	2	3
35	I worry about what is going to happen.	0	1	2	3
36	I suddenly become dizzy or faint when there is no reason for this.	0	1	2	3
37	I think about death.	0	1	2	3
38	I feel afraid if I have to talk in front of the class.	0	1	2	3
39	My heart suddenly starts to beat too quickly for no reason.	0	1	2	3
40	I feel like I don't want to move.	0	1	2	3
41	I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.	0	1	2	3
42	I have to do some things over and over again (like washing hands, cleaning, or putting things in a certain order).	0	1	2	3
43	I feel afraid that I will make a fool of myself in front of people.	0	1	2	3
44	I have to do some things in just the right way to stop bad things from happening.	0	1	2	3
45	I worry when I go to bed at night.	0	1	2	3
46	I would feel scared if I had to stay away from home overnight.	0	1	2	3
47	I feel restless.	0	1	2	3

CERQ-kids

How do you cope with events?

Sometimes nice things happen in your life and sometimes unpleasant things might happen. When something unpleasant happens, you can think about it for a long time. When something unpleasant happens to you, what do you usually think?

	(almost) never	**sometimes**	**regularly**	**often**	**(almost) always**
1. I think that I am to blame	1	2	3	4	5
2. I think that I have to accept it	1	2	3	4	5
3. Again and again, I think of how I feel about it	1	2	3	4	5
4. I think of nicer things	1	2	3	4	5
5. I think about what would be the best for me to do	1	2	3	4	5
6. I think that I can learn from it	1	2	3	4	5
7. I think that worse things can happen	1	2	3	4	5
8. I often think that it's much worse than what happens to others	1	2	3	4	5
9. I think that others are to blame	1	2	3	4	5
10. I think that I have been stupid	1	2	3	4	5
11. It just happened; there is nothing I can do about it	1	2	3	4	5

12. I often think of what I am thinking and feeling about it	1	2	3	4	5
13. I think of nicer things that have nothing to do with it	1	2	3	4	5
14. I think of how I can cope with it	1	2	3	4	5
15. I think that it makes me feel ‘older and wiser’	1	2	3	4	5
16. I think that worse things happen to others	1	2	3	4	5
17. Again and again, I think about how terrible it all is	1	2	3	4	5
18. I think that others have been stupid	1	2	3	4	5
19. I think that it’s my own fault	1	2	3	4	5
20. I think that I can’t change it	1	2	3	4	5
21. All the time, I think that I want to understand why I feel that way	1	2	3	4	5
22. I think of something nice and not about what happened	1	2	3	4	5
23. I think of how I can change it	1	2	3	4	5
24. I think that there are good sides to it as well	1	2	3	4	5
25. I think that it’s not as bad as other things that could happen	1	2	3	4	5
26. All the time, I think that this is the worst thing that can happen to you	1	2	3	4	5
27. I think that it’s the fault of others	1	2	3	4	5
28. I think that it’s all caused by me	1	2	3	4	5
29. I think that I can’t do anything about it	1	2	3	4	5
30. I often think of how I feel about what happened	1	2	3	4	5
31. I think of nice things that have happened to me	1	2	3	4	5
32. I think of what I can do best	1	2	3	4	5
33. I think that it’s not all bad	1	2	3	4	5
34. I think that there are worse things in the world	1	2	3	4	5
35. I often think about how horrible the situation was	1	2	3	4	5
36. I think that it’s all caused by others	1	2	3	4	5

Appendix H

Parent Measures – Study 1

Demographic Information Form for Parents

Child's Name: _____ Date of Birth:_____ Sex: M F
M/D/YEAR

1. To which ethnic or cultural group(s) does your child belong? _____

2. What languages does your child speak in order of fluency (1 = primary language spoken at home and/or school; 2 = secondary language) _____.

3. What is the highest level of education that you have attained?

____ High school diploma

____ College diploma

____ Bachelor or undergraduate degree

____ Master's degree

____ Earned doctorate

____ Other

4. If applicable, what is the highest level of education that your partner has attained?

____ High school diploma

____ College diploma

____ Bachelor or undergraduate degree

____ Master's degree

____ Earned doctorate

____ Other

5. Can you estimate your household income before taxes?

_____ Less than $15, 000

_____ $15, 000 to $29, 999

_____ $30, 000 to $44, 999

_____ $ 45, 000 to 59, 999

_____ $60, 000 to 74, 999

_____ $75, 000 to 89, 999

_____ $ 90, 000 or more

6. What is your child's current living situation?

_____ With both parents

_____ With mother only

_____ With father only

_____ Splits time living with both parents

_____ Other (please specify): _____

7. Has your child ever consulted a physician, psychologist, or other health professional for behavioural or psychological issues (e.g., therapy, behavioural management, etc.)?

_____ No _____ Yes If yes, please specify the nature of the services received:_____

_____

RCADS

Chorpita, Yim, Moffitt, Umemoto, & Francis (2000)

Please circle how often each of these things happens to your child. There are no right or wrong answers.

		Never	Sometimes	Often	Always
1	My child worries about things.	0	1	2	3
2	My child feels sad or empty.	0	1	2	3
3	When my child has a problem, he/she gets a funny feeling in his/her stomach.	0	1	2	3
4	My child worries when he/she thinks he/she has done poorly at something.	0	1	2	3
5	My child feels afraid of being alone at home.	0	1	2	3
6	Nothing is much fun for my child anymore.	0	1	2	3
7	My child feels scared when taking a test.	0	1	2	3
8	My child worries when he/she thinks someone is angry with him/her.	0	1	2	3
9	My child worries about being away from me.	0	1	2	3
10	My child is bothered by bad or silly thoughts or pictures in his/her mind.	0	1	2	3
11	My child has trouble sleeping.	0	1	2	3
12	My child worries about doing badly at school work.	0	1	2	3
13	My child worries that something awful will happen to someone in the family.	0	1	2	3
14	My child suddenly feels as if he/she can't breathe when there is no reason for this.	0	1	2	3
15	My child has problems with his/her appetite.	0	1	2	3
16	My child has to keep checking that he/she has done things right (like the switch is off, or the door is locked).	0	1	2	3
17	My child feels scared to sleep on his/her own.	0	1	2	3
18	My child has trouble going to school in the mornings because of feeling nervous or afraid.	0	1	2	3
19	My child has no energy for things.	0	1	2	3
20	My child worries about looking foolish.	0	1	2	3
21	My child is tired a lot.	0	1	2	3
22	My child worries that bad things will happen to him/her.	0	1	2	3
23	My child can't seem to get bad or silly thoughts out of his/her head.	0	1	2	3
24	When my child has a problem, his/her heart beats really fast.	0	1	2	3
25	My child cannot think clearly.	0	1	2	3
26	My child suddenly starts to tremble or shake when there is no reason for this.	0	1	2	3
27	My child worries that something bad will happen to him/her.	0	1	2	3
28	When my child has a problem, he/she feels shaky.	0	1	2	3
29	My child feels worthless.	0	1	2	3
30	My child worries about making mistakes.	0	1	2	3
31	My child has to think of special thoughts (like numbers or words) to stop bad things from happening.	0	1	2	3
32	My child worries what other people think of him/her.	0	1	2	3
33	My child is afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds).	0	1	2	3

34	All of a sudden, my child will feel really scared for no reason at all.	0	1	2	3
35	My child worries about what is going to happen.	0	1	2	3
36	My child suddenly becomes dizzy or faint when there is no reason for this.	0	1	2	3
37	My child thinks about death.	0	1	2	3
38	My child feels afraid if he/she has to talk in front of the class.	0	1	2	3
39	My child's heart suddenly starts to beat too quickly for no reason.	0	1	2	3
40	My child feels like he/she doesn't want to move.	0	1	2	3
41	My child worries that he/she will suddenly get a scared feeling when there is nothing to be afraid of.	0	1	2	3
42	My child has to do some things over and over again (like washing hands, cleaning, or putting things in a certain order).	0	1	2	3
43	My child feels afraid that he/she will make a fool of him/herself in front of people.	0	1	2	3
44	My child has to do some things in just the right way to stop bad things from happening.	0	1	2	3
45	My child worries when in bed at night.	0	1	2	3
46	My child would feel scared if he/she had to stay away from home overnight.	0	1	2	3
47	My child feels restless.	0	1	2	3

ERC

Shields & Cicchetti (1997)

Please tick the box that applies most to this child. Please answer every question as best you can.

		Never	Sometimes	Often	Almost Always
1.	Is a cheerful child	1	2	3	4
2.	Exhibits wide mood swings (child's emotional state is difficult to anticipate because s/he moves quickly from positive to negative moods)	1	2	3	4
3.	Responds positively to neutral or friendly approaches by adults.	1	2	3	4
4.	Transitions well from one activity to another; does not become anxious, angry, distressed or overly excited when moving from one activity to another.	1	2	3	4
5.	Can recover quickly from episodes of upset or distress (eg. does not pout or remain sullen, anxious or sad after emotionally distressing events)	1	2	3	4
6.	Is easily frustrated.	1	2	3	4
7.	Responds positively to neutral or friendly approaches by peers.	1	2	3	4
8.	Is prone to angry outbursts / tantrums easily	1	2	3	4
9.	Is able to delay gratification (wait for good things)	1	2	3	4
10.	Takes pleasure in the distress of others (eg. laughs when another person gets hurt or punished; enjoy teasing others)	1	2	3	4
11.	Can modulate excitement in emotionally arousing situations (eg. does not get 'carried away' in high-energy situations, or overly excited in inappropriate contexts.	1	2	3	4
12.	Is whiny or clingy with adults.	1	2	3	4
13.	Is prone to disruptive outbursts of energy and exuberance	1	2	3	4
14.	Responds angrily to limit-setting by adults.	1	2	3	4
15.	Can say when s/he is feeling sad, angry or mad, fearful or afraid.	1	2	3	4
16.	Seems sad or listless.	1	2	3	4
17.	Is overly exuberant when attempting to engage other in play.	1	2	3	4
18.	Displays flat affect (expression is vacant and inexpressive; child seems emotionally absent)	1	2	3	4

19.	Responds negatively to neutral or friendly approaches by peers (eg. may speak in an angry tone of voice or respond fearfully)	1	2	3	4
20.	Is impulsive.	1	2	3	4
21.	Is empathic towards others; shows concern when others are upset or distressed.	1	2	3	4
22.	Displays exuberance that others find intrusive or disruptive.	1	2	3	4
23.	Displays appropriate negative emotions (anger, fear, frustration, distress) in response to hostile, aggressive or intrusive acts by peers.	1	2	3	4
24.	Displays negative emotions when attempting to engage others in play.	1	2	3	4

Appendix I

Facilitator Measures – Study 1

Weekly Facilitator Checklists

Checklist items:

1. As the facilitator of this session, I delivered the lesson content:
    - As described in the facilitator manual
    - With minor deviations from the manual (e.g., changing an individual activity to a group activity)
    - With major deviations from the manual (e.g., omitting a lesson)

2. Please specify any minor/major deviations (this section can remain blank if you did not deviate from the protocol):

Appendix J

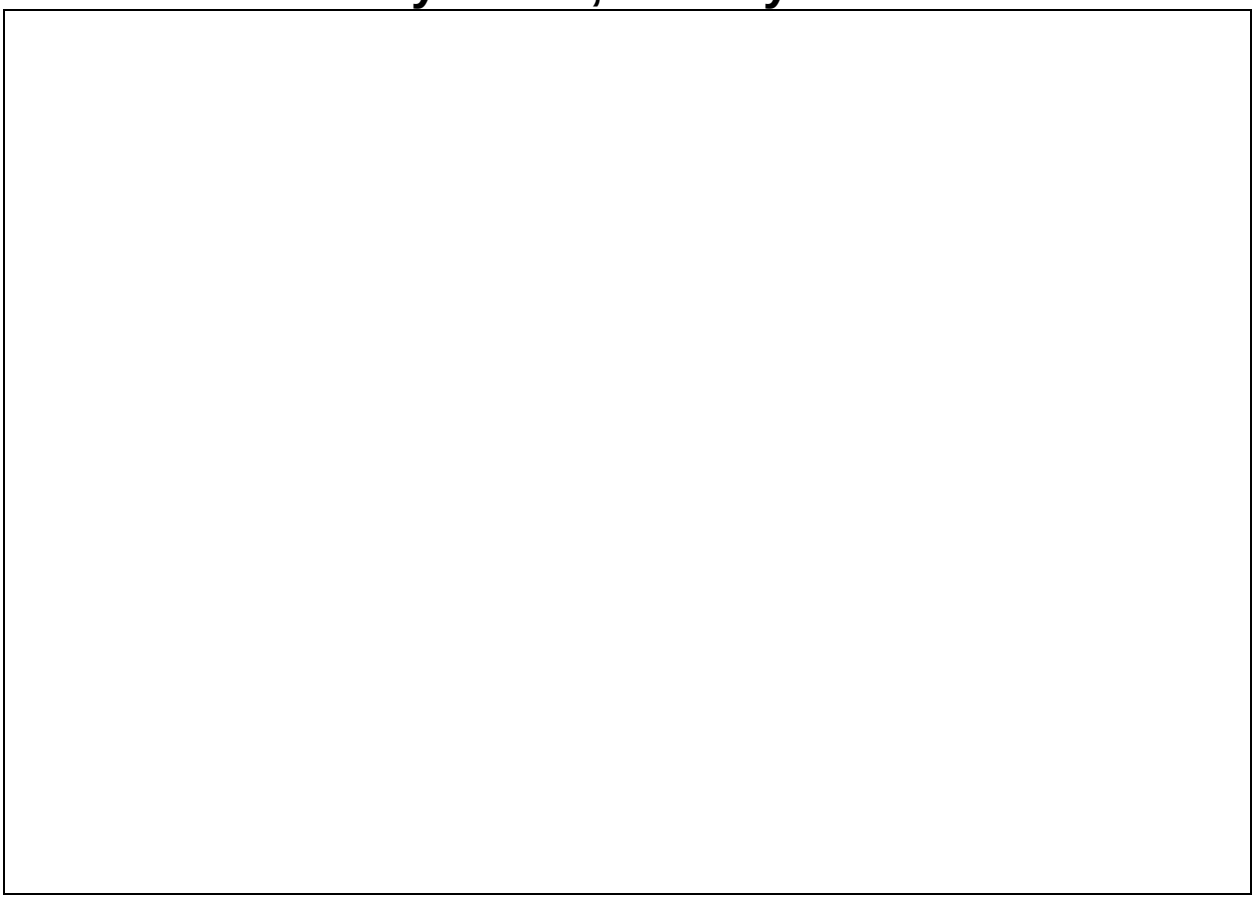
Child Measures – Study 2

Post-intervention Student Feedback Questionnaire and Worksheet

We want to know what you thought of the Healthy Minds, Healthy Schools program. Please read the statements and indicate whether you agree, disagree, or are in between (half & half).

	Disagree (no)	Half & half	Agree (yes)
I enjoyed most of the lessons.			
I learned a lot of useful information and strategies from the lessons.			
I think that I will use the strategies that I have learned to help me when I am feeling big emotions like anger, sadness, or anxiety.			
I thought that the activities were fun.			
I would like to do more lessons and activities related to thoughts and emotions.			
I now feel like I have more control over stress when I feel nervous.			

Healthy Minds, Healthy Schools



My favorite thing about the Healthy Minds, Healthy Schools program was _____

_____

_____.

I learned how to _____

_____

_____.

One thing I would change about the program is _____

_____

Appendix K

Facilitator Measures – Study 2

Post-intervention Facilitator Feedback Questionnaire

Survey items:

The following section includes statements about the Facilitator Manual. Please indicate the extent to which you agree or disagree.

1. The Facilitator Manual was well-organized.
Strongly Disagree
Disagree
Neutral
Agree
Strongly agree

2. The Facilitator Manual was easy to use.
Strongly Disagree
Disagree
Neutral
Agree
Strongly Agree

3. The Facilitator Manual was clearly written.
Strongly Disagree
Disagree
Neutral
Agree
Strongly Agree

4. Do you have any additional comments about the Facilitator Manual?

The following section includes statements on the activities (e.g., glitter jar, emotions poster, yoga, etc.) completed as part of the program. Please indicate the extent to which you agree or disagree.

5. Overall, students thought that the activities were fun.
Strongly Disagree
Disagree
Neutral
Agree
Strongly agree

6. Overall, the activities were developmentally appropriate.
Strongly Disagree

Disagree
Neutral
Agree
Strongly Agree

7. Overall, the activities facilitated students' skill acquisition and learning of material.

Strongly Disagree
Disagree
Neutral
Agree
Strongly Agree

8. Do you have any additional comments about the activities?

The following section includes statements about your thoughts on how students benefited from the program. Please indicate the extent to which you agree or disagree with each statement.

9. This program had a positive impact on the well-being of my students.

strongly disagree
Disagree
Neutral
Agree
Strongly Agree

10. Which component(s) of the program did you feel had the most positive effect on the students?

11. Do you feel like the program benefited all students, or mostly a certain subgroup of students (e.g., those with existing elevated levels of anxiety, etc.)?

Generally everyone
A certain subgroup (please explain in the next question)

12. If you answered "a certain subgroup" to the question above, please elaborate.

13. Overall, I feel that students learned a lot of useful information and strategies.

Strongly Disagree
Disagree
Neutral
Agree
Strongly Agree

14. Overall, I feel that students will use the strategies that they have learned to help them when they are feeling angry, sad, or anxious.

Strongly Disagree
Disagree

Neutral
Agree
Strongly Agree

15. The skills taught in this program could extend beyond social-emotional benefits by positively impacting students' academic learning.

Strongly Disagree
Disagree
Neutral
Agree
Strongly Agree

16. I noticed improvements emotion regulation abilities in one or more students.

Strongly Disagree
Disagree
Neutral
Agree
Strongly Agree

17. I noticed reductions in anxious symptoms in one or more students.

Strongly disagree
Disagree
Neutral
Agree
Strongly agree

18. I noticed reductions in depressive symptoms in one or more students.

Strongly disagree
Disagree
Neutral
Agree
Strongly agree

19. I noticed improvements in positive and/or negative affect in one or more students.

Strongly Disagree
Disagree
Neutral
Agree
Strongly Agree

The following section includes statements about your overall satisfaction with the program. Please indicate the extent to which you agree or disagree with each statement.

20. Overall, I appreciated this program.

Strongly Disagree
Disagree
Neutral
Agree
Strongly Agree

21. Overall, I was satisfied with the content of this program.
Strongly Disagree
Disagree
Neutral
Agree
Strongly Agree

22. Overall, the students enjoyed the program.
Strongly Disagree
Disagree
Neutral
Agree
Strongly Agree

23. How could we improve the content of the program?

24. How could we improve the delivery/implementation of the program?

25. What was challenging about delivering the program?

26. I would implement this program again.
Strongly Disagree
Disagree
Neutral
Agree
Strongly Agree

27. Any additional comments regarding the overall program?

Weekly Facilitator Checklists

Checklist items:

1. As the facilitator of this session, I delivered the lesson content:
    - As described in the facilitator manual
    - With minor deviations from the manual (e.g., changing an individual activity to a group activity)
    - With major deviations from the manual (e.g., omitting a lesson)

2. Please specify any minor/major deviations (this section can remain blank if you did not deviate from the protocol):

3. Level of participant engagement: Please indicate your perceived level of student engagement/interest in this lesson with 1 -= Very low and 5 = Very high

Any additional comments regarding the lesson?