

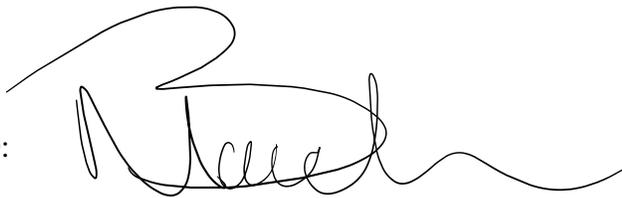
USING MINDFULNESS TO SUPPORT CHILDREN WITH ANXIETY

by
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Abstract

Anxiety can adversely affect the education of elementary students. This past year, anxiety has risen to new heights among students, parents, and teachers because of the COVID-19 pandemic. This capstone examines the detrimental effects which anxiety can have on elementary school children. The literature review portion examines research undertaken in the past 10 years in how mindfulness breathing practices as well as art therapy activities such as colouring and drawing mandalas have shown promise in decreasing anxiety. Research into these areas is considered to be emerging, and researchers implore future studies to investigate a larger, more diverse population that is free of bias and use randomly-controlled trials. Teachers and counsellors can have a positive impact on their students' mental health by teaching mindfulness breathing techniques and colouring techniques to one student at a time, or whole classrooms. As the world struggles with the effects which the COVID pandemic has had on mental health due to loneliness, changed routines, and the fear of COVID, mindfulness and colouring represent easy, low-cost techniques which show promise in decreasing stress and anxiety.

Keywords: anxiety, COVID-19, mindfulness, colouring, mandala, education, counselling

Table of Contents

Acknowledgement	2
Abstract	3
Chapter 1: Introduction	6
Introduction.....	6
Background Information.....	6
Statement of the Issue/Problem	9
Somatic Complaints.....	9
Anxiety with Academics.....	10
Purpose of the Paper/Study.....	12
Research Question	12
Significance of the Study	13
Summary	14
Chapter 2: Literature Review.....	15
Introduction.....	15
Definition of Terms.....	15
Theoretical Framework.....	17
Art Therapy.....	17
Mindfulness.....	18
Review of Research Literature.....	19
Theme 1 - Arts-Based Therapy Research	19
Anxiety.....	19
Mandalas.....	19
Colouring.....	21
Children & Youth.....	21
Theme 2 - Mindfulness Research	23
Anxiety.....	23
Colouring.....	23
Children and Youth.....	25
Summary	26

Art Therapy 26

Mindfulness..... 27

Chapter 3: Summary, Recommendations and Conclusions 29

Summary of Findings..... 29

Implications..... 29

 Anxiety & COVID..... 30

 Teachers and Counsellors. 30

 Students and Families. 32

Recommendations..... 33

 Mindfulness..... 33

 Breathing Practices. 34

 Mindful Eating..... 35

 Mindfulness for Educators 36

 Art Therapy..... 36

 Colouring. 37

 Mandalas and Colouring 38

Conclusions..... 39

References..... 41

Using Mindfulness to Support Children with Anxiety

Chapter 1: Introduction

Introduction

Over the past few decades there has been a sharp increase in anxiety among elementary children (Gray, 2011). More recently, in the past few months with the advent of the novel Coronavirus (COVID-19), anxiety has risen to new heights among students, parents, and teachers (Whittal & Robichaud, n.d.). Teachers and students must quickly adapt to new safety protocols put in place in schools to keep everyone safe from the pandemic (Zussman, 2020). I am curious whether mindfulness strategies such breathing and colouring techniques can help elementary school children with anxiety.

In this capstone project I will examine how research literature supports the use of mindfulness as a means to help children with anxiety. In doing so I will research anxiety and how it affects elementary school children and also examine its impact on a child's development in areas such as academics, behaviour, self-regulation, attendance, and friendships. I will also research literature on mindfulness and how it can be used in schools to promote self-regulation. Finally, I will present Mindfulness and Art Therapy resources which teachers and counsellors can use in classroom settings, as well as with small counselling groups or individuals in classrooms or in a counselling setting.

Background Information

It is normal to experience occasional anxious feelings (Mayo Clinic, 2020). However, the Mayo Clinic states that those with an anxiety disorder will often experience “intense, excessive and persistent worry and fear about everyday situations” (para. 1) and that “these feelings of anxiety and panic interfere with daily activities, are difficult to control, are out of proportion to

the actual danger and can last a long time” (Mayo Clinic, 2020, para. 2). Further, the American Psychological Association explains that “people with an anxiety disorder usually have recurring intrusive worried thoughts” (American Psychological Association [APA-b], 2020, para 2). The American Psychiatric Association also states that people with anxiety disorders experience symptoms for 6 months or more, which is longer than the expected developmentally appropriate period of time (American Psychiatric Association [APA-a], 2013).

Anxiety can present itself in various forms. It can trigger various physical responses throughout the body such as feeling tense, increasing blood pressure, sweating, trembling, dizziness, having panic attacks or a rapid heartbeat (APA-b, 2020.) Many anxiety sufferers can also experience muscle tension, which may serve as preparing the body for future perceived dangers and as a result, these individuals may be cautious or avoid certain behaviors or situations (APA-a, 2013). Anxiety can also trigger cognitive reactions. Moreno (2015) states that people with anxiety display repetitive, negative and intrusive worrying thoughts about future events. Educators spend many hours with their students; having familiarity with the signs and long-term implications of living with anxiety may help them to better understand their students.

Another reason it is important to recognize and treat anxiety is because of its long-term effect on individuals and society. In Canada, mood and anxiety disorders are mental health problems which occur most often, with close to 1 in 10 Canadians accessing health services to combat them annually (McRae et al., 2016). It is expected that in Canada an individual can have a 31% chance of developing anxiety or related disorders in their lifetime (Katzman et al., 2014). Katzman et al. further explain that anxiety disorders also have a negative impact on society because they increase the demand for health services and can lead to less productivity. Many anxiety disorders which appear in childhood will continue until they are treated (APA-a, 2013).

Over the course of a school year, educators spend many hours with their students and can start to recognize certain patterns in a child's development. Given the importance of recognizing anxiety early, when educators are aware of signs of anxiety, they can share their observations with a student's family.

As an elementary French Immersion teacher, teaching at the Grade 3-4 levels, I have noticed that students have been increasingly showing symptoms of anxiety such as tummy aches and headaches since I started teaching over 15 years ago. I am personally interested in mindfulness meditation and have practiced it for many years both at home and with students in my classroom. I recently began to wonder what research literature has been written about mindfulness with children. I was aware that in the past few years, many adults have turned to adult colouring books as a way to relax (Ashlock et al., 2019) and I wanted to further investigate a possible connection between mindfulness and colouring. This latest inquiry into mindful drawing began three years ago as part of a Professional Development Day for teachers. I attended an art therapy session where I learned about the technique of mindful drawing which the presenter explained had also been used to treat soldiers returning from Afghanistan with Post-Traumatic Syndrome Disorder. I found that the strategies and techniques I learned in this session helped me to destress after returning to the classroom following a concussion. More recently, the Coronavirus pandemic has reshaped my daily personal and professional life. As a Grade 3-4 French Immersion elementary school teacher and school counselling intern, I have had to redevelop lessons, first to deliver content remotely to students, and subsequently to ensure that my instruction methods meet social distancing requirements. The speed at which I have had to adapt my professional practice has been very stressful and I found that I also needed to adapt my usual self-care routines. Being unable to concentrate when reading for pleasure or knitting, a few

months ago I turned back to mindful art as a means to self-regulate at the end of every day in what is this new reality of living in a pandemic. Mindful art has given me a non-judgemental way to destress, whether it is colouring, doodling, or creating mandalas. In this capstone project, I am interested in finding out what the research literature has to say about the effects of mindfulness techniques such as breathing, meditation, and art in children with anxiety.

Statement of the Issue/Problem

Anxiety can take many forms in schools and be caused by various factors. At first glance it is not always obvious whether a student suffers from anxiety, and many teachers find it difficult to distinguish between normal or excessive anxiety, as students with general anxiety at school present with a variety of issues (Headley & Campbell, 2013). Lawrence et al. (2019) report that “one in seven school students had a mental disorder in the previous 12 months, with attention-deficit/hyperactivity disorder and anxiety being the most common.” (p. 5) It is important for teachers to create a positive classroom community and become acquainted with students and their learning style. In order to do this, teachers must recognize signs of anxiety in an elementary classroom. Providing relaxing activities can have a positive impact on a student’s overall academic performance and relationships.

Somatic Complaints.

In the first weeks of school, a classroom will often have a few students who present with various ailments and wish to call home. Hart et al. (2013) explain that these “symptoms are a common response to stress and illness in childhood” (p.13). They call these symptoms somatic symptoms, which are “subjective reports of physical symptoms such as headaches, stomach aches, or muscle pain. “ (p. 13). These somatic symptoms often occur at the beginning of a school year, when students are stressed by being placed in a new classroom, with a new teacher,

and many new fellow students. Unfortunately, when a student is experiencing these symptoms, it can have an impact on attendance and academics.

Absenteeism.

Chronic absenteeism due to anxiety can have a negative effect on a student's connectedness to others and on academic success (Green et al., 2019). Students with anxiety may be at risk of being absent from school more often, as well as being prone to academic underachievement and learning difficulties (Martinsen et al., 2016). One recent study reports that elementary students with a mental disorder missed an average of 3.5 more school days a year than students without such disorders, and that their disorders were related to 13.4% of their absences (Lawrence et al., 2019). This is concerning because students with chronic absences in elementary school can be at risk of developing gaps in their knowledge of basic literacy and numeracy skills which are building blocks for future learning (Education., U. S. D. of, 2019). Elementary students with anxiety can also miss out on developing other skills such as higher order critical thinking, reasoning, and problem-solving skills (Gottfried, 2014). Given these findings, an anxiety-aware educator can become curious about a student's frequent absences and further examine the roots of chronic absenteeism. The following sections represent various stressful situations which given the severity and duration could be indicators of anxiety in an elementary classroom.

Anxiety with Academics.

Students with anxiety can be triggered in specific academic circumstances such as when writing a test or with class presentations. Test anxiety has been proven to negatively affect academic outcomes (Aydin, 2019). More specifically, Moreno (2015) found that students with high worries were less accurate in assigned verbal tasks than students with low worries. Some

students with anxiety may suffer from Social Anxiety Disorder, which Katzman et al. (2014) define as someone who “is characterized by a persistent fear that in social and performance situations the individual will say or do something that will lead to humiliation, embarrassment, or negative evaluation by others” (p. 17). A social anxiety disorder can impair a student’s educational performance, relationships, and can have an impact on quality of life (Katzman et al.). When educators are aware of these symptoms and recognize them in a student, it can help them to be curious about other aspects of a student’s well-being. Anxiety is not only limited to academic performance in elementary schools, it can also influence students’ socio-emotional well-being.

Anxiety’s Effects on Socio-Emotional Well-Being.

Students with anxiety often have a more difficult time in regulating their emotions than non-anxious students (Bender et al., 2015), which can have a negative effect on children’s friendships Baker (2014). Further, Baker also reports that children with anxiety are often disliked, neglected, rejected, or victimized by their peers (2014). As teachers and students spend time together every weekday over a ten-month period, elementary school teachers are in a unique position where they can promote student self-regulation over the course of a school year. While it may be difficult for classroom teachers to examine and discover the roots of a student’s anxiety, teachers can offer activities which can help anxious students to practice self-regulation throughout the academic school year. It is therefore important for students with anxiety to attend school as schools are a place where they learn to develop important social and collaborative skills. As teachers get to know their students, they can better help students manage their emotions, which can also improve school attendance (Balfanz & Byrnes, 2012).

Purpose of the Paper/Study

The purpose of this capstone project is to explore research and literature regarding the effectiveness of using mindfulness strategies to promote self-care and self-regulation with elementary school children suffering from anxiety. The overall goal of the capstone is to answer the following question: Does research support mindfulness as a means to help elementary children with anxiety, and if so, whether breathing techniques, short meditations, and colouring may reduce anxiety in children.

The overall role of teachers is to prepare students for their future. Teachers are uniquely positioned to promote healthy habits and encourage students to rise to their highest level of ability. If research proves mindfulness techniques to be effective, strategies such as breathing and meditation exercises are easy to learn and can be practiced at any time, in any location. Mindful colouring is an activity which is easily accessible to elementary schools as most students and classrooms are already equipped with a variety of colouring tools. It is also relatively easy and quick to find suitable colouring pages. Most students are familiar with colouring, as many elementary projects already include an element of drawing and/or colouring. All three of these mindfulness strategies (breathing, meditation, and art) are accessible and non-invasive.

Research Question

Along with professional care, strategies which allow individuals to actively self-manage their condition can help them recover and improve their well-being (McRae et al., 2016). While educators can teach specific proactive social-emotional skills such as communication and conflict-resolution skills, for anxious students it may also be beneficial to learn specific mindfulness skills. Should the research indicate the effectiveness of mindfulness strategies, I am further interested in researching cost-effective breathing and colouring mindfulness activities

which a counsellor or teacher could use in a clinical setting or a classroom to promote student self-regulation. I will also research how teachers can also educate students on the importance of developing self-regulation and helping students with strategies which they can use both at home and in the classroom.

Significance of the Study

Students spend over 15,000 hours in classrooms from kindergarten to grade 12 and in order for them to succeed it is important that they have a sense of well-being at school (Oberle et al., 2016). Unfortunately, anxiety was already prevalent in schools (Carpenter et al., 2019) and has increased in the past year as the COVID-19 global pandemic has thrown the world in a new state of insecurity and uncertainty (Lee, S. A., 2020). Students and their families have faced great changes in lifestyles since the onset of the COVID-19 pandemic, and many have faced negative emotions and have looked for ways to self-regulate in the face of the pandemic, the threat of disease, and the resulting change in their daily lives (Ge et al., 2020). During this period, many students faced school closures and learning from home through a remote learning model (Viner et al., 2020). COVID-19 related school closures have had an impact on children's' education, isolation, and well-being (Crawley et al., 2020). Crawley et al. continue by saying that "we all have a responsibility to promote the health and well-being of children at home" (p. 3). Could these isolated students benefit from learning self-regulation strategies which they could use independently?

Elementary teachers wear many hats in the course of a day's work, often taking on the role of a parent, mentor, or role model (Oberle et al., 2016). Lawrence et al. (2019) state that to improve school attendance, it may be important to prevent and manage mental disorders. As such, teachers can play an important role in making their classroom calm and welcoming, as well

as teaching students how to develop and practice self-regulation skills to help them manage the stressors of academic and everyday life. Mindfulness-based interventions (MBI) can help to improve cognitive and socioemotional skills (Dunning et al., 2019).

In this study I will explore the literature to determine if mindfulness strategies such as breathing techniques, meditation, and mindful art can assist elementary students to develop self-regulation, resilience and independence, in age-appropriate and cost-effective ways.

Summary

Anxiety is present in our schools today and takes many forms. Clinically anxious students can be negatively affected by academic demands, school placements, and peer interactions. This can lead to chronic absenteeism and a failure to thrive. Teachers who recognize symptoms of anxiety in their students can play a positive part in establishing an inclusive classroom to promote every child's development, be it academic or socio-emotional.

In Chapter 2, I will be exploring literature about the use of art therapy and mindfulness, as well as their use and effectiveness in decreasing anxiety. More specifically, I will explore possible strengths and weaknesses of art therapy, mindfulness, as well as investigating mindful art activities such as colouring and mandalas. I will also explore how mindfulness has been used in classrooms and whether there were any benefits to doing so.

Chapter 2: Literature Review

Introduction

In this Chapter, I will examine the current research in the areas of art therapy and mindfulness, and how they have been shown to help decrease anxiety. In examining the art therapy studies, I will focus on visual arts, more specifically on mandalas and colouring, while in the mindfulness studies I will focus on Mindfulness-Based Stress Reduction (MBSR), classroom Mindful-Based Interventions (MBI) and mindful colouring. The research I reviewed and am presenting was mostly conducted on adults. Research which focuses on children and youth is discussed separately, with examples given on how mindfulness programs were adapted for children and youth in order to make them more age-appropriate to their developmental needs.

Definition of Terms

Anxiety – The American Psychological Association defines anxiety as:

“an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure.” People with anxiety disorders usually have recurring intrusive thoughts or concerns. They may avoid certain situations out of worry. They may also have physical symptoms such as sweating, trembling, dizziness or a rapid heartbeat” (American Psychological Association, 2020, para 1).

Art Therapy - The Canadian Art Therapy Association defines art therapy as a therapeutic process in which clients can express difficult thoughts and feelings through colour, shape, and imagery (Canadian Art Therapy Association, 2020).

Elementary student – EduCanada (2020) defines elementary school as “the first 8 grades of school, except Quebec, which has only 6 grades” (para. 2), and that school starts with

kindergarten at ages 4 or 5 (para. 2). In Victoria, B.C., elementary years are defined as kindergarten to grade 5 (Greater Victoria School District, 2019).

Mandala – In its simplest form, a mandala drawing is a picture drawn within a circle.

Meditation – Lutz et al. (2008) state that meditation is “a family of complex emotional and attentional regulatory strategies developed for various ends, including the cultivation of well-being and emotional balance” (p. 2).

Mindful colouring – These are colouring activities where “individuals have been shown to remain focused and aware of present moment experiences while colouring”. (Carsley & Heath, 2018, p. 2)

Mindfulness- In a mindfulness practice, participants meditate with a goal to raise their awareness of present experiences such as thoughts, emotions, and bodily sensations (Hoge et al., 2013). Kabat-Zinn (2003) further defines mindfulness as “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” (p. 145).

Mindfulness-based interventions (MBI) – These programs, such as MBSR or Mindfulness-Based Cognitive Therapy, teach mindfulness skills and formal meditations to reframe thoughts and emotions (Shapiro, et al., 2018).

Mindfulness-Based Stress Reduction (MBSR) – HealthLinkBC defines this as a program which helps participants to calm their minds and bodies and to pay attention to their thoughts and emotions in a non-judgemental way to help them with illness, pain, and stress (Government of British Columbia, 2019).

Resilience – Merriam-Webster dictionary defines this as “an ability to recover from or adjust easily to misfortune or change” (Merriam-Webster, n.d.).

Self-control – Gillebart (2018) defines self-control as “the set of skills, capacities, and behaviours that we need to ‘operate’ in a self-regulation feedback loop” (p. 4).

Self-regulation –Gillebart (2018) elaborates that self-regulation allows people to “formulate goals, standards, and desired end-states, as well as to monitor any discrepancies between one’s current state and these desired end-states, whereas everything that one does to steer one’s behavior toward the desired end state constitutes self-control” (p.3).

Theoretical Framework

The theoretical foundation that forms the basis of this capstone comes from art therapy and mindfulness research.

Art Therapy.

Art can serve as a way to examine oneself, personal growth, and healing (Malchiodi, 2007). Art therapy is considered to be an effective visual language for children, especially for those who are unable to express themselves due to a lack of cognitive abilities (Malchiodi, 1998). Hogan (2001) explains that art therapy can take many forms, for example, the therapy can be analytical by focusing on the client, the therapist, and their connection through art. Hogan (2001) further states that art therapy can also take a psychotherapy format where the therapist analyses the client’s art, and finally that the process of doing art can become the therapy by working with various medium such as drawing, painting, clay, and fibers. In Canada, art therapists train in clinical counselling and art therapy at a Master’s level of education or higher.

Art therapy is the marriage between art and psychology. Swiss psychiatrist Carl Jung (1875-1861) used art, especially mandalas, to help his clients access their unconscious feelings and lead to a greater self-understanding (Malchiodi, 2007). Art therapy was first considered a

distinct form of psychotherapy in the early 1940s by American psychologist, Margaret Naumburg (Malchiodi, 2007).

Currently, in response to the COVID pandemic, art therapists have looked to previous pandemics and recommend art therapy prosocial practices to help individuals, families, and groups to cope with the associated feelings of isolation and loneliness, as well as stress and anxiety brought on by the pandemic (Potash et al., 2020). Potash et al. further propose strategies which include promoting communication, maintaining relationships, amplifying hope, as well as helping to manage anxiety, promoting art for relaxation, identifying strengths, establishing healthy creative routines, and celebrating artistic endeavours.

Mindfulness.

In recent years, mindfulness has exploded in popularity (Van Dam et al., 2018) and its followers credit its practice with many benefits. Social Emotional Learning (SEL) is now practiced worldwide, and these skills not only can predict a student's future success, but most importantly they can be taught and assessed (Schonert-Reichl, 2019). In a world where Artificial Intelligence is increasingly displacing workers through automation, developing strong SEL skills has been deemed crucial to prepare students for a 21st century where collaboration and critical thinking will increasingly be called upon (Organization for Economic Co-operation and Development [OECD], 2018). In light of this, mindfulness has made its way to schools as a way to improve SEL skills, as well as increasing attention and resilience (Mindful Schools, n.d.-c). Mindfulness is believed to improve emotion regulation, mood, coping/social skills, confidence and self-esteem, empathy, and attention (Coholic & Eys, 2016). In addition, Dunning et al., (2019) found that MBI were a beneficial tool in treating anxiety, depression, and negative behaviours.

Review of Research Literature

In the following Literature Review I will survey current research on how various techniques of art therapy and mindfulness have been used to help decrease anxiety. The primary focus is research conducted on colouring, mandala creation and colouring, mindfulness, and combining colouring with mindfulness. Research findings with adults and children will be presented.

Theme 1 - Arts-Based Therapy Research

Anxiety.

In research conducted between July 2017 and March 2018, researchers from the Netherlands found that daily art therapy helped to decrease anxiety and improve executive functioning aspects such as emotional control, working memory, organizing/planning, task monitoring (Abbing et al., 2019). Further, researchers from Philadelphia found that the participants' levels of cortisol were statistically significantly lowered after engaging with collage, model magic clay, and/or markers, regardless of their art-making experience and of the media they used (Kaimal et al., 2016). A number of researchers have tried to ascertain whether one form of art therapy is more effective than another at decreasing anxiety, with studies examining the benefits of creating or colouring mandalas, colouring a plaid motif, a rectangle, and colouring books.

Mandalas.

A mandala is an artform completed inside a circle. It can be represented in various ways, from drawing a design on paper, a painting on a ceiling, to a stained glass or a mandala made of tinted sand. According to Malchiodi (2007), the circle is one of the first shapes universally drawn by children around the world and it represents the self and later his/her parents. Malchiodi (2007)

continues by saying that Eastern cultures have used mandalas (meaning “sacred circle” in Sanskrit) in visual meditation exercises and that in contemporary Western culture, psychiatrist Carl Jung popularized mandalas and used them in his clinical practice in the 1950s.

Since then, researchers have continued to compare various forms of mandalas to each other, and to other forms of art therapy to see which are more beneficial. For example, researchers from New York and Texas found that they were able to replicate a study by Curry & Kasser (2005) which showed that colouring a mandala could reduce anxiety significantly more than colouring a plaid design or free-colouring on blank paper. They were also able to conclude that both colouring and colouring a mandala can reduce an anxious state (Van Der Venet & Serice, 2012).

Other researchers have studied how various ways of colouring within a circle could reduce a negative mood. In their 2015 study, Babouchkina and Robbins asked participants to either colour in a blank circle while depicting feelings, draw freely within a blank circle, colour in a blank square while depicting feelings, or to colour freely within a blank square, with results showing that colouring within a circle significantly decreased the participants’ negative mood. Hasnida and Meutia (2018) found that colouring a mandala could decrease stress levels and promote a relaxed state. Another study had similar results in finding that colouring a mandala decreased anxiety in an art therapy setting (Lee, S. L., 2018). In this study, participants free-coloured within a given mandala, coloured a given mandala using 12 coloured felt pens, drew a mandala within a given circle and the control group coloured a given rectangle with pre-set colours. These findings (Lee, S. L., 2018) demonstrated that while participants found each task engaging, the heart rate of participants in the groups involving a circle decreased significantly faster than that of the rectangle-colouring group thus believing that the circle shape(s) on a

mandala has a centering effect which reduces stress. More recently, another colouring strategy has gained popularity with adults, that of adult colouring books.

Colouring.

In 2015, adult colouring books took the world by storm and at one point they topped 9 of the top 20 bestselling books on Amazon (Moss, 2015). As a result, researchers have been studying various forms of colouring to see which forms, if any, are beneficial in reducing anxiety. Laurentian University researchers Eaton and Tieber (2017) found that participants who completed a colouring activity had a greater reduction in anxiety and a higher level of perseverance when they were given free choice, with an element of structure. The researchers found that “coloring is an inexpensive, accessible method of anxiety reduction that requires no outside intervention or special skills” (p. 45). They also found that colouring could be used as a form of self-care. Flett et al. also found that daily adult colouring can improve symptoms of anxiety and depression (2017). The researchers felt that colouring was a low-risk, accessible way to be creative (Flett et al., 2017). Finally, a team from Pepperdine University in the U.S. found evidence that colouring can reduce anxiety as well as other colouring activities such as creating or colouring mandalas (Ashlock et al., 2019). While there has been a fair amount of research in art therapy with adults, there has been significantly less done so with children and youth.

Children & Youth.

It is unknown whether the above noted art therapy methods used with adults with anxiety yield the same results with children and youth, or whether certain exercises could be done with groups of children or a class, instead being done on an individual basis. In one study specifically undertaken with children and youth, a randomized trial undertaken with children in 2010 in Denver, Colorado, found that art therapy decreased anxiety and increased quality of life in

children suffering from asthma (Beebe et al., 2010). Through visual art, participants learned about themselves, their relationship to asthma, and self-care, with a goal to increase critical thinking and expression about the experience of living with a chronic illness. Results showed that participants were better able to problem-solve, had less worry and better communication and quality of life.

Researchers have also studied the effects of art therapy on other aspects of children's mental health. Alavinezhad et al. (2014) found that art therapy was effective in decreasing anger and increasing self-esteem in aggressive children aged 7 to 11. Sessions explored topics such as: establishing boundaries, self-expression through drawing, belonging, feelings, self-perception, the impact of anger and aggression, friendships, family, responsibility. Through art therapy, the participants learned how to express complex feelings, learn new skills and problem-solving techniques, as well as increase a sense of belonging in non-threatening ways.

Coholic et al. found that youth with complex mental health issues improved their social and coping skills as well as confidence and self-esteem when working with arts-based mindfulness interventions (2020a). The researchers used arts-based activities to teach self-awareness and self-compassion skills to marginalized youths, leading them to further explore their feelings and thoughts. This Laurentian University study took place with multi-aged youths who were temporarily being cared-for in a residential program for anxiety, depression or psychosis. The researchers used creative non-fiction to create a composite vignette of the participants' accounts along the following themes: life prior to the mental health program, benefits of group work, thoughts and feelings, benefits of art-making, and the benefits of mindfulness.

The many studies presented in this capstone acknowledge their own limitations in that their sample sizes are small and female participants usually outnumber males (Eaton & Tieber, 2017; Flett, et al., 2017; Kaimal et al., 2016). While many studies are randomly-controlled trials, they may be biased by the fact that the participants are volunteers who may be comfortable with art activities in the first place (Babouchkina & Robbins, 2015; Beebe et al., 2010; Eaton & Tieber, 2017; Flett et al., 2017). A question for future research might be to investigate how effective art therapy is in a large, randomly drawn group of people.

Theme 2 - Mindfulness Research

Mindfulness was defined by Jon Kabat-Zinn as “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” (Kabat-Zinn, 2003, p.145). A few well-established mindfulness programs include MBSR, created in 1979 at the University of Massachusetts Medical school by a team led by Kabat-Zinn (The Mindfulness Institute, 2015; Shapero et al., 2018) and Segal, Williams, and Teasdale’s Mindfulness-Based Cognitive-Based Therapy [MBCBT] (Segal et al., 2013), however the study of MBIs with children and youth is still in its infancy (Coholic et al., 2020b). The following is a review of current mindfulness research in adults with anxiety, taking a look at mindful colouring, and mindfulness research in children and youth.

Anxiety.

Researchers from Boston found that a mindfulness meditation training administered through an 8-week MBSR program significantly reduced anxiety (Hoge et al., 2013). They also found that meditation may improve resilience in those asked to perform a stress task.

Colouring.

Mindful colouring has emerged as the marriage of mindfulness and colouring. It and other arts-based therapies are considered as age-appropriate ways to engage those with short attention spans, limited verbal communication skills, and with those who struggle with abstract reasoning (Coholic et al., 2020b). In exploring whether colouring mandalas in a colouring book would increase mindfulness and decrease anxiety, Mantzios & Giannou (2018) found that those engaged in a mindfulness-guided colouring activity saw a greater decrease in anxiety, but did not see a rise in mindfulness. In the first part of their inquiry, Mantzios & Giannou's results showed that colouring a mandala or free-colouring had the same effect on the level of anxiety or state of mindfulness (2018). The second part of the researchers' inquiry showed that participants in a mindfulness-led colouring group had the greatest reduction in anxious state, while the level of mindfulness was the same in all groups and conclude that colouring books could be helpful in reducing anxiety but cannot yet claim to increase mindfulness (Mantzios & Giannou, 2018).

Australian researchers Cross & Brown (2019) also found that when comparing the effect of focused breathing exercises, as well as colouring a structured or non-structured art activity, all participants showed improvements between pre-test and post-test measures of mindfulness, anxiety, and affect. Cross & Brown concluded that while all three activities in the research showed positive psychological benefits, colouring and breathing showed greater benefits on anxiety than free drawing (2019).

There is a need to test whether these results can be replicated with a youth population because the benefits of colouring could be a useful tool in teaching school children about self-care in ways which are non-invasive, cost-effective, and give children agency. It would also be interesting to see a study which compares the effects of colouring on mindfulness, anxiety, and

affect with a clinical population vs a non-clinical population. Lastly, would focused breathing techniques be more effective with participants who had been trained in mindfulness meditation?

Children and Youth.

Research into mindfulness-based programs in schools with children and youth have also shown wide-ranging benefits such as improvements in executive function and depression (Dunning et al., 2019; Schonert-Reichl et al., 2015), empathy, optimism, emotional control, mindfulness (Schonert-Reichl et al., 2015), and anxiety (Borquist-Conlon et al. 2019; Dunning et al., 2019). Semple et al. (2017) noted similar results as well as improvements in attention and concentration skills.

Looking at research involving mindful colouring with children and youth, researchers from the University of McGill in Montreal found that elementary students showed a significant decrease in test anxiety and an increase in mindfulness when colouring a pre-drawn mandala, or free-drawing (Carsley & Heath, 2018). This was a contrast to Curry & Kasser (2005) and Van Der Vennet & Serice (2012) who found that free-drawing did not lower anxiety. Carsley & Heath noted that future research is needed to determine whether participants enjoyed the activities, as this may influence their ability to focus for a length of time (2018).

According to Borquist-Conlon et al. (2019), children and youth experience and display signs of anxiety differently than adults, therefore their response to MBIs may also differ. The various mindfulness programs for children and youth surveyed in this capstone used strategies similar to those used with adults to promote mindfulness such as breath awareness (Borquist-Conlon et al., 2019; Schonert-Reichl et al., 2015), meditation and yoga (Borquist-Conlon et al. 2019), and art therapy (Borquist-Conlon et al., 2019; Carsley & Heath, 2018). While these interventions were similar to the ones used with adults, Borquist-Conlon et al. (2019) noted in

their meta-analysis that MBIs for youth and children had been adapted to better suit this age group, for example by decreasing the length of mindfulness sessions to 30-45 minutes, decreasing meditation times to 5 minutes and using more sensory activities such as drawing, body scan meditations, and writing. Borquist-Conlon et al. (2019) noted that the resulting mindfulness benefits were not as great with youth as they are with adults. Similarly, Dunning et al. (2019) also found that mindfulness research results differed between the children and youth groups, with youth aged 14 to 18 experiencing more mindfulness benefits than younger students.

As with art therapy studies, many mindfulness studies have had a small number of participants. Mindfulness itself is poorly defined (Van Dam et al., 2018) and future researchers should aim for larger studies with research designs that reduce bias (Coronado-Montoya, et al., 2016). Mindfulness programs with children and youth have been well thought of and implemented, however the research is still limited (Semple et al., 2017). Dunning et al. (2019) and Semple et al., (2017) advocate for rigorous, original and replication research that is not affiliated with the mindfulness programs themselves.

Summary

While art therapy and mindfulness are emerging practices with a lack of large, rigorous research on their effectiveness, at this point there are a number of smaller preliminary studies which show promise that both practices, either individually or combined, may be effective for adults as well as children and youth to lower anxiety.

Art Therapy.

Art therapy can help clients communicate difficult thoughts and feelings through colour, shape, and imagery and can lead to introspection, personal growth, and healing (Canadian Art Therapy Association, 2020). In children and youth as well as those with cognitive deficiencies, it

can be easier to depict these thoughts and feelings through art rather than with words (Abbing et al., 2019; Canadian Art Therapy Association, 2020; Malchiodi, 2007). Other findings have also shown that daily art therapy can lower anxiety while improving executive functioning aspects such as emotional control, working memory, organizing/planning, task monitoring (Abbing et al., 2019).

Certain art therapy studies have found that drawing within a circle, or mandala, has a positive effect on anxiety, mood, and stress (Babouchkina & Robbins, 2015; Curry & Kasser, 2005; Hasnida & Meutia, 2018; Lee, S. L., 2018; Van Der Vennet & Serice, 2012). Other art therapy studies found that colouring could be used as self-care and that it reduced anxiety to a greater extent than free-form drawing (Ashlock et al., 2019; Curry & Kasser, 2005; Eaton & Tieber, 2017; Flett et al., 2017). Art therapy research on children and youth has found that it can reduce anxiety (Beebe et al., 2010) as well as help decrease anger, and increase self-esteem, communication and problem-solving skills (Alavinezhad et al., 2014; Coholic et al., 2020a).

Mindfulness.

MBSR has been shown to decrease anxiety and improve resilience in adults (Hoge et al., 2013). In mindfulness research undertaken in schools, results indicated that students participating in a classroom mindfulness program displayed more cognitive and emotional control, empathy, were more optimistic, self-reported less depression, had improved executive functioning and attention, greater mental health and less anxiety and stress (Borquist-Conlon et al., 2019; Carsley & Heath, 2018; Dunning et al., 2019; Schonert-Reichl et al., 2015; Semple et al., 2017).

Borquist-Conlon et al. further noted that age-appropriate MBIs have been adapted to better suit children and youth, however further research is needed to determine whether these adaptations are as beneficial (2019).

Mindful colouring is an engaging way to work with those with short attention spans and limited verbal communication skills (Coholic et al., 2020). Mindfulness-guided colouring activities can reduce anxiety (Mantzios & Giannou, 2018) as can colouring combined with focused breathing exercises (Cross & Brown, 2019).

In Chapter 3 I will present recommendations for mindfulness and mindful colouring activities which could be done in individual or group counselling, as well as in a classroom.

Chapter 3: Summary, Recommendations and Conclusions

Summary of Findings

Anxiety is a growing concern in schools. As stated previously, there has been an increase in the anxiety level of elementary school children, which has been exacerbated by the recent COVID-19 pandemic (Crawley et al., 2020; Pincus et al., 2020; Whittal & Robichaud, n.d.). Research findings show that art therapy and mindfulness have many benefits for both adults and children, either when used on their own or in combination. In the following sections I will discuss the implications of colouring and mindfulness for elementary school teachers, counsellors, and students, and I will recommend ways of using these strategies in the classroom and in a counselling setting.

Implications

Over the past year, the purpose of this capstone has evolved from researching a fun, somewhat whimsical topic, to researching science-backed, economical methods to help students cope with anxiety brought on by the COVID-19 pandemic. As a practicing teacher it has become increasingly clear that structured mindfulness and colouring exercises in the classroom can inject compassion and relaxation in these uncertain times. Since the beginning of the pandemic, many studies have examined the effects of COVID on mental health (Jones et al., 2021; Khan et al., 2021; Pincus et al., 2020; Skalski et al., 2021). These studies encouraged me to continue researching mindful colouring to see how it could be of value to elementary students. What began as a fun research topic has evolved into a method to ease students' anxiety in a pleasurable and cost-effective way.

Anxiety & COVID.

In the past 12 months teachers as well as students and their families have had to change their daily routines in the wake of the Coronavirus pandemic and such changes in everyday life have brought their own anxieties, as well as worries about being infected with the SARS-CoV-2 virus (Bhamani et al. 2020; Maric et al, 2021). Pincus et al. (2020) point to the pandemic having long-term negative effects on youth and call for a coordinated effort to help students get back on track both academically and to cope with the trauma brought on by the pandemic. Research findings in the literature review portion of this capstone show how mindfulness and art therapy practices can decrease stress levels in participants.

This past year, teachers and parents have seen a rise in their anxiety levels as their home and work routines have changed due to measures aimed at minimizing COVID outbreaks (Bhamani et al., 2020; McElroy, 2021). Bhamani et al. (2020), examined how students have had to learn how to complete assignments from home with minimal immediate help when remote-learning. When learning in school, students have also had to learn new routines such as hand-washing, wearing masks, and social distancing measures. Teachers' workloads have increased as they had to keep abreast of evolving provincial COVID safety guidelines and developing new teaching routines to adhere to these (Government of British Columbia, 2021; Slepian, 2021; Zussman, 2020). The new safety measures have added layers of stress and complexity to all educational stakeholders.

Teachers and Counsellors.

Whether they realize it or not, teachers play an important role in their students' lives. Oberle & Schonert-Reichl (2016) state that teachers can be mentors, role models and parental figures. I have also learned while researching this capstone that teachers can have a direct impact

on their students' well-being. It is therefore important for teachers and counsellors to take steps during this pandemic to look after their own mental health so they are able to support others in their care. Research is beginning to be released on how mindfulness can improve general well-being during the COVID pandemic (Antanova et al., 2021; Matiz et al., 2020). A daily mindfulness practice can be a way for teachers and counsellors to help decrease their anxiety, one which Jon Kabat-Zinn states is as important as daily nourishment (Kabat-Zinn, 1990). When teachers learn mindfulness skills, they are better able to manage classroom behaviours as well as form and maintain supportive connections with their students (Meiklejohn et al, 2012; Semple et al., 2017). Further, mindfulness can diminish burnout which results from "emotional exhaustion" (Meiklejohn et al., 2012, p. 15)

Studies have also revealed that teachers can help to recognize anxiety in their students and provide them with appropriate activities to alleviate their anxiety (Cunningham & Suldo, 2014; Hart et al., 2013; Headley & Campbell, 2013). By using mindfulness and mindful colouring techniques, teachers can create a calm, supportive classroom environment which supports not only students with anxiety, but all classroom students. Creating a mindful class with regular breathing practices as well as mindful colouring requires relatively low amounts of preparation and can be inexpensive. Teachers can confidently use science-backed, mindful strategies as these are a useful tool in creating a calm learning environment. School counsellors can also use mindful breathing and colouring techniques in clinical settings, ranging from individual counselling to working with small groups of students or teachers. Counsellors versed in mindful techniques can act as conduits to teach these skills to other teachers through classroom visits or professional development workshops.

On a personal note, this year I participated in an online year-long mindfulness for educators' program (Baylis, n.d.) with teachers from Vancouver Island and Greater Vancouver. The monthly mindfulness-based materials and weekly meetings provided a chance to practice mindfulness and share stories about teaching mindfulness in schools. The course proved to be a mental-health life-jacket in the rough seas of COVID teaching. As a student, I learned and practiced skills such as breathing practices, trauma-informed practices and mindful communication. Further, the cohort of students I belonged to acted as a support group arena where we discussed our mindfulness classroom practices as well as shared stories about coping as a teacher or counsellor during a pandemic. Meiklejohn (2012) found that when teachers and counsellors are well-versed, regular mindfulness practitioners, they can confidently share their knowledge with students and families within their learning communities. This was my experience with this year-long mindfulness program for educators. As mindfulness became more regular in my own life, I became comfortable in sharing it, often informally, with students throughout the day, with positive feedback from families

Students and Families.

A regular mindfulness practice can help students in many ways, both at school and at home. Mindfulness activities can help children and youth by lowering their levels of stress and anxiety (Borquist-Conlon et al., 2019; Meiklejohn et al., 2012; Tarrasch et al., 2017). Mindfulness has also been shown to improve social emotional areas of a child's life such as improving emotional regulation, executive functioning, working memory, coping skills, self-awareness, self-esteem, resilience, optimism, and increasing empathy (Coholic, 2011; Meiklejohn et al., 2012; Schonert-Reichl et al., 2015; Semple et al., 2017), which can help improve students' relationships with their peers. Some researchers have found that a mindfulness

practice in children can also help their academics. Schonert-Reichl et al. (2015) and Tarrasch et al. (2017) both reported that students who practice mindfulness regularly showed improvements in mathematics. Further, Tarrasch et al. (2017) found that mindfulness could also help with reading, the researchers state that this is likely because a mindfulness practice led to improvements in motor accuracy and visual perception which are foundational skills in learning.

As with all learning, teaching mindfulness can be akin to planting seeds, where the learning is not immediately fruitful or recognizable but rather is evidenced at a later time. As a teacher and counselling intern, I have heard many personal anecdotes of students using their mindful skills to resolve conflicts at home in their day-to-day lives. In such cases, families are the benefactors of mindful skills as the students become the teachers to other family members through modeling self-regulation and teaching others new mindful skills. Mindfulness can become a brain break and lead to better self-regulation (Lawler et al., 2019).

While the research into school-based mindfulness programs is emerging, there is a need for future research to examine whether the benefits of a school-based mindfulness program carry-over to a child's home life. It would be important to know specifically whether mindfulness is associated with improvements in self-regulation, executive functioning, and empathy at home, as these can significantly improve relationships with others.

Recommendations

Mindfulness.

According to Kane (2018), mindfulness can enhance empathy, and strengthen executive functioning. Further, Kane states that a calm classroom “encourages focused attention and a sense of well-being” (2018, p. 163). While there are many programs and courses offered to teachers to learn how to use mindfulness in the classroom, learning and teaching it does not

necessarily require a large time investment. Teachers are advised to develop a personal practice of their own so they are comfortable in sharing it with others (Kane, 2018; Schonert-Reichl et al., 2015). Prior to starting mindfulness with children and youth, Borquist-Conlon et al. (2019) further recommend that methods should be age-appropriate and that accordingly, the length of a mindfulness session and meditation should be shortened considerably.

When it comes to using mindfulness in the classroom throughout the day, teachers can:

- Upon arrival, invite each student to quietly set an intention for the day.
- Provide a short, structured breathing exercise such as square breathing or a body scan. This can be used as a standalone exercise, or in conjunction with a mindful colouring activity to help students to focus (see below for resource links).
- Throughout the week, invite students to practice mindful walking in the hallways, mindful eating during snack and lunchtime, as well as mindful listening without judgement.
- Have mindful colouring sheets which students can use upon arrival in the mornings or in between activities (see below for resource links).
- Prior to student dismissal each day, revisit the morning's intention.
- Prior to dismissal, also encourage each student to find gratitude by connecting with something good which happened in the day (Kane, 2018).

Breathing Practices.

At the core of a Mindfulness practice is the ability to mindfully breathe to regulate both body and mind. The following are some resources which have elementary age-appropriate breathing exercises.

- <https://www.youtube.com/watch?v=RVA2N6tX2cg> – In this video, children explain the benefits of mindful breathing (Bayer Salzman & Salzman, 2015).

- <https://www.mindful.org/mindfulness-for-kids/#stress> - This site details various breathing exercises for children such as “mindful breathing” and “square breathing” (Mindful, n.d.).
- <https://positivepsychology.com/mindfulness-for-kids/> - This site has many breathing activities as well as mindfulness exercises and games for children (Ackerman, 2021).
- <https://www.mindfulschools.org/free-online-mindfulness-class-for-kids/> - This site offers free online mindfulness practices for Kindergarteners to Grade 5 children (email signup required), (Mindful Schools, n.d.-c).
- Stop, Breathe, Think Kids – free app with login required. This app provides guided child-appropriate meditations with the following themes: quiet, focus, caring and connecting, energizing, meltdown, open mind, sleep, and bedtime stories (Stop, Breathe & Think, PBC, 2018).
- In addition to the above resource, The Hawn Foundation (n.d.-a) offers many examples of ways to inject mindfulness in a classroom, many of which require only a few minutes, through its MindUp program. The foundation offers mindfulness video lessons for elementary students on its website: <https://mindup.org/category/mindful-lessons/> (Hawn Foundation, n.d.-a).

Mindful Eating.

Mindfulness can help children in various areas of their daily lives both at home and at school. Tarrasch et al. (2017) found that mindfulness leads its practitioners to slow down their actions, which helps them to better assess these actions and to make corrections in the future, especially when eating, walking, and moving their body.

- <https://www.mindfulschools.org/video/how-to-eat-more-mindfully/> - This site offers a video of children explaining mindful eating and demonstrating how to mindfully eat an orange.

(Mindful Schools, n.d.-a)

Mindfulness for Educators

- <https://lisabaylis.com/mindfulness-for-educators-program/> - This site offers a one-year club for educators where they can practice mindfulness skills, learn about mindfulness skills through readings, interviews, and teachers, as well as to connect with other teachers who teach and practice mindfulness (Baylis, n.d.).
- <https://www.mindfulschools.org/about-mindfulness/our-programs/> - This site offers courses to train educators on various mindfulness techniques to use in schools (Mindful Schools, n.d.-d).
- <https://mindup.org/wp-content/uploads/2021/04/2021-Training-Opportunities-NEW.pdf> - This site offers various trainings for teachers and school communities (Hawn Foundation, n.d.-b).

Art Therapy.

Mindfulness-based methods delivered through art and other experiential techniques can help young people develop skills in a non-threatening and enjoyable manner. As discussed earlier, art therapy is beneficial to young people as it encourages them to express themselves through creative means. Coholic (2011) reports that at-risk youth often have difficulty remaining still, and may also be unable to close their eyes for a breathing meditation. Coholic further notes that it is important to orchestrate success into an arts-based mindfulness program by making it fun, non-threatening, non-judgemental, and that these programs are important for those who have not yet acquired skills for “talk therapies such as CBT-based methods” (2011, p. 314).

Colouring.

Colouring is an inclusive way for classroom elementary teachers to practice self-regulation skills and mindfulness with a whole class. Teachers can also use it as a targeted calming activity for a few students. In my experience, not all elementary students enjoy traditional mindful breathing exercises or have the maturity to remain quiet for even a minute while others practice. Mindful colouring provides a way to keep student's body occupied, while still focusing on the present. When a student does not follow along with the breathing exercises, at least they are listening. Colouring is an activity which does not require much teaching as most children learn how to colour at home, from the time they are pre-schoolers. Teachers can teach mindfulness breathing techniques which students can practice as they are colouring. As noted above, they can use mindful colouring for a few minutes at the beginning of the day to center students once they arrive in class. Students can also mindfully colour prior to a quiz or after returning from a break during the day. As a calming activity, it is much easier to pivot back to a class lesson from a mindful colouring activity than, for example, taking a movement break, which can take anywhere from 10 to 20 minutes, and can wind some students up instead of down. All that is required in mindful coloring is paper and at least one colouring implement. Colouring resources are inexpensive and plentiful on the internet through free websites or the Teachers-Pay-Teachers teaching market website (see resource links below). It is easy to share resources with students either on paper or through a digital file.

As part of a comprehensive school counselling plan, counsellors are well-situated to provide teachers with easy-to-implement activities which promote student self-regulation skills. School counsellors can use mindful colouring exercises with classrooms, small groups, and with individual students. Due to caseloads and emerging situations in a counsellor's day, it can be

difficult to provide a multi-session mindfulness program to classrooms. However, a counsellor can teach a mindful breathing technique and mindful colouring to both students and their teacher as part of a single-session classroom introduction at the beginning of the year. School counsellors can also use mindful colouring as a way to start a small group meeting or in one-on-one situations. The following are free child-appropriate mandalas and colouring exercises.

Mandalas and Colouring.

- <https://www.bestcoloringpagesforkids.com/free-printable-mandalas-kids.html> - This site contains free, downloadable child-appropriate mandala designs, many of which with cartoon-like animals with which many children connect (Best Coloring Pages for Kids, n.d.).
- <https://www.free-mandalas.net/difficulty-level/easy-children/> - This site contains free, downloadable child-appropriate mandala designs (Free-Mandalas.net, n.d.).
- <http://www.supercoloring.com/coloring-pages/arts-culture/mandala> - This site contains free, downloadable child-appropriate mandala designs, some related to holidays and others with more intricate designs (Super Coloring, n.d.).
- http://www.coloring-book.info/coloring/coloring_page.php?id=209 - This site contains simple, free, downloadable child-appropriate mandala designs (Coloring Book, n.d.).
- <https://coloringbook.pics/antistress-colorings/677/mandala/> - This site features child-appropriate mandala designs which can be coloured online (Coloring Book.pics, n.d.).
- <https://the-counseling-teacher-brandy.myshopify.com/collections/printable-journals-and-workbooks/products/mindfulness-workbook-bundle> - This site sells mindfulness and colouring products designed especially for elementary students (Counseling Teacher Brandy, n.d.).

- https://shop.counselorkeri.com/products/mindfulness-activities-27-mindfulness-exercises-for-mindful-mornings-activities?_pos=3&_sid=c007a46cd&_ss=r – This site sells this mindfulness resources (and many others) which contains mindfulness scripts and accompanying colourful pictures created especially for children and youth. (Powers Pye, 2021.).

Conclusions

In this capstone project I reviewed current research around mindfulness and art therapy, how these interventions can be used with children experiencing anxiety in elementary schools, both in a classroom or counselling setting. Over the past year, experts have been exploring how mindfulness and colouring supports people with fears of falling ill to COVID, isolation, decreased schooling and loss of income due to COVID (Ge et al., 2020; Maric et al., 2021; Zhang et al., 2021). As I demonstrated in the literature review, classroom teachers and school counsellors can encourage self-regulation in elementary students through the regular practice of mindful strategies (Maric et al., 2021; Schonert-Reichl, 2019). Teachers and counsellors can also help promote self-expression, self-regulation, and communication through art-making techniques such as drawing mandalas and colouring (Ge et al., 2020, Malchiodi, 2007). Teaching mindfulness breathing and colouring techniques to elementary students presents them with low-cost self-regulation resources which they will be able to draw upon in their time of need. Mindfulness and colouring resources are plentiful on the internet. Many are free of charge and most children enjoy learning how to engage with them and take control of their emotions. As previously noted, art therapy and mindfulness research is an emerging field in the past few decades. Researchers point to the need for more robust research with a greater number of diverse participants, as well as large, robust studies in children (Borquist-Conlon et al., 2019; Schonert-

Reichl, 2019). It is my hope that this capstone will give permission and encourage busy classroom teachers and school counsellors to create a community which includes a few minutes in the day where they mindfully breathe and draw with their students.

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