

A Knowledge Translation-Integrated Approach Evaluating the DREAM Program's  
Webisodes and French Translation

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## Abstract

Research suggests that the adverse effects of the COVID-19 lockdowns have led to mental health challenges in nearly three-quarters of Canadian children and youth (Cost et al., 2021). In this pilot evaluability assessment, we used a Knowledge Translation-Integrated approach to evaluate the credibility, acceptability, and sustainability of the school-based DREAM program at increasing resilience among children ages 7 to 11. Specifically, we assessed newly produced webisodes (meant to ease teacher administration) and the French translation of the program for the first time. Credibility was supported using quantitative measures for meaning mindset, mental illness symptoms, and COVID-19 coping. Knowledge users, in this case children and parents, were involved in measuring the DREAM program's acceptability and sustainability qualitatively and quantitatively. Data was collected from 33 children, and 31 of their parents, who completed the program and the pre- and post-test questionnaires. The webisodes were found to be credible and acceptable to the children, and produced equivalent self-reported outcomes to the clinician-delivered classes at increasing meaning mindset, decreasing mental illness symptoms, and increasing COVID-19 coping. The French version of the program also produced equivalent self-reported outcomes to the English version at increasing meaning mindset, decreasing mental illness symptoms, and increasing COVID-19 coping. Validations and suggestions for the program were coded, grouped into themes, and analyzed. A discussion of the analyses is presented, including limitations and recommendations for future directions for further development of the DREAM program.

## **A Knowledge Translation-Integrated Approach Evaluating the DREAM Program's Webisodes and French Translation**

There has been a significant rise in childhood mental health disorders and distress over the past few decades, with nearly 70% of adult mental health problems originating in childhood (Burns et al., 2010; Shoshani & Steinmetz, 2014). An increasing number of youth experience various levels of anxiety sensitivity, or a worry that anxiety is somehow harmful and should be avoided (Atilgan, 2012). Research demonstrates that improper management of these *sensitivities* can lead to *disorders* (Atilgan, 2012). In addition to sensitivities, toxic stress in a developing child can have lasting effects on their future mental health into adulthood (National Scientific Council on the Developing Child [NSCDC], 2020a; Shonkoff and Garner, 2012). Toxic stress refers to the measurable harm that excessive stress triggers can have on a developing brain (NSCDC, 2020b). A growing body of research has shown the interconnectedness of the body systems, suggesting that, when poor mental health is present in a child's life, other systems of the body can be negatively affected, leading to higher rates of both physical and mental illness (NSCDC, 2020a). Moreover, many adult diseases are postulated to originate and develop in childhood as a result of the changes that toxic stress may trigger in the developing brain (NSCDC, 2020a, 2020b; Shonkoff and Garner, 2012). In an ideal world, children would live in homes and environments where toxic stress was not present, and anxiety sensitivities were properly managed. However, only so much can be done to manage these variables in each home. Furthermore, a "good" home does not guarantee the absence of mental health issues such as toxic stress, anxiety, and depression (NSCDC, 2020a, 2020b). It is important, therefore, to find ways in which children learn coping skills in the face of stressors and be supported through the various stresses and sensitivities that they face.

## **Current Health Crisis**

To add a potential “perfect storm” to the matter of toxic stress and sensitivities, a global pandemic was declared in March 2020 due to a concerning contagious virus known as COVID-19 (World Health Organization [WHO], 2021). As of February 2022, over 422 million cases worldwide have killed 5.8 million people, translating to 3.2 million cases and over 35,000 deaths in Canada (WHO, 2022; Government of Canada, 2022). In an effort to reduce the spread of COVID-19, governments have shut down schools, extracurricular activities, and businesses, reducing in-person social interaction. Many provinces in Canada, such as Ontario, had three major lockdowns since COVID-19 began, and continued strict mandates following lockdowns with the contagious nature of new variants, such as Omicron (Carter, 2021; Office of the Premier, 2022). It is reported that, as a result of COVID-19, stress and social isolation have led to mental health deterioration in around 70% of Canadian children and youth, with an increase in depressive, anxiety, and irritability symptoms being the most common in children ages 6 to 12 (Cost et al., 2021; Statistics Canada, 2021a). Research suggests that positive mental health is necessary in order to reach one’s potential and flourish (Waddell et al., 2019). It is concerning, therefore, that social isolation and lockdown during the COVID-19 pandemic may be contributing to poor mental health among children, potentially creating a concern for future mental illness and a resulting overload on mental health professionals and resources (Cost et al., 2021).

Research has shown that, following a period of isolation or quarantine due to a pandemic, children are more likely to suffer from posttraumatic stress disorder (PTSD), depression, anxiety, and also are more likely to seek mental health services, than children who were not in isolation or quarantine (Waddell et al., 2020). In the first two or three months after the initial COVID-19

outbreak in Canada, a 350% increase in calls to the Kids Help Phone was reported (Steinberg, 2021). Subsequently, between May 2020 to September 2020, the Kids Help Phone reported an increase of 51 to 70% in text messages and phone calls (Waddell et al., 2020), a 42% increase for matters relating specifically to anxiety and stress, and a 48% increase relating to isolation (Children First Canada, 2020; Kids Help Phone, 2020). High prevalence of concerns and generally low mental health service accessibility makes mental health disorders the leading cause of children disabilities both in Canada and globally (Erskine et al., 2015; Waddell et al., 2020). In a pandemic, with the increase in mental health concerns and fewer accessible services due to high demand (Waddell et al., 2020), this issue is even more pressing. In addition, it is predicted that there will be approximately a further tenfold increase in children's mental health issues as a result of the ongoing pandemic, placing an even greater strain on mental health services in Canada (Canadian Mental Health Association [CMHA], 2020; Children's Mental Health Ontario [CMHO], 2020; Mental Health Commission of Canada [MHCC], 2012; Waddell et al., 2020; Watt, 2020). It is, therefore, crucial to focus efforts on safeguarding the mental health of future generations by equipping them and their parents with practical and effective coping strategies in a dual effort to take pressure off current mental health service wait times and reduce the economic impact.

## **Current Canadian Mental Health System Concerns**

### ***Wait Times***

Research suggests that less than one-third of children who need mental health services receive access or have access to a mental health provider (Georgiades et al., 2019; Waddell et al., 2007). The Children's Mental Health Ontario (2020) report reveals that wait times for children to receive publicly available counselling and psychotherapy services can be up to two and a half

years, while the average wait time is 67 days. Between 2017 and 2019, there was a 133% increase of children and youth who were placed on waitlists, from 12,000 to 28,000 (CMHA, 2020). Hospitals, too, are being overloaded with children and youth who suffer from mental health concerns, as a result of poor community service access or lack of ability to afford private services (McLeod & Okwuosa, 2021). Compared to baseline numbers in 2008 to 2009, Canada experienced a 61% increase in emergency department visits and 60% increase in hospitalizations due to child and youth mental health in 2018 to 2019 (Canadian Institutes of Health Information [CIHI], 2020). The gravity of the situation becomes more alarming when considering that each of these statistics noted above reflect pre-COVID-19 statistics (WHO, 2020).

### ***Economic Impact***

In addition to accessibility concerns, the Canadian economy suffers when efforts to prevent mental illnesses are not in place. It is estimated that the mental health economic burden on Canada is \$51 billion per year, or over \$1350 per person (MHCC, 2016). By the time a Canadian is 40 years of age, there is a fifty percent chance that they are suffering or have suffered from a mental illness (MHCC, 2016). Research suggests that there is a strong correlation between mental health problems and physical health concerns (NSCDC, 2020a). For example, the leading cause of death in the United States is heart disease, which is often correlated with potential toxic stress experienced during childhood (NSCDC, 2020a, 2020b). Therefore, not only is the economy directly affected by mental illness, but it also seems that it is indirectly affected by physical illness rooted in stressors that may be alleviated using preventive coping strategies in childhood (Centre for Addiction and Mental Health [CAMH], 2021; NSCDC, 2020a, 2020b). Research suggests that the investment in mental health services through early intervention, prevention, and promotion yields positive dividends (CAMH, 2021). For

example, if prevention programs for conduct disorders alone were implemented in Canada, it was estimated \$3.1 billion dollars could be saved, which is equivalent to a 6% decrease (MHCC, 2016). The amount of money that could be saved and wait times that could be decreased through prevention programs may be significant (MHCC, 2016). Therefore, increased research and resources into prevention programs may be worthwhile investments to consider.

## **What Can Be Done: Recommendations**

### ***Challenges With Home Support***

While the need for reactive services such as doctors and psychologists are necessary to treat those who suffer from mental illness, the current mental health system has been and is currently operating beyond capacity (CMHO, 2020). A growing body of research supports the idea that investments in children and their caregivers need to be made in order to positively affect their developing mental health (NSCDC, 2020a). This is especially important when considering a recent research study that showed a significant correlation between a parent's emotional literacy skills and their child's emotional regulation skills (Bozkurt & Demircioğlu, 2020). Good emotion regulation is one of the critical factors in positive mental health (Gross & Thompson, 2007; Lennarz et al., 2019).

Though strategies can be implemented in order to identify the most at-risk children by targeting their caregivers, it is important to note that mental health problems have been shown to affect even children who are not considered to be high-risk for mental health disorders (NSCDC, 2020b). Furthermore, “[a]ssessing child well-being and determining service needs by focusing exclusively on demographic risk factors (i.e., income, race, ethnicity, parent education) or number of adverse childhood experiences (i.e., ACE scores) can result in inappropriate labelling and unnecessary services for children and families who are doing well (“false positives”) as well

as missed opportunities to provide vital services for those who would benefit from them (“false negatives””) (NSCDC, 2020a, p. 17). Given that over half of adults will have or have experienced mental illness by the age of 40, it is essential to implement protective and preventive measures that leave no children behind in order to fill the gaps and ensure all children receive opportunities for emotional learning and support (MHCC, 2016). Additionally, during the current pandemic, parents of young children were found to be among the most vulnerable populations in regards to the effects of COVID-19 on mental health (CAMH, 2020). Specifically, parents who are struggling with their mental health may be lacking the capacity to provide support for their own children (CAMH, 2020). Therefore, it is important to consider that parents receive support from schools and are not the exclusive source of support for children’s mental health. By providing broader community orientated support for families through schools, the gap between those who receive support and those who need it is lessened and all children receive equal access to psychoeducation and coping strategies, regardless of perceived risk. In fact, school based mental health promotion programming is strongly recommended (MHCC, 2012, 2016).

### *Schools*

Schools are a built-in support system for families that can fill in the gaps for children who are not receiving ideal parental support in their mental health development (Lazarus et al., 2021). Indeed, “schools’ status as critically important contexts for development is now broadly recognized, and the importance of school-based mental health services is undisputed” (Lazarus et al., 2021, p. 9). Though mental illness can be treated regardless of age, earlier interventions have demonstrated more cost-effectiveness, and better overall mental health outcomes than later treatment (Lazarus, 2021; NSCDC, 2020a). Given that 99.3% of Canadian children ages 6 to 18 attended public, private, or independent schools in 2018 to 2019 (Statistics Canada, 2020),

school-based prevention education appears to be an ideal way to reach as many children as possible, eliminating social inequalities and stigma that may otherwise prevent access to such services (Condly, 2006). In 2020 to 2022, virtual school was also attended, due to the pandemic, and continues to be an option for children and youth.

### ***Social and Emotional Learning***

Social and Emotional Learning (SEL) refers to "the process of developing the self-awareness, self-control, and interpersonal skills that are vital for school, work, and life success" (Committee for Children, 2022). Some examples of SEL skills may include identifying and labelling of emotions, acceptance, reappraisal, problem-solving, practicing mindfulness, and positive self-talk (Lennarz et al., 2019). The Collaborative for Academic, Social, and Emotional Learning ([CASEL], 2021) reports that SEL skills are vital for healthy human development, leading to healthy management of emotions, the setting of and achievement of goals, the ability to make responsible decisions, and the ability to develop a positive identity, empathy for others, and to establish and maintain healthy relationships. The significant benefits of SEL necessitate the need to take a closer look at their implications and how SEL can be incorporated into children's lives.

SEL skill development, including emotion regulation skills, is associated with both reduced internalizing and externalizing problems in children and youth (Lennarz et al., 2019). Internalizing problems refer to mental health challenges such as anxiety, social anxieties, obsessive compulsions, and depression; externalizing problems refer to behavioral challenges that may occur as a result of poor mental health, such as substance abuse, verbal or physical aggression, theft, or destruction of property (Atilgan, 2012). A 2011 meta-analysis of over 200 studies that included more than 270,000 students has supported that incorporating SEL into a

school environment is predictive of fewer internalizing and externalizing problems and improved student attitudes about themselves, others, and school (CASEL, 2021; Durlak et al., 2011). Jones et al.'s (2015) longitudinal study revealed that children as young as kindergarten age who possessed good SEL skills were more likely as adults to be mentally healthy, excel in their education and employment, and were less likely to engage in criminal activity and substance use. Given these potential benefits, finding ways for all children to access and learn SEL skills regardless of apparent risk, home environment, race, socioeconomic status, and geographic location appear to be significant when it comes to improving the mental health status of children. According to the World Economic Forum job report, the top nine skills that employers are looking for leading up to the year 2025 are: analytical thinking and innovation; active learning and learning strategies; complex problem-solving; critical thinking and analysis; resilience, stress tolerance and flexibility; creativity, originality, and initiative; leadership and social influence; reasoning, problem-solving, and ideation; and emotional intelligence (Palmer, 2020). Note that all nine of these skills involve SEL competence. Indeed, mentally healthier children lead to mentally healthier adults, thus less burden on the mental health system both from an accessibility and economic perspective (CAMH, 2021; CIHI, 2020; CMHA, 2020; CMHO, 2020; MHCC, 2016; NSCDC, 2020a, 2020b; Waddell et al., 2007).

### ***Socio Emotional Learning Programs***

CASEL (2021) has reported that SEL is best established from a systemic approach, emphasizing “the importance of establishing equitable learning environments and coordinating practices across key settings of classrooms, schools, families, and communities to enhance all students’ social, emotional, and academic learning” (slide 22). SEL programs are a way for children to learn SEL skills in a classroom environment, and ideally further reinforced in school,

family, and community settings (CASEL, 2021). This ideal systematic approach to learning allows children to be taught developmental skills from multiple angles to ensure that all gain these basic skills and competences as a foundation for their mental and emotional health. Beginning with the classroom setting may be the best area to begin implementing SEL programs, providing a foundation for further growth into other supportive systems, and perhaps even impacting the mental health status of parents who are involved in reinforcing such programs with their children at home (Martinez, 2013).

A 2017 meta-analysis of 82 SEL program studies that included more than 97,000 students from kindergarten to middle school, showed that the benefits of SEL programs are not only long-lasting, with measured benefits noted at about 6 to 18 months past program completion, but appear to be equally beneficial across socioeconomic status, geographic location, and race (Taylor et al., 2017). Durlak et al.'s (2011) meta-analysis further demonstrated that, 24% of students experienced decreased emotional distress levels, 22% experienced fewer conduct problems, and 23% experienced improved social behaviors and attitudes following the incorporation of an SEL program into existing school services (CASEL, 2021). The statistically significant associations between SEL programs and positive mental health outcomes in children offer a strong case for schools to consider incorporating SEL programs into their curriculums. One such SEL program that has been developed in accordance with the Ontario Ministry of Education's curriculum is the DREAM program, with a focus on resilience through developing a meaning mindset (Armstrong, 2017).

### **DREAM Program**

DREAM— Developing Resilience through Emotions, Attitudes, and Meaning—is an SEL program designed for children ages seven to eleven. DREAM was developed in alignment

with the Ontario Ministry of Education's curriculum, making it easy for teachers to implement in their classrooms with their existing curriculum. The purpose of DREAM is to "empower school systems with a child-friendly, cost-effective, readily mobilized, sustainable, resiliency-based educational toolkit" (Armstrong, 2017, p. 113). The program uses evidence-based skills aimed to build resilience to mental illness in young children through meaning-making, and fostering a meaning mindset, using play and music (Armstrong, 2016, 2017, 2018, 2018a). Research suggests that play is the pathway to connection and meaning-making for children (Armstrong, 2016a, 2017, 2018, 2018a; Gil, 1994; Malchiodi & Crenshaw, 2014; Parrott, 2020). Therefore, play through crafts, drama, and game activities are used in DREAM as an experiential means to teach skills to enhance mental health resilience (Armstrong, 2016a, 2017, 2018, 2018a).

### ***Resilience***

Many mental illnesses could be attenuated or prevented altogether if proper interventions were implemented on a clinical and public health level in the early years of a child's life (Jones et al., 2015; Shrivastava & Desousa, 2016). Resilience has been shown to be a protective factor against mental illness (Armstrong, 2017, 2018; Shrivastava & Desousa, 2016). Resilience is "the capacity people have to adapt swiftly and successfully to stressful/traumatic events," despite adverse circumstances (Shrivastava & Desousa, 2016, p. 38). While earlier researchers suggested that resilience was strictly innate (Condly, 2006), there is promising evidence to suggest that resilience can be cultivated and developed (Armstrong, 2018; Lazarus et al., 2021; Shrivastava & Desousa, 2016). Some research suggests that high levels of resiliency may mitigate the severe symptoms or even the development of mental illness (Armstrong, 2017, 2018). Conversely, Shrivastava and Desousa (2016) have found that people with mental illness exhibit lower levels of resilience. Armstrong's (2018) research suggests that resilience can be fostered in children. In

fact, the MHCC (2012) has recommended that resilience be the key component of school-based programs. Research further suggests that programs should be carefully designed and implemented in order to foster resilience in the early development of a child's life in order to minimize the adverse effects that life's challenges may trigger (Armstrong, 2017, 2018; Lazarus et al., 2021; MHCC, 2012, 2016).

There is ample evidence that points to the notion that it is not the challenging circumstance itself that determines resilience, but rather how one responds (Condly, 2006). Individuals often respond differently to the same circumstance, and therefore may either thrive, merely survive, or be crushed altogether in a similar situation or event (Condly, 2006); COVID-19 is an example of a difficult circumstance which may prompt differing responses (Roberson, 2020). Though children in Canada are all facing the same pandemic and it's concerning effects, their varying contexts and responses to this circumstance vary (Robertson, 2020; Vaillancourt et al., 2021). It is essential, therefore, to implement ways in which resilience can be built in all children regardless of their perceived risk for mental illness, as noted previously. Furthermore, though the effects of COVID-19 may eventually fade after years of after-math repercussions (Waddell, 2020), stressful and anxiety inducing circumstances in life will not; fostering resilience may strengthen children against the inevitable challenges of life. One way in which resilience can be built in children is by developing a meaning mindset (Armstrong, 2018).

### ***Building Resilience Through a Meaning Mindset***

Living a meaningful life is associated with the development of resilience and is the main tenant of Logotherapy, a meaning-based approach to psychotherapy (Frankl, 1984). Meaning has been defined as “the extent to which people comprehend, make sense of, or see significance in their lives” (Steger, 2009, p. 682). However, “meaning” for a child may differ from the

experience of meaning for adults (St John, 2017). For a child, a meaningful life includes having hope for the future, being open to new experiences, experiencing positive self-esteem, and the sense of being able to choose one's thoughts, feelings, and behaviors (Baumeister & Wilson, 1996; Patterson, 1977; Stoddard, et al., 2011; VanderVen, 2008). Though genetic factors may contribute to a child's resilience (Condly, 2006), a meaning mindset may be cultivated in order to increase resilience (Armstrong, 2018). Meaning mindset builds off the concept of "growth-mindset" (Dweck, 2007), and it is the belief that one is capable of, and responsible for, choosing their attitudes and actions, which can in turn regulate their feelings (Armstrong, 2018).

Armstrong and Potter (*submitted manuscript*) describe meaning mindset as:

1. The belief that one is capable of, and responsible for, choosing their attitudes and actions, which can in turn regulate their feeling.
2. Openness to experiences such as learning, internal cues such as feelings, to connections with others, and to experiencing moments of awe, flow, or gratitude.
3. Hope for the future. Having a "why to live allows one to bear almost any how" (Nietzsche).
4. Positive self-concept—the belief one is worthy, as well as capable of achieving their goals though hard work, using good strategies, and seeking help from others, when needed.

Developing a meaning mindset is strongly associated with lower levels of mental illness and greater levels of well-being in children, youth, and adults (Armstrong, 2018; Armstrong & Potter, *submitted manuscript*; Frankl, 1984; St-John, 2017; Wong, 2017). Research has shown that, especially during the early developmental stages of a child's life, children would benefit from programs in which meaning mindsets can be fostered in the environments that they

frequent, such as schools (Armstrong, 2018; Armstrong & Potter, *submitted manuscript*; St-John, 2017).

As previously stated, the perceived lack of psychopathology in a child does not guarantee the absence of toxic stress and anxiety sensitivities, or the presence of happiness or well-being, and may lead to mental illness if not addressed properly (Atilgan, 2012; Lazarus, 2021; NSCDC, 2021a). It is important, therefore, to consider that a meaning mindset be fostered in children to decrease the societal prevalence of mental illness (Armstrong, 2017, 2018; Shrivastava & Desousa, 2016). Developing resilience via preventive education, either in an in-person or virtual classroom, by teaching children how to build a meaning mindset, may improve well-being and thus aiding in the potential reduction of child and youth mental illness (Armstrong, 2017, 2018; Lazarus et al., 2021). Building a sense of meaning and purpose in a child's academic environment may be fostered by helping them view academic failures and successes as opportunities for growth, building on Dweck's (2007) concept of a "growth-mindset" with a meaning mindset (Armstrong, 2018; Wong, 2017).

It may be important to note that Joanne Bezzubetz, CEO and president of mental health care hospital The Royal in Ottawa, Canada, has stated that we have entered the foreseen "fourth wave" of the pandemic: a mental health crisis (Deachman, 2021). Recent studies suggest that schools' closures and adjustments to school routines have impacted children and youth's academics and their level of movements and play, potentially causing lasting consequences to not only their physical development, but consequently their mental health as well (Aurini & Davies, 2021; Kang et al., 2021; McNamara, 2021; Moore et al., 2020; Vaillancourt et al., 2021; Whitley et al., 2013). Therefore, the development and implementation of an effective school-based program appears to be crucial, especially given the after-math effects that COVID-19 will

have on the mental health of Canadian children and youth possibly for years to come. To respond to MHCC's (2012) recommendation for resilience-focused school-based programs and backed by evidence found in over 300 studies of the impact of SEL programs for children and youth's wellbeing (i.e., Durlak et al., 2011; Jones, et al., 2015; Taylor et al., 2017), the DREAM program was developed (Armstrong, 2017, 2018).

### ***Meaning Mindset, Mental Health, and COVID-19 Coping***

Previous research has supported DREAM's potential effectiveness at increasing meaning mindset, and decreasing mental health symptoms (Armstrong, 2017, 2018; Armstrong et al., 2018), and has supported the idea that meaning mindset predicts mental health (St. John, 2017). Interestingly, more recent research suggests that meaning-based coping and spirituality also predict positive COVID-19 coping (Arslan & Yildirim, 2021; Yang et al., 2021). As the DREAM program aims to enhance meaning mindset (Armstrong et al., 2018), it should, therefore, also lead to positive COVID-19 coping, which may be particularly relevant to implement to potentially mitigate COVID-19 pandemic stressors on children and youth.

### ***Theoretical Framework of DREAM***

**Rational Emotive Attachment Logotherapy.** DREAM combines elements of Rational Emotive Behaviour Therapy (REBT), attachment theory (AT), and Logotherapy into a theoretical framework known as Rational Emotive Attachment Logotherapy ([REAL] Armstrong, 2016a, 2017), a PP2.0 approach. PP2.0 is a type of Second Wave Positive Psychology (Ivtzan et al., 2015; Wong, 2011). REAL provides the theoretical orientation and foundation for the DREAM Program under the umbrella of PP2.0. PP2.0 is based off the work of Martin Seligman (Seligman & Csikszentmihalyi, 2000), creator of positive psychology (PP). It offers a more balanced and realistic approach to PP that embraces both the positive and negative

emotions as necessary for positive human development (Wong, 2011). As a PP2.0 program, DREAM emphasizes the importance of all emotions. For example, challenging feelings may be alarm bells to suggest that there is a threat in the environment that may require a response or that children are having unhelpful thoughts which might also require a response.

In REAL, developing SEL is important (Armstrong, 2016a). This is done by helping children identify feelings using games like “emotions go-fish” in order to help them identify six basic emotions: happy, sad, angry, surprised, scared, and bothered (Armstrong, 2017). Children are encouraged to name their feelings by practicing naming the feelings that others may have in certain situations that they are presented with. Children learn that their peers may have different feelings in the same situation, reminding them that just because they may feel scared, for example, it does not mean that everyone around them feels scared, too. Using REAL as a foundation for the DREAM Program, resilience is built through developing SEL skills and a meaning mindset (Armstrong, 2016a, 2017, 2018).

***Rational Emotive Behaviour Therapy.*** REBT is a cognitive behavioural approach that aims to foster positive emotions by identifying irrational thoughts and negative thought patterns that are associated with negative emotions, and restructuring them into more rational and productive thoughts and patterns (Ellis, 1993). Ellis believed that, “It’s never the events that happen that make us disturbed, but our view of them” (Ellis, 2005, p. 259). The way we think about or view a particular circumstance may be shaped by our genetics and environmental factors, such as how our parental figures respond to certain circumstances (Murguia & Diaz, 2015). As one becomes more conscious and aware of their thoughts, individuals can learn to develop their thought processes about their circumstances, thus influencing how they feel and subsequently how they behave (Murdock, 2017). REBT is similar to other behavioural therapies,

including the well-known Cognitive Behaviour Therapy (CBT), as it is an original form of CBT (Ellis, 2004).

The ‘rational’ aspect of REBT can be viewed as more of a cognitive one in which thoughts can be changed from irrational to rational beliefs or thoughts (Murdock, 2017). In REAL, the terminology of “stinky thoughts” or “unhelpful thoughts” may be used instead of “irrational beliefs” in order to be more child-friendly (Armstrong, 2016a). The ‘emotive’ element of this theory recognizes the importance of emotions during the cognitive process (Murdock, 2017). According to REBT theorists, thoughts and emotions are interrelated and often have a “cause and effect relationship” (Ellis, 2004, p. 86). Ellis believed that simply learning insights, or thinking, was not enough to produce lasting change in an individual, hence the ‘behavioural’ aspect of this theory (Murdock, 2017). Ellis (2004) declared that REBT therapy is so effective because it involves the use of the thinking, emotive, and behavioural methods in interconnected ways. For example, when using an emotive technique, it needs to be used with a cognitive approach, and when a behavioral technique is used, it needs to be used cognitively and emotionally (Ellis, 2004).

The deliberately comprehensive nature of REBT "strives for its clients *getting better* and not merely *feeling better*" (Ellis, 2004, p. 88). Indeed, it is only through consistently putting into practice the insights learned that will yield lasting behavioural, mental, and emotional changes and outcomes (Ellis, 2004). The DREAM program aims to increase resiliency in children by helping them notice their ‘stinky’ thoughts and let go of them using a variety of relaxation techniques, as well as problem-solving and healthy thinking strategies (Armstrong, 2017). Learning how to both act and think in more helpful ways is a key psychoeducational component

of REBT that makes it suitable as a foundational theoretical model for the DREAM program (Ellis, 1993).

*Attachment Theory.* Originally developed by John Bowlby (1958, 2005), AT suggests that secure attachment to a primary caregiver or community is foundational for well-being. AT postulates that when the attachment bond between parent and child is insecure, a “delicate mechanism” in the child is disrupted and may cause mental health problems in children and adolescents, potentially leading to adulthood mental illness (Holmes, 2006, p. 62). The greatest national cause of child maltreatment in 2012 was neglect, pointing to a public health crisis that indicates an epidemic of insecurely attached children attending schools (Patton & Benedict, 2015). Furthermore, when a child is born in an environment where intergenerational trauma exists, secure attachment becomes elusive, and the cycle of trauma and insecure attachment may continue (Patton & Benedict, 2015). It becomes imperative, therefore, for a child to have corrective experiences with an attachment caregiver in order to provide them with a strong foundation for their well-being.

In many cases where secure attachment is not possible in the home, an increased sense of meaning and purpose through community engagement allows for secure attachment to occur and has been found to be a crucial element to healthy development for a child’s mental health and well-being (Armstrong, 2016a). In the context of the REAL framework, AT underlines the importance of community bonds when it comes to increasing a child’s sense of meaning and purpose (Armstrong, 2016a). Bowlby emphasizes “the importance of caregivers engaging consistently with their children in mutually enjoyable, interactive moments with one another (e.g., play).” (Patton & Benedict, 2015, p. 383). Secure attachment is reinforced when a caregiver interacts with a child via play in order to create a safe environment for the child and

subsequently create shared meaning (Booth & Winstead, 2015). Malchiodi and Crenshaw (2014) affirm that when AT is incorporated with play, and taught through SEL-building strategies, meaningful social connections can be built, thus improving well-being on a holistic level.

A community caregiver, such as a teacher, who responds to a child's need for secure attachment can foster attachment via an "interactive and relationship-based experience" in which the caregiver engages with the child using playful techniques, as incorporated in the DREAM program (Booth & Winstead, 2015, p.168). As a foundational element to forming secure attachments between a child and their caregiver, elements of adult guidance, attuned, empathic, reflective responsiveness, providing multisensory experiences, and having a playful attitude, all fit within the context of providing a child with a social experience that allows their right brain, where emotions are processed, to engage in the learning process (Booth & Winstead, 2015). Developing a secure attachment through play between a teacher and child makes attachment theory an important aspect of the theoretical framework for the DREAM program.

***Logotherapy.*** Brought forth by Viktor Frankl (1984), Logotherapy postulates that having purpose in life adds meaning, and thus may decrease mental health syndromes such as depression and suicidality. There are three tenants of Logotherapy: freedom of will, will to meaning, and meaning of life (Frankl, 1984). Frankl (1984) taught that suffering decreases when one is able to find meaning in any given situation or feel like their life has purpose and meaning in spite of challenging circumstances. For students in the DREAM program, a difficult circumstance that they may be experiencing is the distant learning and social distancing effects of the COVID-19 pandemic. Frankl (1984) teaches that the ability for an individual to choose their attitude in any given circumstance is a freedom that cannot be taken away from anyone

(Frankl, 1984). Finding meaning, in spite of the effects of a global pandemic, may be of value for children to learn.

Research has shown that this freedom of will, or the ability to choose, may be used to develop a sense of meaning, thus helpful in developing a meaning mindset (Armstrong, 2018). Much like developing a “growth mindset” (Dweck, 2016), developing a meaning mindset has been shown to both increase resilience and decrease mental illness symptoms among children (Armstrong, 2018). Meaning mindset is a belief in a future that is hopeful, a belief that one is capable and a worthy person, a belief that one can have control over thoughts and behaviors, and an openness to experiencing meaningful moments and trying new things (Armstrong, 2018). A randomized control trial in students who received group Logotherapy compared to a control group who did not, showed significantly lower levels of depression and significantly higher levels of meaning (Robatmili et al., 2015). Thus, incorporating logotherapeutic techniques that increase meaning in children may prove to have significant effects on their mental health, especially given the effects of the current pandemic.

Research has shown that children are capable of developing and connecting to their sense of meaning by identifying important people or things in their lives, learning about and practicing gratitude, identifying activities that they like to do, identifying experiences that make them feel loved, understanding the importance of their choices, and choosing more helpful thoughts (Armstrong, 2017; Kang, 2017). Furthermore, meaning-centered health education, or the development of a meaning mindset, has been found to be effective in promoting holistic health in elementary school children (Armstrong, 2017, 2018; Kang 2017). According to Kang (2017), there are five main concepts to Logotherapy: meaning in life, creativity, experiences, attitudes, choice, and responsibility. Each of these concepts are woven throughout the DREAM

program by engaging the children in creative play, inviting them to make a list of experiences they would like to have, teaching them how to find more helpful thoughts, practicing gratitude, and encouraging them to perform acts of service (Armstrong, 2017). These concepts are taught with the understanding that children are each unique and experience emotions differently (Armstrong, 2017).

Dereflection, paradoxical intention, and Socratic dialogue are three tools used in Logotherapy in order to “uncover meaning” (Armstrong, 2017, p.165; Frankl, 1984). *Dereflection* is the notion of engaging with something of value or enjoyment in order to step away from the person, situation, or thing that is causing strong emotions (Frankl, 1984). In the DREAM program, children are asked to think about a day that would cause them a great amount of distress, and then engage in a 30 second game of tossing a paper ball or balloon in the air without it hitting the ground. This simple activity teaches children dereflection by momentarily stepping away from a distressing problem and engaging in a fun activity, and then returning to the problem with a better state of mind. *Paradoxical intention* involves exposure to the situation or thing that is causing distress, often times in a humorous manner. For example, if a child is afraid of bees, they may be encouraged to learn more about bees and why they sting, thus reducing the likelihood of a child flailing their arms in fear around a bee. In the DREAM program, children are taught that avoidance increases anxiety. This concept is illustrated through the story of a squirrel avoiding the wind and a song about a child who pretends they are sick in order to stay home from school. Paradoxical intention is implied by teaching children to face their worries head on rather than avoiding them. Finally, *Socratic dialogue* involves critical thinking and questioning unhelpful thoughts. In the DREAM program, children are taught that emotions are simply alarm bells that let them know they are having a “stinky thought.” Children

are taught to identify “stinky thoughts” in hypothetical external situations and taught how to find more helpful thoughts.

Combining elements of REBT, AT, and Logotherapy, all in the context of helping build SEL skills and the development of a meaning mindset, makes REAL a strong theoretical foundation for the DREAM program. In order to validate the effectiveness of such a program, ensuring that the program leads to desired results and is acceptable to program administrators and recipients is of primary importance. As such, utilizing our target audience as collaborators throughout the development of the DREAM program has been a priority in order to ensure that the knowledge children acquire through the program translates to desired outcomes: greater resilience and mental health.

### ***Knowledge Translation and DREAM Program Development***

In order for DREAM to be incorporated into school board curriculums, it is crucial for it to produce the intended results and be deemed as a good program by its users and field experts. Unfortunately, “the creation of new knowledge often does not, on its own, lead to widespread implementation or impacts on health” and often leads to fiscal spending that adds to the economic burden (Canadian Institute for Human Research [CIHR], 2012, p. 1). It was essential, therefore, for the program to be developed using an approach that filled the gap between knowledge acquired and action taken, or knowledge translation (KT) (CIHR, 2012; Graham et al., 2006). KT describes a process that explains how one goes from knowledge acquired to action taken (CIHR, 2012; Graham et al., 2006). It is important to note that “[a]s Canada’s principal health research funding agency, CIHR plays a fundamental role in bridging the “know-do” gap and ensuring that research findings get into the hands of those who can use them” (CIHR, 2012, p. 1). Thus, researchers do well to keep the “knowledge user” in mind, meaning that those who

eventually use the research have their needs met by the research (CIHR, 2012). A limitation in past use of the KT approach is found in the “action” portion of the continuum where a “deep level of participation” from key stakeholders as evaluators is not adequately highlighted and prioritized, yet is crucial to maximize the success of a program (Donnelly et al., 2014, p. 53; Graham et al., 2006). In order to address such limitations of the KT approach, Armstrong (2017) developed an approach to program development known as the Knowledge Translation-Integrated [KTI] approach, which was used throughout the development of the DREAM program (Armstrong et al., 2018, 2019, 2020; Graham et al., 2006; Straus et al., 2013).

**Knowledge Translation-Integrated Approach.** KTI was developed using CIHR’s (2012) definition of KT as a foundation by involving knowledge users throughout the development of the DREAM program. KTI also incorporates Patton’s (1984) Utilization-Focused Evaluation model, which provides steps to involve knowledge users in evaluating a program, with a philosophy that a useful program is only as useful as the knowledge users deem it to be (Armstrong, 2009, 2017; Watt, 2020). Furthermore, KTI embraces the Joint Committee on Standards for Educational Evaluation’s ([JCSEE], 1994) claims that, in order for a program to meet the needs of its target audience, it must involve them in the creation process of the program and incorporate their suggestions as evaluators, be perceived to meet their needs, and be backed by evidence-based literature (Judd et al., 2001). By applying the KTI approach to the development, evaluation, and continual tweaking of the DREAM program, “the acceptability, feasibility, sustainability, and credibility of the program” is maximized, thus checking the boxes for program evaluation standards that have been extracted from years of previous research (Armstrong, 2017, p. 102; CIHR, 2012; Commissioner for Children and Young People, 2016; JCSEE, 1994; Judd et al., 2001; Patton, 1984). As a result, the DREAM program has included

the involvement of knowledge users, or key knowledge stakeholders, as co-creators throughout the development of the program (Armstrong, 2017; Armstrong et al., 2018).

Key stakeholders for the DREAM program include teachers who will be administering the program, school boards who will approve of program dissemination, mental health experts and practitioners who specialize in children and youth who can evaluate the program, youth committees with youth who have lived childhood mental illness experiences, parents of children participating in the program, and children who are the target audience of the program (Armstrong, 2017). Through a KTI approach, and for the purpose of this study, stakeholders are involved in determining whether the program is “acceptable, feasible, sustainable, and credible” (Armstrong, 2017, p. 101; CIHR, 2012; JCSEE, 1994; Judd et al., 2001; Patton, 1984).

*Acceptability* of the program refers to whether the aforementioned stakeholders accept the program and believe it will be helpful to meet their needs (CIHR, 2012); *feasibility* refers to the stakeholders’ ability to implement it given the time and resources at their disposal (JCSEE, 1994); *sustainability* refers to the program’s long-term ability to be self-run by teachers without the need for additional external support from program developers or mental health experts (Patton, 1984); and *credibility* refers to whether the program outcomes match with its intended purpose, such as decreasing mental illness symptoms and increasing meaning mindset in children, as well as whether the program is perceived to demonstrate face validity – does it appear to do what the researchers propose it will do (Armstrong, 2017; CIHR, 2012; Trochim, 2006).

Given that the purpose of the DREAM Program is to increase meaning mindset and decrease mental illness symptoms in children, using the KTI approach throughout the research process may be crucial to ensure its effectiveness at doing so. Furthermore, involving

stakeholders with various perspectives and professions within the scope of the program, such as youth, teachers and mental health professionals, makes the use of KTI valuable for creating a strong Canadian program that meets the standards for a credible, acceptable, feasible, and sustainable program.

### ***DREAM Program Overview***

The DREAM program was designed using REAL as its theoretical framework and the KTI approach as a standard and method for program development and evaluation (Armstrong, 2016a, 2017; Armstrong et al., 2018). The DREAM program is intended to be taught in person or online in either a classroom or community setting over an eight-week period of time, which includes eight corresponding reinforcement activities to be administered between each unit. For example, if unit one is delivered on a Monday, the unit one reinforcement activity may be delivered on Thursday of that same week. Each unit includes the use of drama, games, and/or art as a means of teaching the curriculum in an engaging and child-friendly manner (Armstrong, 2017). Additionally, each unit includes an original song whose lyrics correspond with the material learned that week (Armstrong, 2017). Each unit ranges in administration time from 20-40 minutes, depending on time available and the level of discussion received from the students. Embedded throughout all eight units are AT tools that help enhance empathy and social connectedness to the teacher and peers using play, problem solving, group-discussions, and SEL skills, with aspects of psychoeducation, Logotherapy, REBT emphasized in various ways (Desson, 2018). To summarize, the eight units of the DREAM program are as follows:

- **Unit 1 (song and drama).** In an effort to reduce stigma and promote mental health, children discuss mental health and mental illness and learn to identify

common feelings such as anger, sadness, happiness, fear, and contentment, through a drama activity (psychoeducation).

- **Unit 2 (song and game).** The objective is to help children identify their own emotions and what their feelings may tell them. Children learn that people may feel differently in the same situation (psychoeducation).
- **Unit 3 (song and art).** The objective is to reinforce the importance of sleep and to teach children that feelings can be felt in their bodies and can often be managed using simple techniques. Children are taught 5-finger breathing, imagery, progressive muscle relaxation, and how to create a “worry-time.” (Logotherapy: dereflection tools).
- **Unit 4 (song and game).** The objective is to teach children that feelings of fear or worry are like “alarm bells” that let us know we are having a thought, and not necessarily indicative that we are in danger. Children learn to confront and question their “stinky thoughts” and learn how to manage them by reinforcing unit 3 calming tools and using distraction to help change our thoughts (REBT: connection between thoughts and feelings; Logotherapy: dereflection tools).
- **Unit 5 (song and art).** The objective is to help children learn how their thoughts and feelings can work together. Through discussion about various scenarios, children brainstorm helpful versus unhelpful thoughts and apply them to their “crown of thoughts” (REBT: connection between thoughts and feelings).
- **Unit 6 (song and read-aloud story).** The objective is to teach children that avoidance increases feelings of worry and fear. Through the use of stories, children learn how to identify feelings, identify and question their thoughts, and learn that

facing their worries and fears may decrease intense emotions (REBT, connection between thoughts and feelings).

- **Unit 7 (song and art).** The objective is to help children to cultivate a meaning mindset by finding ways to help others and engage in extracurricular activities.

Children generate a list of problems in the world that bothers them, and brainstorm small acts they can do to make a difference. Children also brainstorm activities they may want to try in order to expose them to new meaningful activities (Logotherapy: meaning-making).

- **Unit 8 (song and art).** The objective is to consolidate all the information learned throughout the course, and help the children realize that they can be their own superhero as they manage difficult emotions such as fear and anger, and evoke positive emotions, such as joy and peace. Children create comic strips of various scenarios where difficult circumstances are presented, and solutions are illustrated and discussed that draw upon skills learned throughout the program (Logotherapy and REBT).

### ***Previous DREAM Program Administration: Recommendations***

Past research has explored administering the DREAM program to students in gifted students in private and Montessori school settings and to families whose child(ren) has(have) been placed on a waitlist to receiving mental health services (Armstrong, 2017; Parrott, 2020; Watt, 2020). Previous administrations of DREAM provided opportunities for key stakeholders to be involved in the creation of the program and to provide suggestions for its' improvement and further development (Armstrong, 2017; Parrott, 2020; Watt, 2020). Based on these recommendations, the DREAM program has been translated into French and the Magic Mirror

webisode series were filmed and are being produced; three webisodes having been released to date (Sound of the Muse, 2020). It is the aim of the present study to incorporate these new developments of the DREAM program and assess their credibility, acceptability, and sustainability.

## **Present Study, Research Questions, and Hypotheses**

### **Present Study**

Since its inception in 2017, the DREAM Program has undergone Needs and Evaluability Assessments with all of the aforementioned stakeholder groups in order to refine the program before it undergoes a larger scale Outcome Assessment, an important part of program development (Armstrong, 2017; Trochim, 2006). A Needs Assessment is used to determine the need for such a program to exist in the first place and determines goals for the outcome of the program, while an Evaluability Assessment is used to further refine the program and assess whether it may be ready for a larger-scale evaluation (Armstrong, 2017; Trochim, 2006). The present Evaluability Assessment aims to build on the suggested refinements from previous studies and address limitations that may further advance the DREAM program to the Outcome Assessment phase of development (Armstrong, 2017). Specifically, for the present study, the program underwent an Evaluability Assessment by delivering it using the additional developed components, namely, three accompanying videos, or webisodes, for units one, two, and three, and the option to participate in either the English or French version of the program. Both the webisodes—allowing for a teacher administration of the program, rather than a clinician administration—and the French materials (no webisodes to date) represent new elements of the DREAM program.

In the present study a mixed-methods pilot randomized control trial (RCT) was conducted that assessed whether the program was credible, acceptable, and sustainable in an online simulated school environment using the three Magic Mirror webisodes (Armstrong, 2017; Sound of the Muse, 2020). Specifically, English participants were randomly assigned to the DREAM program as usual group or the DREAM program with additional webisodes group.

French participants were not randomized, as there was only a single French group, to be compared with the non-webisode English group. Further, given the mental health challenges associated with the COVID-19 pandemic, the present study assessed whether the program helped children positively cope with the pandemic. In light of the COVID-19 restrictions, the current study was delivered during the summer months in a strictly online format by the lead researcher, an M.A. student from Saint Paul University. This was feasible given that children were used to online learning due to the COVID-19 at-home order, where children in Ontario were mandated to learn from home using online platforms for the month of January 2021 and from April to June 2021. Thus, the children were used to the technology through which the DREAM program was delivered virtually. As noted, enrolled participants were divided into three groups: one English class with just the songs and activities (control group), one English class with webisodes, songs, and activities (test group 1), and one French class with just the songs and activities (test group 2). The study was two-fold: First, we compared the two English groups and assessed whether the additional webisodes contributed over and above to meaning mindset, positive mental health, and positive COVID-19 coping, compared to the group that did not have the webisodes. In other words, we assessed whether the “teacher version” of the program (webisodes) was equivalent to the “clinician version” (clinician teaching mental health concepts), potentially easing administration of the program and allowing for wider-scale dissemination. Secondly, the French group was compared with the English non-webisode group to determine if the materials were equivalent, appearing to lead to equivalent outcomes. These two main assessments aimed to lend support to the further development of the webisodes, as well as the program in both languages. Further assessments were gathered in the form of a post-program questionnaire for both parents and children with the aim to gather qualitative feedback for the further refinement of the program

before larger-scale evaluation. To assess the credibility, acceptability, and sustainability of the program, the following questions and hypotheses were formulated.

## **Research Questions & Hypotheses**

### *Quantitative:*

**(1) Credibility: Does the DREAM program appear to enhance self-reported resilience: i.e., enhance meaning mindset, decrease mental illness symptoms, and increase positive COVID-19 coping in children ages 7 to 11? Does an increase in self-reported meaning mindset predict a corresponding decrease in self-reported mental illness symptoms and an increase in self-reported positive COVID-19 coping?** As mentioned earlier, previous research yielded findings to suggest that the DREAM program enhances meaning mindset and mental health (Armstrong et al., 2018). Further, previous research noted that a sense of meaning is important for COVID-19 coping (Arslan & Yildirim, 2021; Yang et al., 2021). Given that the DREAM program intends to improve meaning mindset (Armstrong et al., 2018), it is likely that it will improve COVID-19 coping, as well. Given this literature, it was hypothesized that the DREAM program would appear to improve meaning mindset, decrease mental illness symptoms, and improve COVID-19 coping from pre-test to post-test. Further, based on previous research that suggests that meaning mindset predicts mental health (St. John, 2017) and, for adults, that meaning-based coping and spirituality predicts positive COVID-19 coping (Arslan & Yildirim, 2021; Yang et al., 2021), it was expected that positive meaning mindset would negatively predict mental illness symptoms and positive COVID-19 coping in children. In other words, it was predicted that promoting a meaning mindset through the DREAM program would potentially decrease self-reported mental illness symptoms and improve self-reported positive COVID-19 coping in children ages 7 to 11.

**(2) Credibility: Do the accompanying three English webisodes contribute over and above the DREAM program activities to promote meaning mindset, mental health, and COVID-19 coping in children ages 7 to 11?** It was hypothesized that there would be no difference between the group with or without webisodes given that the purpose of videos was the ease administration for teachers, not requiring “train the trainer” for delivery of mental health knowledge, given that the webisodes deliver the mental health information, rather than the teacher having to learn the information and provide the content of the video on their own. The non-webisode version of the program was student-clinician delivered in this study, thus providing comparable content to the group with webisodes: Specifically, the non-webisode clinician version contained the information that is in the webisodes, but taught live. To date, the DREAM program has always been clinician-delivered, making it less widely distributable, as teachers would not have been able to use the program without training. The hope was that the webisodes would produce similar results to the clinician-delivered program without webisodes, so that the program could be used by teachers with confidence that it would lead to the desired short-term program goals, similar to the clinician-delivered version.

**(3) Credibility: Does the French translation appear to enhance pre-post DREAM Program meaning mindset, mental health, and COVID-19 coping, similar to the English program in children ages 7 to 11?** It was hypothesized that the French group without the webisodes would report similar positive changes in meaning mindset, mental health, and COVID-19 coping to the English group with no webisodes. This finding would suggest that the French translation of materials may be appropriately similar to the English version.

**(4) Acceptability: Did the children enjoy the program? How many stars would the children and parents rate the program?** Based on past feedback about the program (i.e.,

Armstrong et al., 2018), it was hypothesized that the majority of the children would enjoy the program and, therefore, they and their parents would rate it favorably even though the administration was virtual instead of in-person, as opposed to past administrations being in-person.

### *Qualitative*

As the qualitative questions were considered to be feedback oriented in nature, no hypotheses were drawn in their regard. However, the main research question was: Do the knowledge users perceived the DREAM program to be acceptable, credible, and sustainable? The following specific questions were asked to explore this research question, following a KTI protocol:

#### **(1) Acceptability (children):**

1. What did you enjoy about the program?
2. What would you suggest changing?
3. Do you think that schools should teach the DREAM program to students your age? Why or why not?

#### **(2) Acceptability (parents):**

1. What did your child(ren) enjoy about the program?
2. What would you suggest changing?
3. Would you endorse this program in a school environment?

#### **(3) Credibility (parents):**

1. Did you notice any positive changes at home?

**(4) Sustainability (parents):**

1. Did you notice that, if there were positive changes, they are occurring regularly (rather than simply one time)?
2. How has this changed your family environment?

## Methodology

### Participants

Although the bulk of the participants in this study were from Ottawa, Canada, the virtual nature of this study made it possible for children from all over Canada and the United States to participate. The only requirements for participation were that children be between the ages of 7 and 11 and that they spoke either English or French fluently. Children who were six and turning seven during the year, or those who had just recently turned 12, were also accepted. The mean age of the participants who completed the program was seven years. There were 63 initial applicants to the DREAM program, 55 children who attended at least one week of the program, and 42 who completed the full 8-week program. Out of the 42 children who completed the program, 33 chose to complete the pre- and post-test questionnaires, and 31 parents completed the post-test questionnaire. Out of the 33 children who completed the pre- and post-test questionnaires, 11 belonged to the English group with webisodes, 10 belonged to the English group with no webisodes, and 12 belonged to the French group with no webisodes. Demographic characteristics of children who completed DREAM program can be found in Table 1. Given that results are based on those who completed the pre- and post-test questionnaires, the following demographics represent the completed sample (N=33). The majority of participants, or 75%, were girls. Ethnicities represented were 55% White, 15% Asian and White, 12% Black and White, with the remaining 18% being Black, Hispanic, or Other. Parents of the children who completed the program appeared to be highly educated, 67% of them having completed a master's degree or higher and 30% of them having completed a four- or five-year degree post-secondary degree.

## **Sampling Procedure**

In an attempt to recruit children from varying gender, socioeconomic, and cultural backgrounds, participants were recruited through various channels. Specifically, Facebook was used to advertise the DREAM Program using a poster advertisement and registration link. Posts were also made in parenting groups throughout Ottawa. Other local organizations that work with children were also contacted and invited to share the information with their networks, including Crossroads Children's Centre, Boys and Girls Club of Ottawa, the Ottawa Academy of Psychology listserv, the YMCA, Le Cap, and La Maison de la Francophonie. All applications were reviewed by the lead-researcher to ensure participants met the inclusion criteria. As noted, the inclusion criteria for participation included that the child was born between 2009 and 2014 and the child must speak French or English fluently. Parents whose children met the inclusion criteria were emailed a detailed online consent form that included the purpose, the benefits and risks of participating, and further information about the program and the study. It also included an agreement that their child watch the online recording of the week's lesson should they miss a class and to complete the weekly reinforcement activity. The parental consent form was followed by the pre-test questionnaires for their child to complete: measures for meaning mindset, mental illness symptoms, and COVID-19 coping. Children who agreed to complete both questionnaires were entered into a draw to win one of two \$25 amazon gift cards. Parents who filled out the survey post-program questionnaire added an additional entry for their child to the draw for one of two \$25 amazon gift cards. The Research Ethics Board Certificate and Parental Informed Consent can be found in Appendices A and B, respectively.

## Measures

The purpose of the DREAM Program is to build resilience by increasing meaning mindset and decreasing mental illness symptoms (Armstrong, 2017). In order to measure the credibility, acceptability, and sustainability of the program, Survey Monkey was used as a platform to administer pre- and post-test measures. A mixed-methods approach was used to gather data and analyze the results of this study, using both quantitative and qualitative survey measures.

### *Quantitative Measures*

**Credibility (children).** To measure the credibility of the program, or measure whether the program is doing what it is designed to do, three quantitative measures were used to assess meaning mindset, mental illness symptoms, and positive COVID-19 coping: Meaning mindset was measured using the Child Identity and Purpose Questionnaire-Interactive ([ChIP-I] Armstrong, 2016b; Armstrong et al., 2019), mental illness symptoms were measured using the Interactive Symptom Assessment-Interactive ([ISA-I] Armstrong, 2016a; Armstrong et al., 2020; St-John, 2017), and COVID-19 coping was assessed using the Children's COVID-19 Coping Survey ([3CS] Armstrong & Potter, *submitted manuscript*). Each of the three measures has a button that the child slides between scores of 0 to 10, depending on the question being asked. Given that the DREAM program is both partly developed by and for children, it was important to use a self-report measuring tool that was "widely-accessible, visually stimulating [and] that can engage children in the evaluation of their own well-being" (Armstrong et al., 2020, p. 4). Each of the three measures are described in greater detail below.

**ChIP-I.** ChIP-I (short form) is a 12-item questionnaire that is video-based and child friendly, asking the child to identify which character in each of the 12 videos they are most like (Armstrong et al., 2019). The closer they slide the button toward the 0, the lower their meaning mindset, and the closer they slide the button towards the number 10, the higher their meaning mindset. The ChIP-I questionnaire asks questions relating to hope for the future, openness to new experiences, self-esteem, and a sense of agency over thoughts, feelings, and behaviors. For example, a question from the ChIP-I questionnaire asks, “*Chip likes to try new things and learn new things. Ceira likes to stick with things that she knows.*” The child answering the survey would either slide the button towards the 10 if they were more like Chip, or towards the 0 if they were more like Ciera (See Appendix C for the ChIP-I questionnaire).

**ISA-I.** Much like the ChIP-I (short form), the ISA-I (short form) is also a 12-item questionnaire that is video-based and child friendly, asking the child to identify which character in the video they are most like (Armstrong et al., 2020). The closer they slide the button towards the 10, the higher their mental illness symptom score, meaning the poorer their mental health for that particular item. The closer they slide the button towards the 0, the more positive their mental health for a particular item. The ISA-I questionnaire asks questions relating to internalizing and externalizing symptoms (Atilgan, 2012; Armstrong et al., 2020). For example, a question from the ISA-I questionnaire asks, “*Eibe was not worried this week. Isa was feeling worried a lot this week.*” If the child identified more with Eibe, they would move the slider towards the 0, and if they identified more with Isa, they would move the slider towards the 10 (See Appendix D for the ISA-I questionnaire).

**3CS.** The 3CS is a 4-item measure that asks questions relating to how the child is coping with the COVID-19 pandemic (Armstrong & Potter, *submitted manuscript*). The closer the

child's slides the button towards the 0, the lower their ability to cope with the effects of COVID-19. The closer they slide the button towards to 10, the better they are at coping with a particular aspect of the COVID-19 pandemic. For example, a question from the 3CS questionnaire asks, "*If you were feeling stressed about the COVID-19 pandemic, you would be able to help yourself feel less stressed.*" The child would answer the question by moving the slider towards the 10 if they agreed with the statement, or towards the 0 if they did not (See Appendix E for the 3CS questionnaire).

The ChIP-I, ISA-I and 3CS questionnaires were administered twice: once as a pre-test and once as a post-test following the final unit of the program. In past research (Armstrong et al., 2019, 2020), Cronbach's internal consistency reliability, content validity, and face validity were good for all measures, at .82 for ChIP-I, .83 for ISA-I, and .88 for 3CS. Comparably, in the present study, the internal consistency reliability is similar to that in the past research, at .84 for ChIP-I, .81 for ISA-I, and .88 for 3CS. Obsessive behaviours and concerns were notable in the present sample. Reliability in the present study may, thus, have been somewhat lower than in past research. Obsessive behaviours and worry about dirt, germs, getting sick have been more notable during the pandemic (Leotti et al., 2021).

**Acceptability (children and parents).** At the end of the program, children and parents were asked if they enjoyed the program (yes or no), and how many stars they would rate the program.

### ***Qualitative Measures***

As discussed previously, a KTI approach was used to involve key stakeholders' opinions and suggestions in order to support the programs credibility, acceptability, and sustainability.

Qualitative questions were asked to the children after completion of the eight-week program in order to measure acceptability and sustainability of the program from both the children and parents' perspectives. The questions are listed above, under the Qualitative section of the Research Questions.

## **Statistical Analyses**

### ***Quantitative analyses.***

The quantitative data was analyzed using repeated measures t-tests in order to assess pre to post meaning mindset (ChIP-I), mental illness symptoms (ISA-I), and COVID-19 coping (3CS). Further, multiple regression analyses were conducted to determine if meaning mindset outcome scores inversely predicted mental illness symptom outcome scores and predicted positive COVID-19 coping, as suggested by past research, noted previously. To explore interaction effects between types of groups (English with and without webisodes and French), in order to determine if program version type potentially interacted with outcomes, ANCOVAs were conducted. Specifically, for a 2x3 ANCOVA, pre-test scores were entered as covariates, post-test scores were entered as the outcome variable, and groups were entered as the fixed factor. Two ANCOVAs were conducted: One for the two English groups (webisode versus no-webisode groups for the three outcome variables), and one for the English and French groups (no-webisode groups for the three outcome variables). These analysis methods allowed for the reporting of effect sizes and confidence intervals, as well as to show the relevant patterns and correlations to assess whether the program appears to lead to the desired short-term outcomes depicted in the program Logic Model (See Appendix F for program Logic Model).

Data screening and cleaning of the quantitative data were carried out with SPSS 28 for Windows. Data were examined prior to conducting statistical analyses. Screening and cleaning assessed for identifying invalid scores and outliers, reverse coding, addressing missing data, and examining normality assumptions. Specifically, invalid scores and outliers were identified using an SPSS frequency analysis to see if any scores existed outside the minimum or maximum scores allowed by the questionnaires; no such data errors existed. Only the data of those who completed the program and who completed both the pre- and post-test questionnaires were used, which eliminated 9 of the participants in the final data analysis. Though 42 children completed the program, the final sample size for the quantitative analysis was  $N=33$ . Where less than 25% of data was missing in a particular measure for a participant, Jakobsen et al.'s (2017) statistical guidelines were used to replace missing data using mean replacement, or simple mean imputation, to minimize potential bias. Although there can be some risk of underestimating unknown variables with this method (Jakobsen et al., 2017), the risk appeared to be minimal given there were only two participants missing two items each and the potential variability was low.

Skewness and kurtosis significance tests for normality were also carried out on total scores. No variables had a significant kurtosis or skewness outside of what is considered to be acceptable for normal distribution, between  $-2$  and  $+2$  (George & Mallery, 2010). Given that data was normally distributed, t-tests were appropriate for the current small sample size. However, it should be noted that, with a small sample size, power is reduced, and correlations may be slightly diminished (Cohen et al., 2003; Tabachnick et al., 2019). To prevent Type II statistical errors due to potentially diminished correlations with non-transformed variables, alpha for analyses was set at .05, rather than a more stringent .01.

### *Qualitative analyses.*

In order to enhance validity, and with the aim of minimizing potential bias of the analysis of the qualitative data, Braun & Clarke's (2006) six steps to thematic analysis and Holton's (2010) grounded theory were incorporated and were then reviewed by three informants. The first reviewer (lead researcher) began by becoming familiar with the data by reading and highlighting key words to generate themes. Further, responses were coded using the key words, and further grouped into themes. A process of revising, merging, and re-grouping the quotations multiple times before solidifying the themes was applied. Emerging themes were compared and contrasted to other themes that emerged. Themes were then defined to ensure they were understandable and distinct from the others. Finally, exact quotations were incorporated into the results to represent the theme. Themes of more than 60% of the data subset were reviewed by a second and third reviewer to determine if they generated the same themes. The lead researcher is a Psychotherapy Masters student, identifies as female, is white, and lives in Ottawa, Canada. The second reviewer is a professor and clinical psychologist at a Canadian University, identified as female, is white, and lives in Ottawa, Canada. The third reviewer is a health high school health teacher, identifies as male, is white, and lives in Ottawa, Canada. It is important to note that with a grounded theory approach comes the potential for natural bias to occur. However, multiple informants were used to minimize the potential for bias. Specifically, the interrater agreement aimed to reduce bias from the researchers, supporting the validity and reliability of analyses. An interrater agreement of 75% was considered acceptable (Statistics How To, 2016).

## Results

### Complete Versus Incomplete Groups

As mentioned previously, there were 63 initial applicants to the program who completed the pre-tests, 55 who came to at least the first class, 42 who completed the program (attended four or more classes and watched the online recordings of missed classes), and 33 who both completed the program and filled out both the pre- and post-test questionnaires. When comparing the pre-test meaning mindset, mental health, and COVID-19 coping scores of the complete group (N=33) versus the incomplete group (N=30), a t-test comparison of the pre-test scores of those who did not complete the program were not significantly different from those who did complete the program ( $p > .05$ ). Therefore, there does not appear to be anything unique about program non-completers (i.e., no poorer mental health status) that would suggest a poorer fit of the program for a particular population subset (See Table 2).

### Quantitative Analyses

To measure the credibility of the program, meaning mindset, mental illness symptoms, and COVID-19 coping were assessed from pre-test to post-test. Refer to Table 3 and Table 4 for the means, standard deviations, and correlations among these variables.

***1) Credibility: Does the DREAM program appear to enhance self-reported resilience: i.e., enhance meaning mindset, decrease mental illness symptoms, and increase positive COVID-19 coping in children ages 7 to 11?***

**Meaning mindset.** Meaning mindset was measured using the ChIP-I questionnaire both pre- and post-test (Armstrong et al., 2019). A significant positive change in meaning mindset was noted from pre-test to post-test ( $p < .001$ ). Specifically, the results of a paired samples t-test ( $t = -8.11, p < .001, CI_{95} = -16.72, -10.00$ ) between pre- and post-test results yielded a large

effect size, Cohen's  $d = -1.41$ . Pre-test and post-test means were 75.82 ( $sd = 19.45$ ) and 89.18 ( $sd = 19.97$ ), respectively (See Table 3). Therefore, meaning mindset appeared to significantly increase from before to after the administration of the DREAM program.

**Mental health.** Mental illness symptoms were measured using the ISA-I questionnaire pre- and post-test (Armstrong et al., 2020). Similar to meaning mindset, a significant decrease in self-reported mental illness symptoms was noted ( $p < .001$ ). Results of a paired samples t-test ( $t = 3.879$ ,  $p < .001$ ,  $CI_{95} = 4.20, 13.49$ ) yielded a large effect size, Cohen's  $d = .68$ . Pre- and post-test means were 46.12 ( $sd = 20.30$ ) and 37.27 ( $sd = 16.53$ ), respectively (See Table 3). Therefore, self-reported mental illness scores appeared to significantly decrease from before to after the administration of the DREAM program.

**COVID-19 Coping.** For COVID-19 coping, results of a paired samples t-test ( $t = -5.87$ ,  $p < .001$ ,  $CI_{95} = -11.43, -5.54$ ) yielded a large effect size, Cohen's  $d = -1.02$ . Pre- and post-test means were 20.58 ( $sd = 9.73$ ) and 29.06 ( $sd = 6.40$ ), respectively (See Table 3). Therefore, positive COVID-19 coping scores appeared to significantly increase from before to after the administration of the DREAM program.

***Credibility. Does an increase in self-reported meaning mindset predict a corresponding decrease in self-reported mental illness symptoms and an increase in self-reported positive COVID-19 coping?***

**Meaning Mindset Prediction.** Given that there were significant correlations between the three main variables in the study at both pre-test and at post-test (Table 3), sequential multiple regression analyses were conducted to see if a change in meaning mindset scores inversely predicted mental illness symptom and COVID-19 coping outcome scores,  $F_{(1, 31)} = 27.91$ ,  $p <$

.001,  $\eta_p^2 = -.69$ . and  $F_{(1, 31)} = 15.40$ ,  $p < .001$ ,  $\eta_p^2 = .58$ , respectively. An increase of a score of one on the meaning mindset measure predicted a decrease of .69 on the mental illness symptom measure and a change of .58 on the positive COVID-19 coping measure. This supports the hypothesis that meaning mindset predicts positive mental health and positive COVID-19 coping. Specifically, as meaning mindset scores increase, mental illness symptoms decrease and COVID-19 coping increases as well.

***2) Credibility: Do the accompanying three English webisodes contribute over and above the DREAM program activities to promote meaning mindset, mental health, and COVID-19 coping in children ages 7 to 11?***

Assumptions were predominantly met for running an ANCOVA for most of the variables. However, at pre-test, mental illness symptom scores were lower for children in the webisode group than in children in the non-webisode group (See Table 5). Thus, the assumption of equivalent groups was not met for this particular variable. The potential risk of using an ANCOVA under this circumstance is that results may be slightly attenuated. However, as noted with the findings below, group differences were far from approaching significance for the mental health variable ( $p > .05$ ), meaning that even with slightly less attenuated results, we likely would not have had significant group differences. Therefore, results of the ANCOVAs were interpretable.

Two 2x3 ANCOVAs were conducted where pre-test scores were entered as covariates, groups were entered in between groups, and the three factors were meaning mindset, mental health, and COVID-19 coping. For the two English groups (webisode versus non-webisode), the non-significant interaction results showed that group type appeared to contribute equally to meaning mindset ( $F = .07$ ,  $p = .79$ ), mental health ( $F = .00$ ,  $p = .97$ ), and COVID-19 coping ( $F =$

.220,  $p = .64$ ), and therefore group differences were non-significant for all three measures. This demonstrates that the webisodes (“teacher program”) may be a rather close equivalent to the original program (“clinician-administered program”) where extensive training would have been necessary to carry out the program without the mental health education webisodes. Therefore, results support that the program with webisodes is the same as the program without webisodes, meaning that the English group with webisodes yielded similar results as the English group without webisodes. This supports the hypothesis that there would be no group differences between the group with and the groups without the webisodes (See Table 5 for more detailed results).

***3) Credibility: Does the French translation appear to enhance pre-post DREAM Program meaning mindset, mental health, and COVID-19 coping, similar to the English program in children ages 7 to 11?***

Assumptions were met for the ANCOVA, with the exception of inequivalent groups for the mental illness variable. Specifically, the French group had significantly greater mental illness symptoms at pre-test than the English group at pre-test. As mentioned previously, the use of an ANCOVA means that a possibility of slightly attenuated results exists, however, the results revealed that group differences did not approach significance ( $p > .05$ ).

A 2x3 ANVOCA was conducted where pre-test scores were entered as covariates, groups were entered in between groups, and the three factors were meaning mindset, mental health, and COVID-19 coping. The results of the ANCOVA between the French and English program without webisodes for enhancing meaning mindset, positive mental health, and COVID-19 coping revealed no significant group differences regarding change from pre-test to post test. For both groups, the interactions between groups and meaning mindset ( $F = .89, p = .36$ ), mental

health ( $F = .00, p = .96$ ), and COVID-19 coping ( $F = 2.82, p = .11$ ), were non-significant. This supports the hypothesis, therefore, that the French translation appears to be equivalent to its English counterpart at enhancing meaning mindset, positive mental health, and positive COVID-19 coping.

***4) Acceptability: Did the children enjoy the program? How many stars would the children and parents rate the DREAM program?***

**Children.** Although there were 33 children who completed both the pre- and post-test questionnaires, there were 41 total children who responded to the qualitative portion of the post-test questionnaire. Eight of those children, however, did not complete, or completed less than half, of the pre- and post-test questionnaires, and therefore could not be included in the overall quantitative results that measured meaning mindset, mental illness symptoms, and COVID-19 coping. Those eight children, however, could be included in the qualitative portions of the analyses, as follows. Of all the children who completed the post-test questionnaire ( $N = 41$ ), 39 out of 41 of them, or 95%, indicated that they enjoyed the program, meaning that the DREAM program appears to be acceptable to the program users. It is interesting to note that 100% of the French students stated that they enjoyed the program ( $N = 10$ ). The program was given a 4.3 out of 5-star rating by the children, both in the French group and in the English groups.

**Parents.** Of the parents who completed the questionnaire ( $N = 31$ ), 29 out of 31 of them, or 94%, indicated that their child enjoyed the program. The same two children who indicated that they did not enjoy the DREAM program in the child post-test questionnaire, were the same two children whose parents stated that their child did not enjoy the program. The program was given a 4.4 out of a 5-star rating from the English group parents ( $N = 23$ ), and a 4.5 out of a 5-star rating from the French group parents ( $N = 8$ ).

**Both.** Collectively between the parents and the children, the program was given a 4.4 out of 5-star rating. Taking both the children and the parents acceptance scores into account, therefore, it appears that there were no notable discrepancies between the children's ratings and the parents' ratings of the program.

### **Qualitative Analyses**

In order to continue to develop the DREAM program, the qualitative questions delivered in the post-test survey were used to assess the acceptability, credibility, and sustainability of the program. In the post-test questionnaire, knowledge users (children and parents) were asked qualitative questions in regards to their experience with the DREAM program. Child and parental responses to the qualitative questions were reviewed and coded into themes by the lead researcher, a second rater, and reviewed by the acting supervisor as a fact-checker. The interrater agreement was 100%. It is important to note that several quotations from the questionnaire addressed more than one category or theme; therefore, for the purpose of organization, some sentences have been divided and organized accordingly.

#### ***Acceptability (children):***

In order for the program to do what it is intended to do, it needs to be acceptable to children. These following questions assessed the acceptability of the program from a knowledge user perspective, a crucial element to the KTI approach.

- 1. What did you enjoy about the DREAM program?** Specifically, there were 67 responses to what the children enjoyed. The themes that emerged were:

***(1) Knowledge and tools to cope and feel better, with 12 mentions.*** The majority of the comments referred to the information learned and hands-on coping strategies that the children

were taught throughout the program, such as five-finger breathing, anger management, and guided imagery. The following are some examples of what the students stated regarding what they learned, and how they perceive that it affected their well-being:

- *“Some of the tools to reduce stress, like breathing while drawing the circumference of your hand.”*
- *“I liked...the tips that I can use at home or school.”*
- *“I liked...the tips that she taught us about being anxious.”*
- *“Learning how to control my emotions.”*
- *“I enjoyed the strategies for when your upset.”*
- *“I liked the program because it took away a lot of stress and anxiety.”*

(2) **Webisodes, with 12 mentions.** At the end of the third unit, students who belonged to the group with webisodes were asked if the webisodes made DREAM better, worse, or the same. Seven out of twelve, or 58%, stated that it made DREAM better, and five out of twelve, or 42% stated that it made DREAM the same; none of the students stated that the webisodes made the DREAM program worse. Out of 12 students who viewed the three webisodes in units one, two and three, eight of them stated that they liked all three, two stated that they preferred unit three above the others, and one each stated that they preferred units 1 and 2 above the others.

Examples of what the children stated were as follows:

- *“It makes the class better.”*
- *“I enjoyed the meditation,”* referring to the meditation in the webisode.
- *“It makes the class better yea.”*
- *“I liked it because we are the only ones who can see it.”*

**(3) Games and activities, with 11 mentions.** In addition to learning coping tools and strategies, the children participated in games, such as “feelings go fish,” were read books, such as “The Worry Wind,” and did some crafts, such as the “crown of thoughts.” Below are some of the comments pertaining to this theme:

- *“I liked the games.”*
- *“I enjoyed the crown of thought.”*
- *“[DREAM] had lots of activities.”*

**(4) Songs, with nine mentions.** Each class was accompanied by a song that corresponded with the theme of the class, such as “Worry Shark,” “Just Like Me,” and “No School Today.” Of the children who did enjoy the songs, here are examples of what they said:

- *“I liked the songs too.”*
- *“Music.”*

**(5) “Everything,” with six mentions.** Some students simply stated that they enjoyed everything about the program:

- *“Everything!”*
- *“Really everything.”*

**(6) Miscellaneous.** For the remainder of the categories with five mentions or less in order from most mentions to least mentions, children stated that they enjoyed the groups discussion, the connection to their peers, the teacher, and that it was interesting and fun. Some examples of what the students mentioned they enjoyed were:

- *“Seeing other people.”*

- *“I liked our teacher.”*
- *“Just talking.”*
- *“The discussion about the songs.”*
- *“It was fun.”*

**2. What do you suggest we change about the DREAM program?** The majority of the students had no suggestions in regards to changing the DREAM program. Other mentions included, improving the webisodes, having more friends in the program, having more fun activities, being in person, more classes, more tools, and more discussion. In order of most mentions to the least are: nothing, songs, webisodes, and miscellaneous. Below are some examples of the comments made within these themes.

**(1) Nothing, with 23 mentions.** Out of 42 responses, 55% of the students, or 23, stated that they would change “nothing.”

- “Nothing I really enjoyed it!”
- “Nothing I think it’s great.”

**(2) Songs, with six mentions.** The most often mentioned suggestion for changes had to do with the songs. It is important to note that those who did not like the songs were mostly 11- years-olds, and one participant was 6. These results may signify that the songs were found to be more acceptable to the middle age range demographic of this sample, ages 7 to 10, as no complaints about the songs were found among this age group.

- *“I think that I would enjoy DREAM more if there were less or no songs, but other than that it is good.”* 11-year-old
- *“I think we should change some songs to shorter”* 6- and 9-year-old (2 mentions)

- *“I liked the songs. But not the sleeping song.”* 6-year-old
- *“I think we should change to no songs.”* 11-year-old

**(3) Add Webisodes, with three mentions.** These suggestions came mostly from students belonging to the group with no webisodes, and one student from the group with webisodes who stated that they would enjoy having more than the three provided.

- *“It would be cool if you add a webisode.”*
- *“More videos.”*

**(4) Miscellaneous suggestions for improvement, with six individual mentions:**

- *“Well I think it would be better in person so we could all be together and meet people like us.”*
- *“More fun activities.”*
- *“Maybe make it more designed for older kids... more tools.”*
- *“Let more friends of mine join in.”*
- *“The comic: I want it so that there’s at least one sheet where kids can make their own comic.”*
- *“I want more days to learn.”*

**3. Do you think your school should teach the DREAM program to all students your age? Why or why not?** The results revealed that 80% of children believed that this program would be beneficial in schools, providing no explanations as to why they believed as such. Of the 20% who stated that they do not think it should be taught in schools, one major theme emerged, and other explanations were offered, as follows:

**(1) No time/not the right environment, with six mentions:**

- *“Our time is very packed already at school.”*
- *“I’m already ending school at 3:50.”*
- *“Because school is more math and writing and academic stuff.”*
- *“I think that it would be harder to learn it in real life classroom.”*

**(2) Miscellaneous, with three mentions:**

- *“My friends don’t really have issues”*
- *“Yes and no. I want to meet new people and this could be good, but I’m afraid of new people and school already has a lot of people and is already scary so adding more people is really scary.”*
- *“Because I’ve done it, and I wouldn’t want to do it all over again.”*

**Acceptability (parents)**

In order to get a fuller and perhaps more accurate picture of how this program appeared to potentially benefit the children, and thus further evaluate the program’s acceptability, credibility, and sustainability, parents were asked to answer a questionnaire during the week following their child(ren)’s completion of the DREAM program. Quotations that are marked with an asterisk (\*) were originally French responses that were translated into English using Google Translate, and then verified by the lead researcher who is a native French speaker.

Results of parental acceptability of the DREAM program are as follows:

1. **What did your child enjoy about the DREAM program?** As stated in the fourth quantitative question of the results, 94% of parents stated that their child enjoyed the program, matching the results of their children’s self-reports in the post-test survey. Given that children had the opportunity to share directly what they enjoyed about the

program in their post-test questionnaire, parents were not explicitly asked what their child(ren) enjoyed about the program. Some, however, offered comments in conjunction with the question, “did your child enjoy the program?”, as follows:

**(1) Yes**

- *“She would take the class again if she could.”*
- *“She especially liked the songs and talking about the songs.”*
- *“He enjoyed the games and activities.”*
- *“[She] had a hard time attending the program. She stated that she did not want to do the class but did enjoy her time while in the sessions.”*
- *“Overall she enjoyed the program. She wasn't always excited to have to go to the classes, but she always enjoyed the classes once she was there. I asked her if overall she enjoyed the program and she said yes.”*

**(2) No**

- *“She had a horrible attitude about it. It wasn't the program. She just wasn't open to getting anything out of it until she actually met [the teacher] in person.”*
- *“Not particularly. He was not invested.”*

**2. What do you feel could be improved?** In contrast to the children’s responses, only three out of 31 parents stated “nothing.” The remainder of the parents’ responses were divided into five overall themes in order from most mentions to the least mentions: age-appropriate content, online administration, program delivery and improvement, parental involvement, and survey. Each theme is elaborated upon below:

**(1) Age-appropriate content, 8 mentions.** Several parents commented on the age range of the children in the class. Though the class was advertised for children ages 7 to 11, we had a few who were six or twelve. The parents of many of the children aged 6, 11, and 12 stated that the content of the classes was either too old or too young, respectively, for their child.

Some comments included:

- Parent of a 6-year-old, *“often the activities and student participation discussions felt more targeted for the older kids and he lost interest in participating - although we would often play our own version at home. He’s still not turned 7, and I could see he didn’t really connect with the discussion or questions that were suitable for the older kids in the group. Perhaps the age range for the discussions and activities was a little too wide.”*
- Parent of a 6-year-old, *“...she did not like the discussions as she found them hard to follow and not grasping the concepts after when asked....Make it accessible to students that cannot read or write... At times this made it challenging for her-without parent assistance -More visuals would make it easier for the concepts to be understood.”*
- Parent of a 7-year-old, *“I might make a model for 7-9 year old's and another for 10-11 year old's.”\**
- A parents of a 11-year-old stated that their child was *“on the cusp of being too old for some of the programming - mainly didn't seem to resonate with the music as much as younger children would. I'd be interested in what the DREAM program looks like for older children.”*

- Parent of a 11- and 10-year-old, *“Some of the videos and songs better relate to a younger age group...not 10-11.”*
- Parent of an 11-year-old, *“she felt a few of the exercises in the first weeks about naming emotions were below her grade level.”*

**(2) Online administration challenges and interaction, with six mentions.** The DREAM program was intended to be delivered in-person and in an existing classroom. The following comments pertain to technical challenges as well as an overall preference for an in-person class in order to increase interaction amongst the children and teacher.

- *“I think that the program would be best delivered in person - not something within control at the moment but it would add a lot to the interaction.”*
- *“More tech for better interaction.”*
- *“The YouTube videos which were part of the class did not broadcast well through zoom - choppy and sync problems - he lost interest in those parts - but enjoyed watching parts of it again afterwards on YouTube. If a virtual class is planned for this in the future, then a more suitable video broadcast could improve the experience.”*
- *“Opportunities for kids to talk/play with each other more directly. She only really registered you as presenter than as a person to talk to.”*

**(3) Program delivery and communication suggestions, with five mentions.** On the day of the classes, the lead researcher would send a reminder email to parents two hours before the start time; this email also included materials required for the class. Some parents suggested that the material list be sent ahead of time. Suggestions about class length,

improvement of an activity, and visual improvement of emails were also mentioned, as follows:

- *“A bit more advance notice than the morning of for instructions/required supplies for that morning's class.”*
- *“While in a class, I would make smaller capsules to ensure attention. I think it could be done in 16 small workshops of 30 minutes maximum.” \**
- *“Very minor suggestion, maybe the drawing on the last set of handouts.”  
Referring to the comic.*
- *“The Weekly graph wasn't always aligned symmetrically. This was visually disturbing and interrupted the process.”*

**(4) Parental involvement, with three mentions.** A few parents made mentions of wanting to receive more information about their child's progress and learnings, in order to reinforce concepts at home. Comments included:

- *“I didn't have time to watch the recordings myself, but would have appreciated a summary of my child's participation.”*
- *“Make a one page printout for homework each week with a summary of concepts so parents can discuss and follow through.”*

**(5) Survey, with three mentions.** Two parents mentioned frustrations particularly regarding the length and confusing nature of the pre- and post-questionnaires. Another parent decided not to allow their child to participate in the DREAM program due to concerns in the survey questions, as stated in the last bullet point.

- *“Fewer questions for the survey at the end of the course. The boys lost interest part-way through and it became difficult for them to complete it.”*
- *“The wording in the children pre and post was confusing. It stated to click where you most identified but then you had to use a slider. Without careful oversight my child’s responses wouldn’t have reflected her verbalized answer.”*
- *“The questions being asked as well as the short videos to support the questions made me uncomfortable moving forward with our participation. For example, questions such as asking a child’s feelings like their life has no worth, hoping to be someone else and thinking their life has no important in the eyes of others made me very uncomfortable and concerned.”*

### **3. Is this a program you would endorse your child participating in a school**

**environment?** Out of the 31 parents who completed this question, 30 of them, or 97%, stated that they would endorse this program in a school environment. The parent who stated that they would not endorse it has a child with special needs, and expresses her concerns in the first bullet point below. Another comment was in regards to the age appropriateness of the content for a six-year-old child (second bullet point), and another in regards to the potential of the program (third bullet point). Comments were as follows:

- *“The group of kids at school is too big and teachers are not skilled enough with understanding this type of material...All programming at school that is set up to a full class with the teachers on the topic of regulation leads to the kids who are struggling feeling more shame.”*
- *“She enjoyed the activities but stated she did not like the discussions as she found them hard to follow and not grasping the concepts after when asked.”*

- *“This is great program and as a parent with an emotionally advanced child (but not aware of strategies to cope) this has been a real blessing to participate in! I hope you do make it available to classrooms as a program for the teachers to teach! Many possibilities here!”*

***Credibility (parents):***

1. **What, if any, changes did you notice in your home now that your child has participated in the DREAM Program?** Results revealed that 27 out of 31 parents noticed changes in their homes since their child has participated in the program. Collectively, parents observed 28 changes amongst their children while four parents stated that they did not notice any changes. Of the parents who did notice changes, changes were categorized into the following themes: Knowledge and use of tools; mood and behavior; parental involvement and empowerment; and expression and awareness.

***(1) Knowledge and Use of Tools, 13 mentions.*** This category refers to any mentions of the children gaining knowledge and understanding, as well as using the tools they’ve learned in the DREAM program.

- *“My child has begun using some of the strategies in her everyday experiences.”*
- *“He understands negative emotions and how he can control them.”*
- *“More understanding that we need to take care of our mental and emotional well being.”*
- *“My son practices techniques and tools used in the class to manage his emotions.”*

**(2) Expression and Awareness, 6 mentions.** Parents were able to identify changes in the way their child(ren) spoke and expressed themselves regarding their emotions and how they were feeling. Another parent observed their child teaching their sibling about what they have learned in the DREAM program.

- *“... she has been teaching her sister how to manage big feelings which has been really beautiful to see.”*
- *“...it opens the door to more communication on the challenges and that we can help ourselves.”*
- *“I noticed an increase in identification of, and discussion about, emotions.”*
- *“They seem to make greater efforts to express what may be bothering them.”*

**(3) Parental involvement and empowerment, 5 mentions.** Five parents mentioned their involvement in helping their child(ren) better cope with their emotions. Some of the comments were as follows:

- *“The changes are more at my level. Reading your tools and introducing them to my children makes a difference. Contact with the parent is therefore essential in my opinion. This allows a very important reinforcement.” \**
- *“I have always encouraged [my daughter] to take deep breaths to help calm down if she was getting frustrated, but she would try to rush through and would rarely do it properly. Now I do five finger breathing with her, and she still tries to rush at the beginning when she is frustrated, but if I persevere, she will do it properly and calm down.”*

- *“Nothing with my son. Although I didn't have the time to sit and follow up with them, so perhaps they didn't get the full value of the program.”*
- *“[She] doesn't notice the change but as a parent, I now have to tools to assist her through these big emotion moments!!”*

**(4) Mood and behavior, 4 mentions.** Mood and behavior refer to changes in their demeanor and in their habits, such as sleep. Some of the comments from parents are as follows:

- *“[She] has been less moody. More happy.”*
- *“My child says he sleeps better.” \**
- *“I find her more paused, calmer in the face of adversity.” \**
- *“He seems more stable with his emotions.”*

**(5) Nothing, 4 mentions.** While three parents simply stated that they noticed “nothing” in terms of changes in their home, one parent stated that they feel it will take more time to practice and implement changes in order to see a real change:

- *“None. He has learned principles but it will take a long time to put them into practice, apply them and integrate them.” \**

### ***Sustainability (parents):***

1. **If you noticed positive changes, have you noticed your child doing these new things regularly?** Out of the 27 parents who noticed changes in their children, 11 (39%) of them stated that they noticed their child doing these things regularly, 12 (43%) stated that they did not notice their child doing these things regularly, three (11%) stated that they noticed them doing these things sometimes, one (3.5%) stated that they needed parental

encouragement to do so, and one (3.5%) was not sure. Some of the comments are themed into categories: yes, no, sometimes, and parental encouragement required.

- **Yes.** *“We can talk through the strategies when issues come up.”*
- **No.** *“I don't think he realized it applied to him personally.” \**
- **No.** *“There's not a lot of adversity right now.” \**
- **Sometimes.** *“She is pretty private so I'm not sure how much she uses the tools, but I know she does occasionally.”*
- **Needs parental encouragement.** *“I still have to encourage it, but I think with time it will become a habit she does on her own.”*

**2. How has this changed the family environment?** The results revealed that 22 parents (71%) noticed changes in the family environment, and nine parents (29%) who did not notice any. Of the parents who did notice changes, three main themes emerged: improvement in family relationships and communication; behavior, mood, and sleep improvement; and parental empowerment. Specifically, here is what some parents had to say about the shift that the DREAM program had on their family environment:

**(1) Improvement in family relationships and communication, 9 mentions.**

- *“We make greater efforts to discuss difficult emotions, that it is ok and normal to feel them, and appropriate ways to work through them.”*
- *“Overall my kids seem to be getting along better.”*
- *“It has empowered my daughter to reach her strategies to her siblings.”*

**(2) Behaviour, mood, and sleep improvement, 9 mentions.** Parents of three children explicitly stated that their child(ren) is(are) sleeping better due to the implementation of tools.

Maturity, sense of agency, motivation, happiness, contentment, and pleasantness were all behaviors and moods that were also noticed.

- *“She seems more content. Less grumpy.”*
- *“More calm and peaceful, less anxiety and worries.”*
- *“... she sometimes has trouble falling asleep, so the techniques from the course have started to help with that as well.”*
- *“Looks like she had a maturity gain through the summer, I think DREAM pushed her in the right direction.” \**

**(3) Parental empowerment, 3 mentions.**

- *“I am better equipped to intervene with all my children. We use techniques to calm ourselves down.”*
- *“I feel better equipped to help my child.”*

**Summary of Quantitative and Qualitative Analyses**

In summary, the findings support the DREAM programs overall credibility, acceptability, and sustainability in regard to enhancing self-reported meaning mindset, decreasing mental illness symptoms, and increasing positive COVID-19 coping in children ages 7 to 11. It also appears that the DREAM program’s added components, namely the three webisodes and the translation of the program into French, are associated with potential outcomes that match findings from previous assessments of the DREAM program (Armstrong, 2017; Parrott, 2020; Watt, 2020). Furthermore, the feedback received from children and parents supports further development of the DREAM program’s remaining English webisodes and all French webisodes.

Moreover, the feedback received from knowledge users will be valuable as the DREAM program continues to be refined prior to a larger scale outcome assessment.

## **Discussion**

This research attempted to fill the gap in meaning based SEL programs within schools in order to increase resilience amongst children in grades 1 to 5. The DREAM program was identified as a resilience building program that was developed by child Psychologists with the help of knowledge users, such as children, parents, and teachers. DREAM is intended for Canadian children and families, in particular those living in Ontario, as it aligns with the Ontario Ministry of Education's curriculum. The goal, however, is to make this program accessible to as many children as possible beyond provincial boundaries. In order to help bring the DREAM program into Ontario schools and expand to other provinces across Canada, this study addressed some of the suggestions and limitations found in prior research concerning the DREAM Program. Ultimately, the goal is to move the program from its current Evaluability Assessment phase into a larger scale Outcome Assessment phase of development (Armstrong, 2017; Parrott, 2020; Watt, 2020). Several objectives were set out and evaluated in this study.

### **Key Objectives of This Study**

Using a KTI approach, the three main objectives of the present study involved assessing the credibility, acceptability, and sustainability of the new additions to the DREAM program, namely the webisodes, the French class (no webisodes), and an added measure to assess whether DREAM helped increase the children's self-reported, perceived ability cope with the COVID-19 pandemic. Prior to this study, the DREAM program had never assessed the effectiveness of the webisodes, had never been taught to French speaking students, and had never been tested in the middle of a pandemic.

As noted, our first objective was to assess the credibility of the DREAM program. We did this by breaking down the first objective into three parts:

1) The first part was, through a pilot study, to assess the overall potential effectiveness of DREAM at increasing self-reported meaning mindset and COVID-19 coping, and decreasing self-reported mental illness symptoms, for the full sample of participants in all three groups: The English class without webisodes (control group), the English class with webisodes (test group 1) and the French class without webisodes (test group 2).

2) The second part of the current research included an assessment of the version of the program with webisodes, comparing the English webisode group to the English non-webisode group. The goal was to explore whether the version of the program with the webisodes (“teacher version”) appeared to produce equivalent changes in meaning mindset, mental illness symptoms, and COVID-19 coping to the version of the program without webisodes (“clinician-administered version”). As part of this assessment, acceptability of the webisodes to the participating children was examined.

3) The third part of the current research related to the French language version of the program and involved comparing the English class with no webisodes to the French class with no webisodes. The goal was to assess whether the French version appeared to produce equivalent outcomes to the English version regarding meaning mindset, mental illness symptoms, and COVID-19 coping.

The second main objective of the present research was to assess the overall acceptability of the program from the children's perspectives, gathering qualitative data regarding what they enjoyed about DREAM, as well as suggestions for further improvement. The third main

objective of the current study was to assess the credibility, acceptability, and sustainability of the program from the parents' perspectives by gathering qualitative validity data and suggestions for improvement regarding the program, as well as assessing parental perceived short- and long-term changes the program had on their child(ren) and the home environment.

### ***Objective 1: Children's Credibility Assessment of DREAM***

The DREAM program was established based Logic Model for program development based on an assessment of English, French, and diverse student mental health needs (See Appendix F). The findings of the present study regarding positive changes in meaning mindset, mental health, and COVID-19 coping following the implementation of the program supports the DREAM Logic Model shorter-term goals. This means that the program is demonstrating credibility, or that the program appears to be doing what it says it will do.

**DREAM Program Credibility.** Specifically, perceived self-reported meaning mindset, mental health, and COVID-19 coping were each shown to significantly improve following the administration of the DREAM program. Further, results also support the hypothesis that meaning mindset would predict positive mental health and positive COVID-19 coping, which is to say that, as meaning mindset scores increased, mental illness symptoms decreased, and positive COVID-19 coping increased as well. Conversely, the findings also imply that, if a child's meaning mindset suffers, so too does their mental health and their ability to cope with COVID-19 challenges, such as stress, school at home, or social distancing.

With theoretical roots in logotherapy, developing a meaning mindset is a key to living a meaningful life, providing a strong foundation for resilience-building in young people (Armstrong, 2018; Frankl, 1984; St-John, 2017). Thus, developing a meaning mindset through

this school-based DREAM program appears to be a potentially effective way to help students develop positive mental health and develop healthier coping skills when challenges arise, such as the current pandemic. Specifically, enhancing meaning mindset appears to predict positive mental health, supporting findings from past research on the DREAM program (Armstrong et al., 2018; St-John, 2017; Watt, 2019). Furthermore, the addition of the COVID-19 coping measure appears to also add to the credibility of the program, as meaning mindset was shown to be potentially predictive of increased COVID-19 coping. Therefore, it is possible that cultivating a meaning mindset increases a child's ability to cope with life's challenges, whether they be a pandemic, or other potential hardships that a child may endure.

**Webisode Credibility (“Teacher Version” of the Program).** When meaning mindset, mental health, and COVID-19 coping results of the English group with webisodes (i.e., the version of the program with video-delivered mental health information) were compared to the English group with no webisodes (i.e., the version of the program where mental health information is presented by a clinician), no significant differences were found. This supports our hypothesis that there would be no difference between the group with or without webisodes. Furthermore, this supports past research suggesting that the creation of accompanying webisodes would be ideal, easing administration of the program by eliminating the need for a mental health professional to deliver the program or for a “train-the-trainer” model, which can reduce the feasibility of program implementation (Armstrong, 2017; Lean & Colucci, 2013; Parrott, 2020). Given that there were no significant differences in the pilot outcomes with or without webisodes, this supports that DREAM with webisodes (as opposed to delivery by a mental health professional) may be similar in terms of potential self-reported program outcomes, and the program reach and accessibility will be greater with such a delivery model. Research suggests

that well-made educational videos can be highly effective for learning (Kay, 2012). Furthermore, increased program accessibility and distribution of the program is made possible due to the increased feasibility of administration for teachers, and increased sustainability of the program to continue long after research ends. Moreover, the feedback received from the students regarding the webisodes was also supportive of the production of the remaining five English webisodes and furthermore to request funding for the production of all eight French webisodes, as discussed below.

**French Program Credibility.** When meaning mindset, mental health, and COVID-19 coping results of the English group with no webisodes were compared to the French group with no webisodes, no significant differences were found. This supports the hypothesis that the French group without the webisodes would report similar meaning mindset, mental health, and COVID-19 coping as the English group with no webisodes. Furthermore, these quantitative findings support past qualitative research suggesting that the DREAM program should be translated into French to be used in both French and French immersion schools (Parrott, 2020). Given that there were no significant differences in results for the English and French groups, this research supports ongoing development of the French version, including the seeking of funding for the subsequent translation of the webisodes and production of all eight webisodes in French. According to the Office of the Commissioner of Official Languages (2016), French is the native language of 22.8% of Canadians, and up to 41% of students study in French immersion or French language classrooms (Statista Research Department, 2021; Statistics Canada, 2021b). Therefore, greater accessibility of the DREAM program to French students throughout Canada supports greater sustainability of the program long-term, greater acceptability for children who are native French speakers, and greater feasibility for teachers to deliver the program without the

need to translate it themselves, which could otherwise lead to inappropriate implementation or poor outcomes. Finally, the current research increases the French program's credibility in that it appears to do what it says it does, which is to increase meaning mindset, positive mental health, and positive COVID-19 coping.

### ***Objective 2: Children's Acceptability Assessment of DREAM***

As mentioned previously, a KTI approach has been continuously applied since the inception of the DREAM program by involving knowledge users as collaborators and in providing valuable feedback as the program continues to be developed (Armstrong, 2017; Armstrong et al., 2018; Parrott, 2020). The current feedback from knowledge users will be applied with the goal that it will allow the program to progress from an Evaluability Assessment to a larger scale Outcome Assessment. Specifically, one of the objectives of the present research was to assess the acceptability of the program from the children's perspective.

**Children's Acceptability.** Given that 95% of children who completed the program and both pre-and post-test questionnaires indicated that they enjoyed the DREAM program, rating it a 4.3 out of 5 stars, our hypothesis that the majority of the children would enjoy DREAM and rate it favorably was supported. These results also support the importance of involving knowledge users in the continued development of the program (Armstrong, 2017; Armstrong et al., 2018). As mentioned previously, acceptability refers to whether the knowledge users, or children in this case, perceive the program to be good and actually meet their needs (CIHR, 2012). Indeed, in the present research, children indicated that the program was child friendly and that it met their needs. For example, one child reported that the program lessened their feelings of stress and anxiety, while another reported that they enjoyed learning about their emotions. Another simply reported that it was fun, while another stated that they enjoyed being with other

like-minded people their age. As supported by past research, in order for a child to deem a program to be acceptable, it needs to have an element of fun and play, which has been shown to engender meaning-making and connection, all crucial elements to resilience-building and positive mental health in children (Armstrong, 2016a, 2017, 2018, 2018a; Gil 1994; Malchiodi & Crenshaw, 2014; Parrott, 2020).

When asked what they enjoyed about the program, tools and strategies were the most mentioned by the children, with games and activities being second most mentioned. This suggests that children appreciated the hands-on practical tips regarding how to manage their mental health. These experiential activities also seem to be what children appeared to remember the most, given that they were asked an open-ended question with no prompts or reminders as to what we covered in the program. Though the results also appeared to note the importance of the webisodes, a specific poll was administered via Zoom to the children immediately following the completion of the webisodes. This poll was included because it assessed the acceptability of the webisodes while they were “fresh in their minds,” rather than five Units later.

Although most children spoke favourably regarding the potential for DREAM implementation in schools, some respondents did not appear to believe that schools teach information beyond STEM (science, technology, engineering and mathematics) skills. Specifically, one child stated that they would not like the DREAM program to be offered in school because, *“school is more math and writing and academic stuff.”* This comment raises a question as to what children understand and believe about the importance of emotional management, and how it relates to their academic performance (Church, 2015). Often, children are expected to learn facts, numbers, statistics, but may not be taught skills that will help them in their future professions or relationships (Church, 2015). Indeed, cultivating positive mental

health through emotional management is arguably one of the most important skills for a developing human to learn, as it sets a foundation for one's ability to perform in other areas of life, including, but not limited to, academics (CASEL, 2021; Church, 2015; Jones et al., 2015; Palmer, 2020; Waddell et al., 2019). Through its theoretical model, REAL, DREAM teaches SEL skills, such as recognizing emotions, how two people can feel different in the same situation, how feelings are connected to thoughts and behaviours, as well as calm-down and meaningful engagement skills to regulate emotions and form secure connections with others (Armstrong, 2016a).

Another child stated that they did not think this program should be taught in schools because her *"friends don't really have issues."* This points to the notion that if one experiences internalizing symptoms, such as depression and anxiety, for example, these may be unseen to even closest friends or family members. In fact, nearly the majority of young people tell no one if they are experiencing mental health or suicidal concerns (Armstrong & Manion, 2015). The 2014 Ontario Child Health Study revealed that between 18 and 22% of children suffer from a mental health disorder (Georgiades et al., 2019), therefore it is important to remember that what is portrayed on the outside (i.e., a happy face, good grades, popularity, a good family, athletic skills etc.), does not guarantee the absence of mental illness symptoms or challenges. A more recent study looking at various longitudinal studies from around the world regarding youth mental health during COVID-19 suggests that "although most longitudinal studies suggest a worsening of mental health in relation to the pandemic, the picture is still nuanced in terms of magnitude of change across different outcomes, age groups, gender, race, and other demographic features" (Vaillancourt et al., 2021, p. 1635). Indeed, it is difficult to predict or even identify which demographic features may yield greater mental health challenges. Therefore, to eliminate

as many gaps as possible when it comes to program targeting, and to reach those who tell no one about their mental health concerns, teaching these skills to all students appears to be critical. Importantly, the DREAM program aims to present mental health and mental illness information in a manner that may reduce stigma and allow for students to more openly disclose their concerns to a trusted adult. Past DREAM research measured this stigma reduction associated with program implementation in schools (Armstrong, 2017). In summary, although a few children did not perceive the program as important for their friends or related to school STEM topics, the vast majority of participants perceived the program to be appropriate for classroom implementation.

In addition to exploring what children liked about the DREAM program and whether they perceive it to be appropriate for schools, children provided a number of recommendations. The following are the main recommendations provided by the children who participated in the DREAM program in the current research:

- Include more tools, as they found the current ones to be useful
- Create webisodes for each unit
- Keep the songs for children ages 7 to 10
- Include fewer or no child-oriented songs for youth ages 11 and up
- Keep and possibly increase fun games and activities, as they found the current ones to be fun
- Create a class specifically designed for older kids (ages 11 and up)

***Objective 3: Parents Credibility, Acceptability, and Sustainability Assessment of DREAM***

**Parents' Acceptability.** Similar to the children, 94% of parents whose children completed the program and completed the post-test questionnaire indicated that their child(ren) enjoyed the DREAM program, rating the program a 4.4 out of 5 stars. This supports our hypothesis that the majority of the parents would rate the DREAM program favorably. Parents' opinions were included given the importance of involving knowledge users, in this case the parents, in the continued development of the program in order for the program to be deemed acceptable to them (Armstrong, 2017; Armstrong et al., 2018).

**Parents' Recommendations.** The majority of parents who completed the post-test questionnaire offered feedback as to what could be improved about the DREAM program. The most mentioned recommendation was age-related. This makes sense given that this study combined children from grades one to six, putting them all in the same "class". For example, a six-year-old child may have been in the same class as a 12-year-old, which created a large range of maturity and developmental levels, especially when discussions were involved. This program is designed to be ideally taught in school classrooms, where all children are the same age, and thus could engage in discussions appropriate for their respective age groups.

The next most mentioned feedback related to technical challenges with online delivery, including a need for the children to be more connected with one another. This challenge was unique to the circumstances revolving around COVID-19, where many in-person activities were either cancelled, or more complex in terms of accessibility (i.e., COVID-19 screening questions and needing to isolate should one symptom be present). The DREAM program was offered online in order to eliminate the need to accommodate for COVID-19 restrictions and provide flexibility for summer plans (i.e., if a child had a symptom, they could still come to class if it was online, or if they were out of town, the online format allowed them to join from anywhere in the

world). Based on these suggestions, it appears that perhaps the most ideal way to administer the DREAM program is in-person, within a classroom setting where children can interact with their peers and teacher through meaningful discussion. In fact, this sense of connection to the teacher and peers is a vital part of the theoretical framework of REAL, where secure and joyful attachment to a community caregiver such as a teacher may increase meaning mindset, and thus potentially enhance their mental health and ability to cope (Armstrong, 2016a, 2017; Booth & Winstead, 2015). It is important to note, however, that the majority of children in the middle age group (i.e., 8 to 10) were very comfortable sharing their thoughts vocally or in the chat, which is often not the case with older children and teens. This suggests that the online delivery of the program with their regular teacher may be a suitable option for classes that may be held virtually.

Another recommendation from parents pertained to program delivery and communication suggestions between parents and program administrator, a concern of which will likely be solved once the program is assessed in a school setting, rather than virtually. Concerning program delivery in the classroom, teachers have the option of applying DREAM lessons to existing curriculum and teach each unit of the program in brief segments, more than one day in a week, in order to reinforce lessons learned. In the online format, the classes often lasted over 30 minutes in order to spend time creating connections with the students at the beginning of each class. AT (Bowlby, 1958, 2005) or the REAL theoretical framework by which the DREAM program is built upon becomes especially important in this regard, where children create secure attachment bonds with teachers and thus facilitating an increase sense of meaning and purpose (Armstrong, 2016a). Through the DREAM program, children who may have insecure attachments with their parental figures, can develop secure attachments with their teachers through play-based interactions that enhance meaningful social connections, and thus enhance their meaning-

mindset (Armstrong, 2016a, 2017; Booth & Winstead, 2015; Gil, 1994; Malchiodi & Crenshaw, 2014).

Several parents expressed the need to be involved in order to support their child's learning. This brings up an important topic: the potential influence of home environment to reinforce information learned. CASEL (2021) suggests that SEL programs that are implemented at a classroom level, as would be the DREAM program, need further reinforcement on a family and community level for greater effectiveness and longer lasting results. Though weekly emails were sent to parents, including summaries of their child's learning, as well as recommendations of how their learnings could be reinforced, it appears that few parents read the emails. This was evident when one parent suggested the very thing that we were providing: a one-page handout after each class. A parent handout packet was also sent to parents following the completion of the program, but whether parents printed it, read it, and actually applied it remains unknown. It appears to be essential, therefore, to find a more effective way to involve parents in the SEL skill development of their children, so that changes can be learned and reinforced in the home.

In short, the following points summarize the main recommendations offered by parents through the post-test questionnaire:

- Create a DREAM model for children ages 7 to 9, and another for children 10 to 11. Age six appears to be too young for this program
- Streamline communication to parents more effectively
- Parental involvement and education for better home reinforcement
- Improve handout quality
- Shorter length and clearer instructions of questionnaires

- Be mindful of children who are already struggling with emotional management and current school load

**Parents Credibility Assessments.** Most changes that were noticed in their children pertained to their enhanced knowledge and use of tools at home. REBT theory (Ellis, 1993) teaches that changing one's thoughts from irrational to more rational ones can lead to a shift in how one feels and subsequently how one behaves. REBT, however, is not a linear model, but rather a model where thoughts, emotions, and behaviors may impact each other interchangeably and bidirectionally (Ellis, 2004). The application of knowledge into behavior, in this case the use of emotional management tools such as guided imagery or paced breathing, may indeed be associated with changes in cognitions and emotions (Ellis, 2004). The translation of knowledge into behavior becomes important in this context in order to lead to emotional change. Therefore, as found in the present study, the enhanced knowledge and use of social-emotional tools in children appears to be positively associated with mental health.

Parents also noticed a change in their child(ren)'s awareness and the way they express themselves emotionally. Expression of emotions is an important aspect of emotional processing. According to research, emotional expression is one of six facets of emotional intelligence that contribute to greater resilience in the face of life's challenges (Armstrong et al., 2011) and may lead to growth in the aftermath of adversity (Linley et al., 2011). Given that children in general have likely all been impacted by the effects of COVID-19 to various degrees, it appears that developing the ability to label emotions, as taught through DREAM webisodes or clinician delivery and through experiential games and activities, may lead to greater emotional expression and therefore greater resilience in children.

Some parents reported a greater sense of involvement in feeling like they were better equipped to help their children in applying the knowledge learned, seeming to lead parents to feel empowered with evidence-based tools that they can implement in their household. Interestingly enough, one parent who noticed no changes in their son, also reported that they did not sit with or follow up with them, leading them to not getting the “*full value of the program.*” Once again, this supports CASEL’s (2021) theory that parental and community involvement fosters a systemic approach in SEL development that is reinforced for more sustainable and longer lasting effects. When this program has been delivered in a classroom setting in the past, teachers noted that they regularly reinforced skills learned. However, it appears important that reinforcement and practice be carried out both at school and in the home for the “full value of the program” to be experienced.

Several other parents observed that their child’s mood and behavior appeared to be positively affected by the DREAM program. Several parents specifically reported that their children appeared to be sleeping better, while others noticed greater emotional stability and happiness, and a calmer disposition during hardships. These perceived results are supported by the ABC model (Murdoch, 2017) found in Ellis’ (2004) REBT theoretical framework, demonstrating the relationship between the (A)ctivating event, the (B)elief about the event, and the resulting (C)onsequence. How we think about (Belief) the circumstances in our lives (Activating event), impacts how we feel or behave (Consequence). These parental reports regarding their children’s change in mood and behavior may have been related to the change of circumstances in their lives, as how the children were no longer in school, and may have been experiencing a more relaxed summer. However, as Ellis (2005) noted, “It’s never the events that happen that make us disturbed, but our view of them” (Ellis, 2005, p. 259). It may be worth

considering that the perceived mood enhancement noticed by parents, as well as the overall results showing a significant increase in meaning mindset and significant decrease in mental illness symptoms may be correlated to a change in belief or thoughts about various hardships. Further, given that results also correspond to findings from past DREAM research carried out during various time periods in the year, it is more likely that findings are valid rather than a placebo effect of summer changes attributed to program-related changes in child functioning.

**Parents Sustainability Assessments.** Exactly 50% of parents reported that they noticed the above changes in their home regularly or sometimes. The other 50% either did not notice any sustainable changes, were not sure, or reported that their child needed encouragement and reminders to use the strategies learned. It is interesting to note that of the parents who did notice sustainable changes, these changes appeared to often be parent supported, meaning that the children were using the tools regularly because their parents knew about them, and therefore knew how to support or talk to their child about their emotional well-being.

Following the program, improvements in the home and family environment were noticed by 71% of parents, and they included improvements in family relationships and communication, behavior, mood, sleep, as well as parental self-perceived competence and empowerment. As previously mentioned, when the outcomes of a program go beyond an individual and into the family of origin, program results are longer lasting and more sustainable over time (CASEL, 2021). Given that the knowledge and application of SEL skills may build empathy (CASEL, 2021), and empathy is a key ingredient to secure attachment between children and caregivers (Booth & Winstead, 2015; Bowlby, 2005), it appears that SEL skills be an important skillset for both children and parents to learn for more secure attachment. It is further interesting to note that the parents who engaged in the DREAM program alongside their child(ren) appeared to gain a

sense of greater competency that was empowering in their parenting approaches with all their children, not just the one participating in DREAM. Roy and Giraldo-Garcia (2017) suggest that “parents’ role in a child’s education is complex, yet paramount for that child’s cognitive and social/emotional well-being and development” (p. 43). Perhaps the children of these parents were already securely attached, yet it raises the question: if parents were more involved in the learning of SEL skills alongside their children, what outcomes this would have in insecure parent/child relationships and on healing unhealthy intergenerational patterns of emotional regulation, or lack thereof? This question may be worth considering in future research.

## **Limitations and Future Directions**

### *Limitations*

**Lack of Diverse Socioeconomical/Education Level Demographics.** This program was offered free of charge and accessible to anyone with access to the Internet. Even though the program was advertised through various channels, including Crossroads Children’s Centre and school boards that target families from diverse socio-economic backgrounds, children of highly educated parents (i.e., University graduates and higher) were the most common participants in this study. Some studies suggest that the emotional literacy level of the parents predicts the emotional regulation skills of a child (Bozkurt & Demircioğlu, 2020). Given that out of the 63 original applicants, all seven of the children whose parents were the least educated (college diploma or less) dropped out of the study before the program began, it may be possible that the educational level of the parents predicted the enrolment and subsequent attendance of their child in this present study. It appears that, in order to reach children from diverse educational and socioeconomic backgrounds, this program would need to be implemented where children spend much of their time, such as in schools. This was a limitation for the current study, however, it

provides a solid argument for DREAM to be further assessed and eventually implemented in schools, as in past implementations.

It is possible that children who belong to educated families may have more opportunities for developing SEL skills simply because their parents are highly engaged in seeking opportunities for their child's learning. Therefore, offering DREAM only as an optional community program may leave children from less educated families at-risk, as these families tend to be non-participants. Often, parents and children who need the most mental health support are unable to access programs due to lack of providers, long travel distance, long wait lists, cost, and insurance coverage (CDC, 2021); however, none of these barriers existed in this study, as the program was free, and travel was eliminated. One barrier, however, that may be applicable to lower income and lower educated parents is that “time and effort involved make[s] it harder for parents to get mental health care for their child” (CDC, 2021). The weekly time commitment to having their child attend DREAM classes during the summer months, plus the requirement to do the reinforcement activities with their child, may have been a reason that seven sets of parents did not end up attending the program. Another child who completed the initial questionnaires but who did not attend the program belonged to a single-parent home, which may also add to potential barriers for parents to engage in such programs.

**Pre- and Post-Questionnaires.** Not everyone who completed the program completed the pre- and post-test questionnaires. As part of the informed consent (See Appendix B), parents were notified that participation in the surveys was completely voluntary, and that they could choose to or not to fill them out. Some participants did not participate in the research component. Immediately following the final unit of the program (week 8), children were invited to complete the post-test questionnaire during class-time; 100% of those children completed this

questionnaire. However, some of the children who completed the post-test questionnaire had not completed the pre-test questionnaire (or less than half of it), and vice versa, and therefore their results were not included in the quantitative result analyses.

Another potential limitation to the questionnaires had to do with conformity bias. In answering the pre- and post-test questionnaires, one parent expressed a concern in how their child was answering the questions. The parent felt that their child was answering to “appear good,” meaning that they were answering based on what would be the “right answer,” as opposed to how they are actually feeling. This is the concern with children completing questionnaires at home without privacy. Conversely, there may also be various challenges with results if parents were *not* helping the child answer the questions. For example, another parent stated that the survey was confusing for their child, and they would not have answered accurately had the parent not been there to guide them through each question. Lastly, the parent of six-year-old children expressed concerns over the length of the post-test questionnaire, stating that their children lost interest and had to come back to finish it later. Although the survey was quite brief for most children, it could be lengthy to a new reader. Long surveys may potentially cause children to answer questions quickly and without reading, and thus create inaccurate responses. It may be useful, therefore, to evaluate the length of the questionnaires and administer the brief measures instead. Despite these potential challenges with at-home survey completion, the fact that results support the findings of past DREAM research lends credibility to the findings of the current research.

**Use of ANCOVA.** One of the statistics that we carried out was an ANCOVA, despite unequal mental health groups at the pretest (COVID-19 coping and meaning mindset were equivalent across groups at pre-test). All other assumptions for an ANCOVA were met. With a

small sample size, an ANCOVA was deemed one of the only ways that the second major objective of this research could be assessed, but we had to account for potential slight attenuation of findings for just the mental health variable (Howell, 2010). As the purpose of webisodes is to ease administration of the DREAM program and for teachers to not require an expert or a “train the trainer” model for delivering it, it was critical to assess whether the webisode version may have led to different outcomes than the clinician-delivered version. To date, the DREAM program has always been clinician-delivered, wherein important mental health information was delivered by a clinician prior to carrying out the experiential program activities. The purpose of the webisode creation was to negate the need for a clinician by providing a video that offers the same information that a clinician would deliver should they be teaching the class. As the mental health interaction with program type did not even approach significance ( $p = .97$ ), even a slight attenuation of findings likely would not have led to significant group differences. Thus, the groups appeared equivalent, supporting our hypothesis.

The English group with webisodes and the French group without webisodes also had inequivalent groups at pre-test. All other assumptions for the ANCOVA were met. Again, to support further developing the French version, it was important to explore whether the French program led to the same outcomes as the English version. With inequivalent groups, a potential slight attenuation in the mental health variable results had to be taken into consideration. As mental health interactions with program version type did not come close to approaching significance ( $p = .96$ ), we can be fairly certain that our hypothesis that there were no group differences between the English and French version without webisodes is supported. Therefore, though this was a perceived limitation, the lack of significant interaction, with no approach to significance, between mental health scores appears to negate this as an actual limitation in this

study. However, this potential limitation was important to note, given that full assumptions were not met for conducting the ANCOVAs.

**COVID-19 Coping in the Summer.** Though results showed significant improvement in COVID-19 coping following the DREAM program, these results may have been spuriously produced by a third factor, such as being out of school and spending more time in areas where COVID-19 restrictions and impacts are not as visible. For example, a study by Hawes et al. (2021) revealed a peak of anxiety in depression among teens and young adults during the first few months of the pandemic, followed by a decrease in symptoms as summer progressed. Though these numbers reflect statistics from a different demographic and during a different year, it may be possible that the summer months come naturally with a decrease in COVID-19 stress, and therefore, increased COVID-19 coping among our sample. However, given that the questions in the questionnaire are more hypothetical in nature and have to do with “knowing” what to do “if” you were stressed, summer may not in fact be a “placebo effect” limitation given that this questionnaire is an evaluation of one’s knowledge in how one might handle COVID-19 related stress, rather than stress levels themselves: Children express confidence in how they would cope with various potential stressors that could arise. Further addressing this potential limitation, as noted previously, findings of the current study regarding meaning mindset and mental health are supported by past DREAM research that demonstrated the same findings (i.e., Armstrong et al., 2018).

**Dropouts.** At the outset of recruitment, a potential limitation was identified. Given that the study ran during the summer between July and August when many children would be busy with camps and summer activities, there was a concern about enrolment and retention. About 13% of enrolled children did not even begin the program, meaning, they enrolled and completed

the pre-test questionnaire, but did not attend the first class. Of the children who attended the first class, nearly 25% of them did not complete the program. As mentioned earlier, there were no significant differences between the groups of children who completed the program versus the children who did not complete the program (See Table 2), therefore, some qualitative feedback as to why dropouts occurred were gathered. One parents explanation as to why they dropped out was, “*COVID stress and zoom fatigue....it felt too much like school.*” Along the same lines, several other parents noted that their child dropped out because they did not want to engage further in virtual learning, which had just concluded in June 2020. When asked if they would have completed the program should it have been offered during school hours, all parents stated that their children would have looked forward to it during that time period. Furthermore, many of the children who began and never continued the program reported being involved in summer travels, camps, and leisure activities that are typical for summer vacations. In reality, children do not need an extra mode of learning, but rather, they need integrated learning: a school environment that marries both academic and practical life skills that will benefit them in their future employment and relationships. The majority of these limitations may be addressed by offering the DREAM program in an integrated mode of learning, such as in schools.

**Potentially Biased Acceptability of the Program.** Although 95% of children indicated that they enjoyed the program, these results reflected only the children who completed the program. Given that 13 children attended the first class, but did not finish the program, and only a few provided feedback on why they did not complete the program, it is difficult to say whether the 13 who dropped out of the program found it to be acceptable or not. Given that this program is meant to be run in schools and that children would not have a choice per se as to whether they complete the DREAM program or not, post-test questionnaires done with children in a classroom

setting would reveal more accurate results in regards to the acceptability of the program, as it would include all children's opinions of whether they enjoyed the program or not. Past research with school children supported perceived acceptability of the program (e.g., Armstrong et al., 2018). However, future research should consider a school-based acceptability analysis of the webisodes, which were a new component of DREAM administration in the present study.

**Online Challenges.** Meeting with children once a week for eight weeks did not appear to be ideal for creating meaningful interactions and connections with the students. In classroom administrations, each unit of the program is administered at more than one time period during the week (main lesson one day and reinforcement activities later in the week). In the current study, reinforcement activities were carried out at home. Furthermore, some feedback indicated a difficulty in watching the webisodes due to connectivity issues and glitches. These limitations would likely be eliminated when DREAM is taught the way it was intended, in a classroom setting where internet connection is either stable, or the same for all. However, a virtual assessment was important, as a number of school boards are retaining virtual schools; virtual school children should not be excluded from SEL learning. As findings from the current study were favourable, even though the program may be best implemented in a regular classroom, it is feasible to implement in a virtual classroom as well, with reinforcement activities carried out over the week (as per a typical program administration).

**Lack of Parental Involvement.** In spite of the weekly email summaries of what children were learning, few parents appeared to actually read the information. Additionally, a parent handout was sent to each parent following the completion of the DREAM program, with the intent that parents could continue to reinforce the learnings at home. In spite of the many emails filled with information, it is possible that many parents never read it and therefore did not know

how to reinforce their child's learning at home. Though some parents stated that they felt "*better equipped to help [their] child,*" these parents were typically the ones who sat next to their child throughout the lessons. Though a summary email was sent to parents each week following class, it appears that many never read them. A better way of communicating with parents, therefore, appears to be necessary in order to provide more home-based reinforcements to the program learnings (CASEL, 2021).

### ***Future Directions***

**Adjust Age-Appropriate Class.** Based on cumulative feedback from children and parents, this program appears to be better suited for children who are between the ages of 8 and 10, or grades 3 to 5.

**Teacher-Delivered Assessment of DREAM.** Given the small sample size of the current pilot sample, future research should replicate findings with larger sample sizes. Moving the program assessment to a larger scale Outcome Assessment appears to be the next appropriate step in assessing the program's potential effectiveness in schools where there are more diverse socioeconomic and cultural demographics. An in-person, teacher-led assessment of DREAM would likely also eliminate limitations noted above, such as dropouts, biased acceptability results, and online challenges. Furthermore, eliminating the "time and effort" involved in getting their child to an additional program may be helpful for parents who are overwhelmed with their current struggle in balancing work and home responsibilities (Jones et al., 2015; Kerr et al., 2021). In order to reduce the potential bias of acceptability results of the DREAM program, it is recommended that this program be assessed in a school environment. The pre- and post-test questionnaire results in this setting would offer the perspective of all children, as all children would be mandated to complete the program as part of their classroom curriculum. In this

setting, children would not be able to opt-out of the program. However, only children with parental consent to participate in the research component could participate in that aspect. Thus, an in-class administration of the program may lead to a similar sample of research participants and sample size may be dependent on how engaged a particular teacher is at encouraging students to participate in the research component. Therefore, it will never be possible to reduce potential sampling bias with 100% certainty.

**Webisode Production and Enhancement.** To facilitate a feasible widespread distribution of DREAM, the remaining five English webisodes will need to be produced. To ensure that the program is accessible to all Canadian students, funding to produce all eight French webisodes is necessary to make it equally available to all French and English students. To further enhance the effectiveness of the webisodes on student learning, the webisodes may be enhanced by making them shorter for shorter attention spans, and enhancing their quality. Brame (2015) suggests the following elements be present in education videos: cognitive-load, non-cognitive load for engagement, and active learning features. Furthermore, to enhance acceptability of the webisodes among children, a peer-to-peer delivery model where a child acts as host in the webisode may be considered (Armstrong, 2017). The child host can interview a psychologist as part of the webisode to add credibility to the content.

**Greater Parental Involvement.** As mentioned previously, a systemic approach to learning SEL skills is more sustainable in the long run for children (CASEL, 2021). Furthermore, “the development of social/emotional skills needs to be guided by an engaged parent–child interaction where listening and talking skills are put into practice” (Roy & Giraldo-Garcia, 2017, p. 41). Parental involvement, therefore, appears to be an important ingredient to creating a stronger structure for supporting SEL skills development (CASEL, 2021). If children are

learning SEL skills, for example, and parents are not, the foundation is weak for children to be able to alter potential negative SEL patterns that exist within the family unit. Therefore, it is recommended that parents be at least somewhat involved in the DREAM program alongside their children so that what children learn at school can be practiced and reinforced in the home by parents. This reinforcement and additional support to parents may offer them opportunities to learn new ways of engaging with their children on a social and emotional level, and therefore create opportunities for more secure attachment (Bowlby, 1958).

Despite schools well-intended distribution of mental health resources to parents via email or letters sent home, sifting through the resources, for example the DREAM Parent Handout, to provide support to their children, may not be a priority until a child begins to show signs of mental health problems, at which point treatment could be needed. It appears to be essential, therefore, for school children to be exposed to evidence-based educational programming that teaches SEL skills that are reinforced by their home and community environments through appropriate parental materials. CASEL (2021) emphasizes “the importance of establishing equitable learning environments and coordinating practices across key settings of classrooms, schools, families, and communities to enhance all students’ social, emotional, and academic learning” (slide 22). Furthermore, Roy & Giraldo-Garcia (2017) suggest that “parental involvement in a child’s life can take many forms, especially if the parents want to positively influence the child’s academic and social/emotional skills and subsequently improve the child’s chances for the future... parental involvement can deliberately be used to foster parent– school relationships. This parent–school interaction could be initiated by the school in an intentional manner” (p. 42). To address modern means of parental communication and reception of information, one suggestion is to invest the development of an app that sends notifications to

parents that corresponds with what their child is learning that week in the DREAM program on any given week. These notifications could prompt parents with easy-to-do activities and/or questions that can reinforce what their child is currently learning in the DREAM program, and as a result, teach parents SEL skills in the process.

When parents learn the SEL skills that children are learning, it provides a more systemic approach and thus promotes greater success in childhood mental health (CASEL, 2021; Roy & Giraldo-Garcia, 2017). Given that the DREAM program is built on the REAL theoretical framework, which has an Attachment Theory component, it would be interesting to explore how an app could enhance secure attachment and SEL skills between children and their parents/caregivers. If a child's school SEL skills clash with dysfunctional ways of managing emotions in their own homes, changes may be less likely to last. If parents and caregivers, however, are exposed to new ways of managing emotions in a functional and healthy manner that aligns with that their child is learning at school, perhaps the DREAM program can have even farther-reaching potential outcomes, healing emotionally dysfunctional homes and families.

### **Final Comments**

The DREAM program supported our hypotheses, however, the pilot sample size was small, and the program has yet to be assessed in the intended environment and delivered by the intended population: in schools, delivered by teachers rather than clinicians. One downfall to exclusively offering the DREAM program in schools is that it eliminates parental involvement, as the reinforcement activities are done in the classroom, rather than with a parent. To address this parent-school relationship gap, future research DREAM research should support parents in developing SEL skills with their children for each of the DREAM program units through an app-based approach, as noted above. Parents could be sent short notifications that correspond with

what their child is learning that week in the DREAM program. These notifications will prompt parents with easy-to-do activities and/or questions that will reinforce what their child is currently learning in the DREAM program.

In combination with this app, next steps should include the development of all eight webisodes in both English and French, and proceeding to the next phase of undergoing a larger scale Outcome Assessment. Incorporating DREAM into school curriculums with an added parental app to reinforce SEL learnings in the home (CASEL, 2021), may potentially be helpful in increasing child resilience to the potential lingering and after-math effects of the COVID-19 pandemic, toxic stresses, anxiety sensitivities, and other challenges and mental illness symptoms they may encounter. Ultimately, it is the hope that increasing resilience through fostering a meaning mindset could lessen mental illness symptoms among children and, thus, reduce the strain on the economy and mental health systems, hopefully leading to greater well-being in children and the future adults and leaders of society.

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## Tables and Appendices

**Table 1**

*Demographic Characteristics of Children Who Completed DREAM Program*

N	Completed Pre-test or Post-test Only	Completed Pre-and Post-test
Gender	42	33
Male	16	8
Female	26	25
Age		
6	4	3
7	4	3
8	8	7
9	9	7
10	4	4
11	10	8
12	2	1
Unknown	1	0
Ethnicity		
White	20	18
Black	2	2
Asian	5	0
Black and White	7	4

White and Asian	2	5
Hispanic	1	1
Other	4	3
Unknown (missing)	1	0
<b>Parent's Education</b>		
Trade Certificate	0	0
College Diploma	2	1
University Degree	14	10
Graduate Degree	26	22

*Note. The demographics represent those of children and the demographics represent those of children who completed the DREAM program and did not complete the pre- and post-test questionnaires, and the children who completed the program and completed the pre- and post-test questionnaires.*

**Table 2***Participant Means: Complete vs Incomplete Pretest Data*

	ChIP-I Pre-test	ISA-I Pre-test	3Cs Pre-test
Complete group	33	33	33
Mean	76.06	45.71	21.09
Std. Deviation	19.21	20.14	10.03
Incomplete group	30	30	29
Mean	75.27	46.63	25.38
Std. Deviation	20.49	21.90	7.90

*Note. Meaning mindset, mental health, and COVID-19 coping pre-test scores of those who completed the program and completed the pre- and post-test questionnaires were not significantly different than those who did not complete the post-test questionnaire,  $p > .05$ .*

**Table 3***Means Table for Completed Sample (N=33)*

	ChIP-I Pre	ISA-I Pre	3CS Pre	ChIP-I Post	ISA-I Post	3CS Post
Mean	75.82	46.12	20.58	89.18	37.27	29.06
Std. Deviation	19.45	20.30	9.73	19.97	16.53	6.40
Skewness	-1.91	.10	.30	-.34	.25	-.28
Kurtosis	-.39	-1.05	-.35	-1.09	-.05	-.39

*Note. The meaning mindset, mental health symptoms, and COVID-19 coping means pre- and post-test. For ChIP-I, the higher the number, the greater the meaning mindset. For ISA-I, the lower the number, the less mental health symptoms present. For 3CS, the higher the number, the greater the child's ability to cope during COVID-19.*

**Table 4***Pearson Correlation Table for Significance for Completed Sample (N=33)*

	ChIP-I Pre	ISA-I Pre	3CS Pre	ChIP-I Post	ISA-I Post	3CS Post
ChIP-I Pre	1	-.53**	.34*	.88**	-.55**	.49*
ISA-I Pre	-.53**	1	-.52**	-.65**	.76**	-.43*
3CS Pre	.34*	-.52**	1	.30	-.08	.58**
ChIP-I Post	.88**	-.65**	.30	1	-.65**	.59**
ISA-I Post	-.55**	.76**	-.08	-.65**	1	-.38
3CS Post	.49*	-.43*	.58**	-.59**	-.38	1

*Note.* \*\*Correlation is significant at the 0.01 level (2-tailed); \*Correlation is significant at the 0.05 level (2-tailed)



**Table 5***Pre- and Post-Test Means Between 3 Groups*

	N	ChIP Pre	ChIP Post	sd Pre ChIP	sd Post ChIP	ISA Pre	ISA Post	sd Pre ISA	sd Post ISA	3CS Pre	3CS Post	sd Pre 3CS	sd Post 3CS
English Webisodes	11	73.73	84.91	22.72	22.51	51.18	40.27	23.32	18.41	20.10	28.18	8.88	7.28
English No Webisodes	10	77.85	89.75	16.39	18.70	40.85	34.00	16.84	13.62	19.62	27.17	8.95	5.77
French No Webisodes	12	76.30	93.20	20.23	19.66	46.00	37.90	20.82	18.52	24.10	32.30	12.66	5.38

*Note. Meaning mindset, mental illness symptoms, and COVID-19 coping mean scores between English groups with and without webisodes, and between English and French groups without webisodes.*

## Appendix A

### Research Ethics Broad Certificate

	<b>UNIVERSITÉ SAINT-PAUL UNIVERSITY</b>	22-06-2021 dd-mm-yyyy	
	Comité d'éthique de la recherche (CÉR)   Research Ethics Board (REB) Bureau de la recherche et de la déontologie (BRD)   Office of Research and Ethics (ORE)		
<b>Certificat d'éthique   Ethics Certificate</b>			
<b>SPU-REB Protocol #</b> 1360.7/21			
<b>Last Name</b> Potter Armstrong	<b>First Name</b> Catherine Laura	<b>Affiliation</b> Faculty of Human Sciences Faculty of Human Sciences	<b>Role</b> MA Candidate-Principal Investigator Thesis Supervisor
<b>Type of Project</b> Master's Thesis – Secondary use of Data			
<b>Title</b> Evaluability Assessment for the DREAM Program Using Magic Mirror Webisodes.			
<b>Approval date</b> dd-mm-yyyy 22-06-2021		<b>Expiry Date</b> dd-mm-yyyy 21-06-2022	<b>Decision</b> 1 (Approved)
<b>Approved:</b> The project is approved and an ethics certificate is issued. Recruitment and data collection may begin as outlined in the application. The ethics approval applies for one year. However, any modification to the project must first be approved by the REB before the changes can be implemented. A Renewal Report for ongoing projects must be submitted. A maximum of four annual renewals may be submitted for one same project, as approvals may be valid for a total of five consecutive years. Please use the REB Protocol 1360.7/21.			
<ol style="list-style-type: none"> <li>In accordance with the <a href="#">Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans – TCPS 2</a>, the Saint Paul University Research Ethics Board (REB) has examined and approved the application for an ethics certificate for this project for the period indicated and subject to the conditions listed above.</li> <li>The research protocol may not be modified without prior written approval from the REB. This includes, among others, the extension of the research, additional recruitment for the inclusion of new participants, changes in location of the fieldwork, any stage where a research permit is required, such as work in schools. Minor administrative changes are allowed.</li> <li>The REB must be notified of all changes or unanticipated circumstances that have a serious impact on the conduct of the research, that relate to the risk to participants and their safety.</li> <li>Modifications to the project, information, consent and recruitment documentation must be submitted to the Office of Research and Ethics for approval by the REB.</li> <li>The investigator must submit a report four weeks prior to the expiry date of the certificate stated above requesting an extension or that the file be closed.</li> <li>Documents relating to publicity, recruitment and consent of participants should bear the file number of the certificate. They must also indicate the coordinates of the investigator should participants have questions related to the research project. In which case, the documents will refer to the Chair of the REB and provide the coordinates of the Office of Research and Ethics.</li> </ol>			
 22 June 2021 Louis Perron Chair SPU Research Ethics Board (REB)			
1/1 Université Saint Paul University   223, Main Ottawa (Ontario) Canada K1S 1C4 ☎ 613 236-1393 Télécopie / Fax 613 782-3005			

## Appendix B

### Parental Informed Consent

**The D.R.E.A.M. Program: Developing Resilience through Emotions, Attitudes, and Meaning**  
 Dr. Laura Armstrong, Ph.D., C.Psych.  
 Associate Professor, School of Counselling, Psychotherapy & Spirituality, Saint Paul University  
**Parental Informed Consent**

Dear Parent/Guardian,

Your school will be using a socio-emotional educational program called **D.R.E.A.M.: Developing Resilience through Emotions, Attitudes, and Meaning**. This program teaches children skills for healthy thinking and behavior, problem-solving, empathy and social literacy, as well as how to make a difference in their community. D.R.E.A.M. is evidence-based and has been found to increase child well-being, self-esteem, hope for the future, social connectedness, openness to learning and other new experiences, and a belief that one can have control over unhelpful thoughts and behaviours. *This program evaluation research has been funded by the Social Sciences and Humanities Research Council, with an Insight Development Grant.*

The goal of the D.R.E.A.M. program is to have fun while learning lifelong skills through games, music, drama, and crafts. Children will be sent home with an online link to parent handouts so that parents/guardians can be aware of the helpful calm down, problem-solving, community engagement, and social literacy skills that their children have learned and may want to practice.

Children are also asked to complete anonymous pre-program and post-program questionnaires in class measuring the skills learned over the course of the program. This is the first year that we have offered the DREAM program via online video clips, rather than live administration, to direct teacher-led activities, so we will use these questionnaires to measure what the program is doing well and what we can improve upon. These questionnaires should take 5 to 10 minutes of your child's time. This project has been approved by the Ethical Review Board at Saint Paul University, the Ottawa-Carleton Research and Evaluation Advisory Committee, and your school's principal.

If you decide to let your child complete the evaluation questionnaires, your child will be free to withdraw from completing the questionnaires at any time. Questionnaires with significant incomplete data will be securely deleted. In addition, children are free to refuse to answer any question. Participation is fully voluntary. If your child participates in this research, it will serve to improve our program. Children may also have fun completing the questions, as they are delivered through video clips. Questions your child will be asked are about openness to learning, to social and community involvement, and to other new experiences; hope; self-concept; and a sense of control over thoughts, feelings, and behaviours. Areas in which the program is designed to build skills for resilience. Regarding minimal risks for participation, if your child experiences any concerns with their self-concept, a resource list of community services will be provided to schools—and is also attached to this information letter. This resource list may be helpful if your child expresses the need for support beyond the skills that the program provides. Your child's name will be collected to allow us to match their pre-program questionnaire to their post-program questionnaire. Some children will complete both sets of questionnaires before receiving the program to compare the program outcomes to school services as usual. After we have completed the process in which we match your child's surveys, 1 month after data collection, all documents and data files containing your child's name will be destroyed. The remaining anonymized data files will be stored in a locked office at Saint Paul University on an encrypted, password protected computer for a period of 5 years. For research purposes, anonymity is guaranteed in all publications, as data will be number coded.

This project has been approved by the Ethical Review Board at Saint Paul University, the Ottawa-Carleton Research and Evaluation Advisory Committee, and your school's principal. If you have any questions or concerns, please contact Mohamed Kouachi (Office of Research and Ethics at Saint Paul University) 613-236-1393 x 2323, Dr. Stephanie Pagan (Chair of Ottawa-Carleton Research and Evaluation Advisory Committee) 613-596-8211 x 8669, your school principal, or Dr. Laura Armstrong at 613-236-1393 x 2341.

#### Consent:

I, \_\_\_\_\_, consent to allow my child to complete the online confidential program evaluation questionnaires.

\_\_\_\_\_  
 (Parent/guardian signature)

\_\_\_\_\_  
 (Date)

\_\_\_\_\_  
 (Child's name)

\_\_\_\_\_  
 (Child's teacher)

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## Appendix C

### **Chip Identity and Purpose Questionnaire-Interactive Questionnaire (Short Form)**

*These questions are accompanied by an audio & video recording, with a button that slides between scores of 0 to 10 for each item:*

1) When Chip has a difficult feeling like sadness, fear, or anger, he finds it EASY to think about something to feel a bit better. When Ceira has a difficult feeling like sadness, fear, or anger, she finds it HARD to think about something to feel a bit better.

2) Ceira often participates in a very fun activity with other children and one or more adult leaders. Chip does not often participate in a very fun activity with other children and one or more adult leaders.

3) Chip likes to try new things and learn new things. Ceira likes to stick with things that she knows.

4) Ceira is interested in watching her feelings as well as other people's feelings. Chip is more interested in what he can see, feel, hear, taste, and touch, rather than feelings.

5) Ceira knows that she can find ways to get something that is important to her. Chip doesn't know if he can find ways to get things that are important to him.

6) Chip believes that his life is important. Ceira believes that her life doesn't matter.

7) Ceira knows that good things will happen in her life as she grows up. Chip doesn't know if good things will happen in his life as he grows up.

8) Ceira thinks that she has done many things to be proud of. Chip thinks that he has not done many things to be proud of.

9) Chip is happy to be Chip. Ceira wishes that she were a different person.

10) Chip thinks that he is important to other people. Ceira thinks that she is not important to other people.

11) When Chip has a difficult feeling like sadness, fear, or anger, he chooses to relax, have fun, or create something. When Ceira has a difficult feeling like sadness, fear, or anger, she chooses not to do much of anything.

12) When Ceira has a difficult feeling like sadness, fear, or anger, she talks to someone or plays with someone to feel a bit better. When Chip has a difficult feeling like sadness, fear, or anger, he doesn't talk to someone or play with someone.

## Appendix D

### Interactive Symptom Assessment Questionnaire (Short form)

*These questions are accompanied by an audio & video recording, with a button that slides between scores of 0 to 10 for each item:*

- 1) Isa felt good about the friends in her life this week. Eibe didn't feel good about the friends in his life this week.
- 2) Eibe looked in the mirror this week and felt good about himself. Isa looked in the mirror and did not feel good about herself.
- 3) Isa found it easy to sit still in class this week. Eibe found it hard to sit still in class this week.
- 4) Eibe was nice to everyone this week. Isa said mean things to someone this week.
- 5) Eibe didn't worry about dirt, germs or getting sick this week. Isa was worried about dirt, germs, or getting sick this week.
- 6) Eibe was not worried this week. Isa was feeling worried a lot this week.
- 7) Isa did not have arguments or fights with her family or friends this week. Eibe often had arguments with his family or friends this week.
- 8) Isa was cheerful this week. Eibe was grouchy this week.

9) Isa didn't lie to anyone this week. Eibe told many lies this week.

10) This week, Isa wanted to do many fun things. Ibe did not feel like doing much this week.

11) Eibe is feeling happy. Over the past week, he has been feeling happy most of the time. Isa is feeling sad. Over the past week, she has been feeling sad most of the time.

12) Eibe felt that he did many things well this week. Isa felt that she didn't do anything well this week.

## Appendix E

### Children's COVID-19 Coping Questionnaire

*These questions are accompanied by a button that slides between scores of 0 to 10 for each item, 0 meaning that you disagree completely and 10 that you agree completely*

- 1) If you were feeling stressed about the COVID-19 pandemic, you would be able to help yourself feel less stressed.
  
- 2) If you were feeling worried about things during the COVID-19 pandemic, you would be able to help yourself feel less worried.
  
- 3) If you felt lonely when you couldn't see friends as much during of the COVID-19 pandemic, you would be able to help yourself feel a little better.
  
- 4) If you were bothered by school changes this year because of the COVID-19 pandemic, you could help yourself feel less bothered.

## Appendix F

## DREAM Logic Model

Needs	Outputs		Outcomes - Impact	
	Activities	Participation	Shorter-Term Goals	Longer-Term Goals
<p>Young people &amp; adults have poor mental health literacy regarding symptoms of mental illness &amp; how to seek help<sup>1</sup> → Need to enhance knowledge</p> <p>Young people state that they look for information via non-traditional knowledge mobilization methods, e.g., music, internet, &amp; visual media through peer-to-peer and expert delivery<sup>2</sup> → Need for knowledge mobilization that uses these channels</p> <p>Children &amp; all relevant stakeholders need to be involved in decision-making, program implementation, &amp; evaluation decisions affecting them<sup>3</sup></p> <p>Need for school-based programs to address resilience<sup>4</sup> → Programs that are meaning-centred may be ideal to enhance resilience<sup>4</sup></p> <p>Need for programming that addresses a variety of internalizing &amp; externalizing mental health concerns, rather than a singular issue (e.g., anxiety)<sup>6</sup></p> <p>Over 50% of children present with diagnosable mental health concerns during the pandemic, while over 70% show some symptoms<sup>7</sup> → need for positive COVID coping strategies</p> <p>To enhance sustainability, school-based programs yield longer-term outcomes if skills are reinforced at home<sup>8</sup> → need for school &amp; home-based materials.</p>	<p>8-unit mental health promotion program teaching by peers and experts through videos, songs &amp; associated exercises. Aims to enhance mental health literacy &amp; help-seeking knowledge.</p> <p>Exercises aim to enhance <b>Meaning mindset</b> for children = a belief they have influence over thoughts &amp; behaviours, positive self-concept, openness to new, meaningful experiences and learning, and hope for the future.<sup>5</sup></p> <p>Meaning mindset predicts mental health and positive COVID coping<sup>9</sup></p> <p>Home-based parent app to reinforce skills learned at school each week. Brief, easy to use activities.</p>	<p><i>Who we reach:</i></p> <p>School children in Grades 2 to 5. Families of these children.</p> <p><i>Partners:</i></p> <p>Community partners &amp; organizations: Sound of the Muse Records, Mission to Vision Communication, school boards, KinTales, diversity experts (e.g., former east-west relations Director of Education, Barrie Ontario)</p> <p>Ongoing involvement of children, youth, teachers, parents, mental health practitioners/experts, child media experts in development of the program and research.</p>	<p><i>For children:</i></p> <p>Enhance knowledge: Self-help skills, how &amp; where to seek mental health services, if needed</p> <p><i>Pre-post compared to waitlist control group</i></p> <p>Enhance meaning mindset. Measured by the Child Identity &amp; Purpose Questionnaire.</p> <p>Enhance mental health: Post-program, fewer self-reported symptoms of stress, worry, sadness, obsessions, &amp; behavioural concerns. Measured by the Interactive Symptom Assessment.</p> <p>Enhance positive COVID coping. Measured by the Children's COVID Coping Scale.</p>	<p><i>For children:</i></p> <p><u>3-month longitudinal follow-up post-program</u></p> <p>Sustained resilience to mental health concerns: Meaning mindset, mental health, positive COVID coping. Re-administration of measures. Comparison of group with parenting app to those without.</p>

1 Bonfield et al., 2010; Logan and King, 2001; 2 Armstrong, 2012; Garinger, 2010; Robertson & Armstrong, 2011; 3 Amsden & VanWynsberghe, 2005; 4 Hutchinson & Chapman, 2005; 5 Search Institute, 2009; 6 Watt, 2019; 7 Shah et al., 2020; 8 CASEL, 2021; 9 Armstrong & Potter, submitted manuscript.