Journal of Children's Services

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Putting your mind at ease: findings from the Mindfulness Ambassador Council programme in Toronto area schools

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Abstract

Purpose – The purpose of this paper is to gain understanding of the benefits and limitations of mindfulness training among secondary school students and teachers in Toronto, Ontario, Canada.

Design/methodology/approach – Using a case study methodology, the authors analysed programme evaluation forms and conducted thematic analyses of focus groups with Catholic secondary school teachers and students that participated in the Mindfulness Ambassador Council programme.

Findings – The findings suggest that mindfulness training may provide participants with opportunities for personal growth, specifically in the areas of stress reduction, relaxation, social awareness, self-discovery and relationship building.

Research limitations/implications – This study confirms existing literature that training in mindfulness practice may be beneficial in strengthening relationships, reducing stress and anxiety and promoting inner well-being and social-emotional learning in youth. To test these findings empirically, future research should examine mindfulness training in schools using a robust randomised controlled trial design.

Practical implications – Given the current state of research on mindfulness-based interventions specifically with the adolescent population, the study provides useful and timely data on participants' experiences with mindfulness training, and discusses how such training can be effectively harnessed within secondary school settings.

Originality/value – There is growing evidence that the regular practice of mindfulness has myriad psychological, therapeutic and health benefits, and contributes to heightened emotional intelligence and improved performance in a host of activities. Relatively little is known, however, about the effects of mindfulness interventions on child and adolescent populations. The study contributes to the emerging evidence on mindfulness practice with students in school settings.

Keywords Mindfulness, Educators, Adolescent populations, Mindfulness training, School settings, Social and emotional learning

Paper type Case study

Introduction

There is now a sizeable body of evidence in support of mindfulness, operationally defined in the literature as "paying attention on purpose, in the present moment, and non-judgementally to the unfolding of experience moment by moment" (Kabat-Zinn, 2003, p. 145). Although associated with a range of terminologies, Dimidjian and Linehan (2003) suggest that there are a number of principles that would support an overarching conceptualisation of mindfulness practice. This conceptualisation describes three activities that individuals undertake when practicing mindfulness: first, observing, perceiving, bringing awareness; second, describing,

noting, labelling; and third, participating. These activities are performed: with acceptance, nonjudgementally; in the present moment; and effectively. Using a case study methodology, this study explores the benefits and limitations of a mindfulness training programme (the Mindfulness Ambassador Council (MAC)) using data collected from teachers and students in secondary schools in Toronto, Canada.

Much of the literature on mindfulness-based interventions (MBIs) derives from studies conducted with adults. A few earlier studies examining the effectiveness of MBIs in improving symptoms of anxiety and depression in adults demonstrated equivocal results (see Toneatto and Nguyen, 2007) when using mindfulness approaches specifically for stress reduction (MBSR). However, a more recent meta-analysis by Khoury et al. (2013) that examined a range of physical, medical and psychological conditions showed that mindfulness-based therapy (MBT) was more effective in treating psychological disorders (i.e. studies specifically measuring depression and anxiety generated moderate to large effect sizes, respectively) than medical or physical conditions, although it was no more effective than traditional cognitive behavioural therapy or pharmacological treatments. A meta-analysis by Hofmann et al. (2010) also found that MBT had moderate effects in reducing symptoms of anxiety and depression, and even larger effects when treating anxiety and mood disorders. However, in analysing studies with waitlist or treatment as usual controlled studies, only small reductions in anxiety and depression were reported (Hofmann et al., 2010). Similarly, in a meta-analysis examining the effectiveness of MBSR on patients with chronic somatic diseases, Bohlmeijer et al. (2010) found only small effects on anxiety, depression and psychological distress. Although not a panacea for all ills, MBIs have been shown to produce some positive outcomes in adults, particularly psychological and therapeutic benefits.

With respect to school-aged children and young people, the prevalence of mental health issues is concerning (Patel et al., 2007) with epidemiological research estimating that across the globe, up to 20 per cent of children and adolescents suffer from a disabling mental illness (Belfer, 2008). Clearly, the range of emotional and social issues confronting young people has significant impacts on their academic performance and motivation (Broderick and Metz, 2009; Mendelson et al., 2010). Consequently, policy-makers, researchers and educators are increasingly calling for evidence-based educational approaches that enhance students' academic motivation, school performance, social-emotional skills both in and outside the classroom (Meiklejohn et al., 2012), and general well-being in terms of the child as a whole (Huppert and Johnson, 2010; Rempel, 2012). School-based MBIs for children and youth are thus attractive because, as some studies suggest, they hold promise in advancing healthy psychological functioning (Beauchemin et al., 2008; Broderick and Metz, 2009; Huppert and Johnson, 2010), interpersonal development (Schonert-Reichl and Lawlor, 2010) and positive behaviours in the classroom (Barnes et al., 2003).

Evidence is only now emerging on the effects of using MBIs with children and youth (Thompson and Gauntlett-Gilbert, 2008; Wisner, 2014; Zack et al., 2014). The current state of research, however, remains equivocal, appearing inconsistent and contingent on both the outcome measures employed and the interventions depicted (Burke, 2010). Given that the few MBI studies conducted with young people generally are dogged by design and methodological issues (Greenberg and Harris, 2012), it may be premature to draw conclusions on the efficacy of such interventions with these populations (Burke, 2010). The limited studies that are currently available show only small to moderate effects, if any at all. A randomised controlled trial (RCT) by Napoli et al. (2005) found significant improvements in non-clinical children's self-rated anxiety, social skills and selective attention scores, with effects sizes in the small to medium range ($d = 0.39$-0.60). Black et al.'s (2009) review of sitting meditation interventions also showed small to moderate improvements in children and adolescents' physiologic outcomes ($d = 0.16$-0.29) and psychosocial and/or behavioural outcomes ($d = 0.27$-0.70). Moreover, Zoogman et al.'s (2014) meta-analysis on MBIs with youth showed an overall small effect size ($d = 0.227$) over a range of sub-samples and outcomes. For clinical samples, the effect size was close to three times the magnitude of that found in non-clinical samples ($d = 0.50$ vs 0.197), albeit still in the moderate range. This finding is consistent with Biegel et al.'s (2009) study which assessed the impact of MBSR on adolescents with heterogeneous mental health diagnoses attending an outpatient psychiatric facility; at follow-up this study found significant reductions in self-reported anxiety,

depressive and somatisation symptoms in the treatment group compared with the controls ($d = 0.28$-0.92). These findings suggest that MBIs may be particularly valuable with clinical populations or when directed at symptoms of psychopathology (Zoogman et al., 2014).

Some researchers contend that MBIs provide a feasible and effective method of treating disorders in clinical child and youth populations (Greenberg and Harris, 2012; Bögels et al., 2008) and of building resilience in universal populations (Greenberg and Harris, 2012; Rempel, 2012); however, further research is required. Moreover, greater understanding is needed of the practical issues related to adapting MBIs for young people, taking into account their developmental needs (Burke, 2010). Hence, our rationale for this study was to not only garner participants' thoughts and experiences on a specific MBI, along with their perceptions on the impacts of mindfulness practice, but also to explore best practices that might be useful for facilitators providing this training in the future. The research questions entailed exploration of participants' views on the benefits and limitations of the MAC programme, their thoughts on the impacts of mindfulness and their experiences with its practice.

Methods

We found the framework for the design and evaluation of complex interventions described by Campbell et al. (2000) particularly useful in helping us plan our programme of research to evaluate the effects of MBIs on young people. Campbell et al. (2000) describe the sequential phases of research that contribute to the "continuum of increasing evidence" and lead to the development of RCTs for the study of complex interventions (Figure 1). Burke (2010) suggests that research on MBIs with young people to date may be seen as fitting within the early phases of the continuum; research that endeavours to show the safety, acceptance and feasibility of the intervention prior to initiating the rigorous experimental designs that seek to determine whether the intervention can be effectively replicated in uncontrolled settings over the long term. This study is the first within a broader programme of research and, consequently, qualitative testing in this first phase was conducted to improve our understanding of the components of the intervention and the interrelationships between significant factors (Campbell et al., 2000, p. 695). This was done using a case study design, with data analysed from focus groups and triangulated using data obtained from programme evaluation surveys.

Figure 1 Sequential phases of developing randomised controlled trials of complex interventions

Source: Campbell et al. (2000)
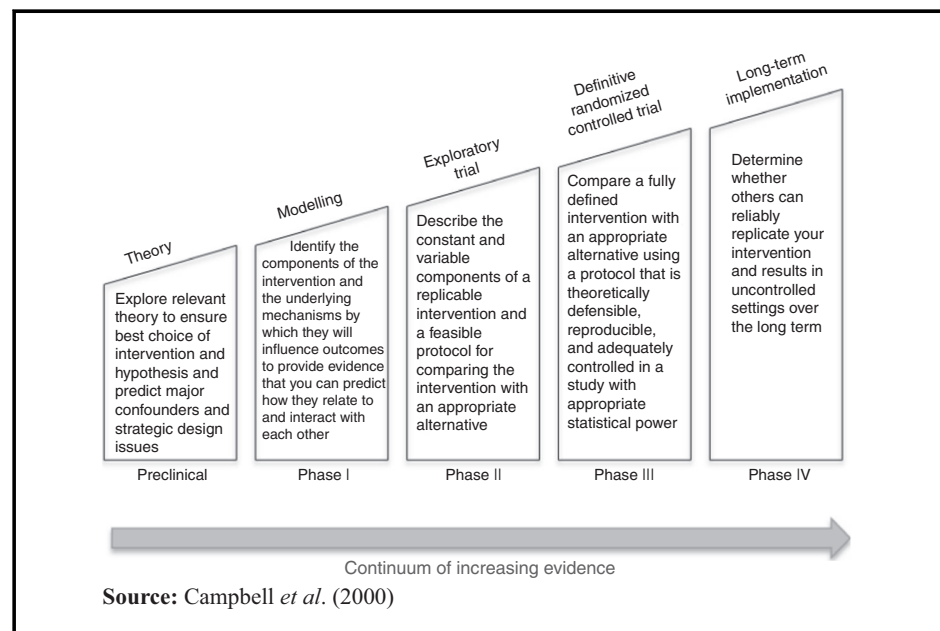
We concur with others (e.g. Roeser *et al.*, 2012) who have argued that evaluations that use rich descriptions, such as case studies and other qualitative methodologies, are essential to assess the value of using mindfulness. Through the collection of extensive descriptive data, case studies can illuminate the strengths and weaknesses of the intervention under scrutiny, including explaining why an innovation did or did not work (Merriam, 1998). We thus adopted a case study methodology as it allowed us to provide a comprehensive and holistic description and analysis of a MBI in the secondary school setting. Data collection involved focus groups with teachers and students, conducted separately, and programme evaluation forms gathered from students at the conclusion of the intervention. Focus groups are valuable as they draw on the synergy that can form among group members, while allowing the research team to garner rich data from a group of people who share a common interest (Padgett, 1998). Programme evaluation forms were also analysed, providing another source of data from which to triangulate our findings.

In total, the MBI was administered to 150 students in grades 11 and 12 from five classes in four Toronto Catholic District School Board (TCDSB) secondary schools. As part of the research, a programme evaluation ($n = 80$ students, S(school)1 = 20, S2 = 21, S3A = 17, S3B = 12 and S4 = 10), and focus groups with students ($n = 48$; S1 = 9; S2 = 11; S3A = 10; S3B = 8; S4 = 10) and teachers ($n = 6$) were conducted. To guide the conversation, focus groups followed a semi-structured interview schedule using a series of open-ended questions (e.g. what was your experience participating in the MAC programme? What were the key elements of mindfulness that you learned during the programme? Are you applying what you have learned about mindfulness in your everyday life, and if so, how?). The demographic profile (from the student evaluation data) was predominantly female (76 per cent of the 80 participants, $n = 61$), in grade 12 (79 per cent, $n = 63$) with a mean age of 17 (69 per cent, $n = 55$; with 21 per cent, $n = 17$, being age 16 and 10 per cent, $n = 8$, being 18). The study received approval from the affiliated university research ethics board and the school board ethics committee prior to commencement.

Reflexivity is important in case study research as it enhances the rigour (the dependability and confirmability specifically) of the study. The reflexive account documents how the personal interests and history of the researcher brought them to the research (Houghton *et al.*, 2013). It is therefore important for us to locate ourselves in this research endeavour. Of the six (all female) authors, four are researchers who have an interest in advancing interventions that will benefit both educators and students in the school system, but have limited experience with mindfulness training and practice. As such, the chance of researcher bias among these researchers is likely reduced. Regular peer debriefing sessions were scheduled to discuss, and in the process, identify and challenge a priori biases and assumptions that might influence decisions about and understandings of the data at all stages of the analysis. There was clear potential for bias among two of the authors as one leads and the other works for Mindfulness Without Borders, the organisation offering the MAC programme. Consequently, safeguards were put in place to address the potential conflict of interest and minimise opportunities for bias. To ensure that none of the authors had any knowledge of who participated in the study, a research assistant (RA) recruited all of the participants and collected the data. With the assistance of the RA, the four researchers then conducted the analysis and wrote up the findings. The two authors from Mindfulness Without Borders provided input into the conception and design of the research, and reviewed and edited drafts of the final paper, but did not have input into the data analysis or report writing.

Sampling and recruitment

In the spring of 2011, Mindfulness Without Borders offered a day-long training session for educators within the TCDSB. The session was designed to train teachers on the principles, skills and dispositions of mindfulness, not only to prepare them for the programme offering at their school, but also to equip them with these resources so that they could apply them in future classes (see Roeser's, 2014, p. 401 working theory and logic for teaching, learning and transfer in teacher MBIs). After the session, staff from Mindfulness Without Borders sent out an e-mail to participants asking them if they would be interested in having the organisation offer the MAC programme to one of their classes. Arrangements were then made to deliver the programme to

participating teachers' classes in the fall of 2011. The teacher sample was recruited using a purposive sampling approach, the purposeful selection of information-rich cases for study (Patton, 1990). A roster of interested teachers was compiled by Mindfulness Without Borders and the study's RA contacted these individuals via phone to inform them about the study and review the informed consent letter. Those who wished to participate were asked to respond to an e-mail sent by the RA after the telephone call (with a signed informed consent letter attached). The RA then e-mailed these candidates again to make arrangements for the one-hour focus group at the conclusion of the training. Six teachers participated in one of the two focus groups scheduled. Teachers did not receive compensation for participation.

Student recruitment involved a convenience sampling approach; the selection of cases based on their availability (Padgett, 1998). Prior to the programme's launch, Mindfulness Without Borders held an information session at participating schools to inform students about the upcoming programme at their respective schools. At the session, the RA provided information about the research study to students and asked them to return a signed informed consent letter (with both student assent and parent/guardian consent) if they were interested in participating. Students were expected to participate in the MAC programme as part of their regular classes, although it was made clear that participation in the research was voluntary. The training was delivered during a religious education, physical education or leadership class at different times depending on the schedule of the participating class. As the programme was offered during a (mandatory) class, attendance for the MAC was generally high; participation in the research, on the other hand, involved much fewer students. A week after the training had concluded, five one-hour focus groups were held with students either before or after school at all of the four school sites. Students participating in the research had their names included in a draw to win an iPod Touch (one for each class) in recognition of their time and contributions to the study.

Programme and setting description

The MAC programme was developed by Mindfulness Without Borders, a non-profit organisation whose stated purpose is to help individuals build the inner resources needed to contend with the growing stress and violence in their lives, and to equip young people, educators and professionals with life and leadership skills to address the social, economic and environmental challenges that affect them (Mindfulness Without Borders, 2011). Although the MBI has been offered in a variety of settings with adult and youth populations around the world to date, it is still in its early stages of development, and this study is the first to explore its impact. The mindfulness-based social and emotional learning programme consists of 12 theme-based lessons presented weekly (each for 60-90 minutes depending on the school schedule). See Table I for a summary of the programme lessons, their activities and associated objectives.

Although the programme facilitators differed in their levels of experience, the MAC training was consistently delivered using a leadership pairing of a junior and senior facilitator. All facilitators completed a four-day training seminar with faculty from Mindfulness Without Borders, which included education on the art and practice of mindfulness and its associated scientific benefits; training on social and emotional learning theories and competencies; instruction and practice with the specific techniques and core skillsets applied in the MAC; and coaching on facilitation techniques. There were six facilitators in all, a mix of Caucasian, Mexican and Jewish individuals, all female between the ages of 28 to 32. For each class engaged in the MAC, one of two senior facilitators (who had previous experience delivering the programme), holding a Master of Education, was paired with one of the four junior facilitators, who had a wider variety of educational backgrounds, including training in Psychology, Gestalt Therapy and the Arts. All facilitators maintain a personal on-going mindfulness practice.

Participants were recruited from one of four TCDSB schools. These schools, providing education to students in grades 9 through 12, were scattered throughout Toronto, Ontario, and were primarily co-educational institutions, with one being a single sex (girls-only) institution. The TCDSB follows the Ontario School Curriculum and also provides a Catholic education.

	Table I	Overview of the Mindfulness Ambassador Council programme	
Week	Theme	Activities	Objectives
1	Mindfulness basics	Basic concepts of mindfulness and guidelines for creating a safe space, i.e. listen attentively, speak honestly, respect for all members, confidentiality Learn TUZA, a daily breathing practice to bring focus to the present moment	Develop awareness and acceptance of self and others Promote present moment awareness
2	Paying attention	Focus awareness in the present moment and bring full attention to listening Learn mindful listening, a practice of opening awareness beyond distraction and judgement	Develop responsive listening and communication skills Develop self and social awareness; be more caring, connected and attentive
3	Discovering inside	Acknowledge feelings and emotions and expand self-awareness beyond selves Learn anchor breath, a mindfulness breathing practice to quiet the mind and calm the heart	Cultivate awareness of thoughts, feelings and personal qualities Develop confidence and capacity to navigate through easy and challenging feelings
4	Connecting authentically	Foster basic self-awareness and self-acceptance essential to building positive relationships Learn heartfulness, a mindfulness practice cultivating acceptance and compassion for oneself and others	Respect for innermost feelings; develop constructive speech; foster empathy and compassion Build and maintain healthy interpersonal relationships, appreciate diversity
5	Practicing gratitude	Recognise shared humanity, deepen sensitivity to others and appreciate life in the present moment Learn mindful eating, a practice of focusing awareness on the experience of taking in nourishment	Cherish the moment, engender altruism Greater sensitivity to and appreciation for both internal and external experiences
6	Mind and body connection	Access the body to promote greater self-awareness and self-care Learn body scan, a mindfulness practice of paying attention to what bodies communicate in the moment	Increase sense of connectivity and sensitivity to body sensations Improve self-care through greater self-awareness
7	Emotional intelligence	Recognise and accept feelings with compassion and discernment Journal about feelings, a mindfulness practice that enables reflection on emotions and how to respond	Foster compassion and emotional intelligence Self-confidence, responsibility, accountability
8	Noticing emotional triggers	Take control of emotions and behaviour rather than be controlled by them Use a short-breathing practice to calm the heart and mind when triggered	Regulate emotions to handle stress, control impulses, develop discernment and build resilience Greater self-control, critical thinking, non-aggression, reflect before responding
9	Open-mindedness	Build tolerance through more openness to other people's differences Practice mindful listening and appreciation for multiple perspectives	Cultivate openness, acceptance and willingness to see others' points of view Pro-social behaviour, compassionate action
10	Handling conflict skillfully	Nurture a sense of inner peace which allows for resolving conflict more skillfully Mindful practice of opening hearts and extending loving kindness to selves and others unconditionally	Value forgiveness and kindness, decrease reactivity Be more educated and responsible in the way of choosing how to respond
11	Nurturing compassionate action	Embrace positive values for a more satisfying life Articulate values, deep caring, being your best	Develop critical thinking, decision-making and accountability Strengthen character and steadfastness to positive values
12	Being the change	Motivate commitment to embodying mindfulness and making life better in communities and the world Make a tangible commitment to goals by writing them and sealing them in a time capsule	Act from intention, kindness and compassion Create positive change in the local community

Notes: Class activities included exercises involving mindful eating, mindful listening and speaking, body scan, regular journaling assignments for homework and participation in a volunteer community service project. Time was built in to each lesson for participants to spend three minutes in meditation using TUZA, a deep mindful breathing technique

Its vision is to "[…] transform the world through witness, faith, innovation and action" (TCDSB, n.d.). All of the schools were located in neighbourhoods in the downtown core, with the exception of one that was located on its periphery, presenting a wide array of racial/ethnic and socio-economic diversity.

Analysis

We conducted inductive, iterative thematic analyses of the data, employing the constant comparative method. Charmaz (2006) describes this as a method employed to make comparisons between data, codes and emerging categories, i.e., categories emerging within one focus group are iteratively compared within and across subsequent focus group transcriptions. One of the researchers first reviewed all of the transcriptions to ensure accuracy. Next, data were continuously compared to emerging categories, and refined during each coding iteration (Charmaz, 2006). The corpus of the data was coded by two researchers (including the first author) and then analysed with two other researchers, permitting what Patton (1990) refers to as analyst triangulation, an arrangement that reduces the potential for bias that could occur should only one person undertake the analysis. For greater rigour, regular peer debriefing sessions were scheduled to define and refine the coding framework and analysis, incorporating all sources of data. SPSS v. 20 was used to generate descriptive and cross-tabulations for the programme evaluation data.

Results

In total, 80 students in grades 11 and 12 completed a programme evaluation form. These data were incorporated in the qualitative analysis, providing another source of information from which to triangulate our focus group findings. We organise the results in two sections aligning with the research questions identified. The first section discusses participants' thoughts on the benefits and limitations of the MBI, and the second section describes participants' perceptions on the impacts of mindfulness, and their experiences of its practice. A table summarising the themes from the focus groups is presented in Table II.

The MAC programme

The following section discusses participants' thoughts on the MAC programme. The themes identify its benefits as well as its limitations.

Strengthened relationships. According to participating teachers, the sharing of perspectives with other participants during the MAC programme was a unique way to understand others and build relationships, particularly with their students:

> [...] I think that the students saw authenticity there [...] these people are real people and they have emotions too [...] So it's okay for me to have my emotions too [...] and [know] they're accepting me for who I am. I believe that it enhanced and strengthened the relationships [with students] (Participant 2, Focus Group 6 (P2-6)).

Teachers discussed how the mindfulness skills they learned in the programme were applicable to their interactions with work colleagues and students, and many believed these could be used to connect with students and promote open dialogue in the classroom. Learning to communicate, to listen and hear what students are really saying "without that judgement", and "taking a second to have a reaction" (P2-7) before responding were skills practised in the MAC.

Greater cohesion. Through the sharing of personal experiences in the MAC, students expressed having the sense that they were growing together as a class:

> I like the group talks because usually you don't get to know a lot of people on a personal level that you would like to know. So as a class I think we grew and that we got to know one another because one person spoke and everyone listened [...] (P2-3).

For many, the MAC promoted a safe, judgement-free environment conducive to fostering mutual respect and trust amongst members. The "intimate" (P17-5) circle format allowed for transparency of facial expressions and connection to others' raw emotions, fostering a sense of "unity" (P17-4), described as being void of power hierarchies. "I also felt that when we're all in a circle [...] no one gets left out because everyone's there, everyone's equal in the circle" (P16-5) stated one student. Participants discovered commonalities with other

Table II	Themes from student and teacher focus groups

Students	Teachers
The MAC training programme	
Greater cohesion with others	Strengthened relationships
Connectedness, sense of unity and trust	Building trust and respect
Discovering commonalities	Greater understanding of and connections with students
Transparency in relationships	Improved communication skills
Emotional regulation	Non-judgemental listening
Self-management skills	Mindful speaking
Reflecting on behaviours/thoughts to control reactions	Areas for improvement
Thinking before you act	Time offerings of MAC
Enhanced social awareness	Voluntary vs mandatory
Increased empathy	
Understanding of others	
Acceptance of diverse perspectives	
Impact on learning	
A different kind of education	
Sources of discomfort	
Perceived expectation of participation	
Awkwardness of silence	
Holding eye contact	
Areas for improvement	
Length of sessions	
Mandatory participation	
Further develop creative aspects of programme	
The experience of mindfulness practice	
Personal development	More meaningful relationships
Greater confidence	Deeper connections with others
Opportunities for self-discovery	Greater authenticity of relationships
Exploration of self	Socio-emotional learning
Self-understanding	Self-acceptance
Stress reduction	Reduced judgement of self
Skills to achieve relaxation	Increased feelings of self- kindness and compassion
Challenges with mindfulness	Improved well-being
Difficulty sustaining (TUZA) breathing technique	Sense of enriched life
	Personal growth
	Building mindful practice in professional and personal lives
	Greater self-awareness
	Tools to manage stress
	Achieve sense of calm
	Deep breathing
	Handling impulses, triggers
	Increased capacity to cope with conflict
	Dealing with difficult situations in a positive manner

classmates, which they felt allowed them to relate more easily to their peers, as demonstrated by the quotation, "It brought the class together and you get a sense of what everyone is about and what they go through" (P5-5).

Self-management skills and enhanced social awareness. The need to "think before I act" (P15-2) was a key take away message for students. Some noted that the MAC programme instilled an appreciation for remaining calm and patient with others, as well as learning to reflect upon one's thoughts and feelings in order to regulate oneself before reacting. "Last year I had a bad temper problem but since I took [the training] I've been more calm […]" (P4-3) noted one participant.

The training also promoted learning around the exercise of mindful listening (focused attention to the speaker and a period of reflection before responding) and mindful speaking (feedback offered in a positive and non-judgemental way so that it can be effectively received by others;

Mindfulness Without Borders, 2011), which participants felt was useful in appreciating the diverse perspectives of others and for being more authentic in their interactions:

> They taught us to actually listen to what people are saying instead of just hearing it and letting it pass through the other ear, like actually listening. So I guess in the future that will help develop relationships and just with your social skills and everything [...] (P17-5).

Furthermore, students discussed growing in their understanding and acceptance of others, described by one participant as learning to "put yourself in other people's shoes for understanding, which really helped and I've been applying [it] a lot" (P20-4).

Impact on learning. A few students noted that the various tools applied in the MAC created a space for learning that differed from traditional approaches to education:

> [...] I learned so much more in the [MAC] by talking to other people than sitting down and reading a textbook [...] You learn by talking to one another and that's so much better than just writing something off the board (P13-3).

Another student commented, "I can concentrate [...] and I can understand more things in school and also in my social life".

Areas for improvement. While the feedback about the MAC from the teachers was generally positive, there were aspects that teachers felt could be improved or refined for future participants. One teacher indicated that attendance was "a bit sporadic" (P3-6), thus to curb absenteeism, it was suggested that it would be best to avoid having sessions at the end of the week as "some kids gave themselves an extra long weekend" (P3-6). Another recommended offering the programme only to students interested in participating, rather than to the class in its entirety:

> [E]very week [...] it was a different dynamic but the same handful of students really benefitted [...] [it] would have been more beneficial if it was only the people [...] that really were interested in it were then participating. It would have changed the dynamics entirely [...] (P2-7).

Sources of discomfort. Students identified certain aspects of the MAC programme as being contentious, uncomfortable or needing improvement. With regards to the programme structure, some students felt that sessions could be shorter, but there could be more of them: "Maybe make it shorter because at the end, it felt it was just dragging on. If you have more sessions, you could just make it shorter sessions" (P27-1). Some students explained that they resisted participating fully because of the mandatory nature of the programme:

> I think that knowing this was mandatory more people felt like they didn't want to come. I know I, personally, did not go to a few of the meetings on purpose [...] It's like when I'm told to do something I don't really do it (P6-2).

In addition, a few students felt that the MAC could be made "more interesting" (P6-1) by further developing the creative aspects of the training.

Engaging in open dialogue about one's thoughts and feelings during the MAC was unfamiliar territory that may have introduced a level of discomfort for some participants. One student felt that the sharing of feelings and perceptions ought to be a gradual process, rather than being encouraged from the start. Another student explained, "I didn't like sharing my feelings. I don't like talking in public so I did not enjoy that part" (P2-1). While not intended to put students under any pressure to speak, some participants felt obliged to participate, as noted by this participant:

> I also felt that you felt obligated to pick [the talking object] up [...] so I didn't like that either because [...] you had to come up with something really fast and stuff (P10-4).

Some felt that incorporating more small group discussions could be beneficial for those uncomfortable with speaking to the whole class, and that this may prove to be a more productive way to share experiences.

> So maybe if there were more times when you would break off into smaller group and talk with a group of two or three, then there would be more progress because people would be more willing to share with two people than they would with 20 (P6-2).

Holding eye contact was also difficult for some students:

> […] [E]verybody's eyes are on you and usually when you're at school […] we don't look at anybody, right? So the second that you make us have to look at each other it makes us really uncomfortable (P3-4).

Other sources of discomfort were also identified. "All the silent moments, they're very awkward. It's really hard to share when everyone's silent," commented one student (P22-1).

Thoughts on and experiences of mindfulness practice

The following section outlines the themes that emerged from participants related to their perceptions on the impacts of mindfulness, and their experiences of mindfulness practice.

Connection to others and authenticity in relationships. Several teachers discussed feeling more connected to others after practising mindfulness, as illustrated by the following quotation:

> […] I have applied mindfulness to make a deeper connection with my loved ones and just generally people in my community, whether it be a work community or anybody, a stranger that I might meet at the store when I'm doing a transaction […] So really trying to be more connected with others (P3-6).

Teachers expressed feeling more authentic in their relationships (both in and outside the classroom) after practicing mindfulness:

> […] [I]f we incorporate this, then I think we are enriched for it and we are better people and we are better listeners and I feel better about myself. I feel more authentic in my relationships with others and I feel authentic with myself (P3-6).

Acceptance without judgement. Being able to avoid making judgements not only applies to others but also to one's self. "I first learned to be kinder with myself," one teacher stated, and went on to explain:

> […] I would sometimes get very hard on myself and down. And I realised that mindfulness has taught me to be conscious and aware of how you're feeling without judgment and […] to not get upset with myself or to feel disappointed with myself, but just to accept that that is what they were and there was a reason for it and to not judge myself (P3-6).

Personal growth and opportunities for self-discovery. Teachers discovered the potential to realise "amazing change" (P1-6) in their personal lives, enriched by the practice of mindfulness:

> […] It is such a weight lifted off when you are going through the world and sort of just seeing everybody for who they are, not judging, listening, it's just an amazing change. And I definitely, definitely want to carry it through into my life daily (P1-6).

Given the overall consensus that mindfulness has the potential to increase personal growth, many teachers seemed eager to integrate mindfulness practice into their family and home life, and not merely into their teaching:

> […] [T]o practice mindfulness is truly life altering […] So, yes, absolutely I will take this with me. I will continue to use it within the scope of my teaching and with my interactions with my colleagues, with peers, with children […] with everyone (P2-6).

Consequently many teachers indicated strong interest in maintaining a personal mindfulness practice into the future.

The development of self-awareness and self-understanding was also discussed. "[Mindfulness] helped me become more aware of myself and how others perceive me" (P25-1), remarked one participant. Another commented:

> It was really weird seeing how you can be one person but then be another. It depends what your surroundings are and what people are around you. So it just takes time to look at yourself and realise oh wow, I'm this person and then I'm also that person (P10-3).

Stress and anxiety reduction. Importantly as well, teachers elaborated on how mindfulness practice helps to reduce stress and anxiety, specifically when confronting challenging situations and conflict:

> […] [O]ne of the first ways I've used [mindfulness] is with stress and anxiety […] It has helped me be better able to cope with uncertainties so it has made me calmer, more appreciative, aware that things come and go and has eased my anxiety over that […] sort of not jumping to things, sort of waiting and being calm and responding, not reacting. Which has really, really made a lot of conflicts end very peacefully [...] (P1-6).

Being able to develop tools for coping with stress and conflict thus emerged as a benefit for teachers practising mindfulness.

Similar themes from the focus groups with teachers surfaced in the student data, particularly in relation to the use of mindfulness to promote opportunities for self-discovery and as a means to reduce stress and encourage relaxation. Many students considered mindfulness to be an effective stress reduction skill transferable to different areas of life. TUZA (a deep mindful breathing technique), in particular, was deemed to be helpful for calming and relaxation, as well as for simply taking a break or re-energising throughout the day, as one student noted:

> Basically, whenever something would stress me out or get me nervous, I would just tell myself to slow down, stop or pause and take a breath. It would just calm me down […] (P1-1).

Difficulties with mindfulness. As previously discussed, there were aspects of the MAC programme that created discomfort for participants; some of these were particularly difficult to tease out as being related to the programme itself or to the practice of mindfulness (e.g. the awkwardness of silence in a large group). The TUZA breathing technique was identified as challenging for some participants, as this student explains:

> […] I'm not really a fan of TUZA because I get easily distracted so it was kind of 15 minutes or […] whatever of just looking at the wall for me or finding random dots on the wall. I didn't really like that [...] (P6-2).

Discussion

Important themes from the qualitative analyses consider how the MAC programme promoted personal growth in participants. A number of teachers discussed experiencing improvements in their personal and professional relationships after programme participation. Likewise, Roeser *et al.* (2012) note the positive effects of MBIs on teachers, including greater occupational engagement and positive teacher-student relationships. Moreover, Meiklejohn *et al.* (2012) report that teachers are better able to establish and maintain supportive relationships with students in the classroom after participating in mindfulness training. Teachers in our study also found the training to be helpful as a means to achieve calmness, to relax, reduce stress and to increase their capacity to cope in challenging situations. Roeser *et al.* (2012) similarly argue that the cultivation of mindfulness practice improves teachers' overall health and well-being, and lowers absenteeism, occupational stress and burnout.

In both the focus group and programme evaluation data, students expressed that the skills developed through the MAC training were effective tools for relaxation and stress reduction; resonating with Mendelson *et al.*'s (2010) study of urban youth participating in a 12-week MBI that found growth in young people's capacities to respond positively to stress after participating in the programme. Likewise, in a sample of healthy youth, Monshat *et al.* (2013) found that mindfulness training fostered a sense of relaxation or calm in participants, as well as expanded participants' understanding of themselves and others. Edwards *et al.*'s (2014) study of Latino middle-school adolescents similarly demonstrated reductions in perceived stress following an eight-week MBSR curriculum. Students in our study also discussed acquiring self-management skills to help them identify and regulate their emotions more effectively; findings echoed by other studies in Meiklejohn *et al.*'s (2012) review assessing MBIs in school-based programmes globally.

While studies suggest that mindfulness training may have an impact on learning (Beauchemin *et al.*, 2008; Franco *et al.*, 2010), further research is needed to substantiate the positive effects of mindfulness practice on scholastic achievement. Our study data show promise in this regard.

Some students discussed the improved concentration experienced as a result of participating, while others appreciated the different instructional tools employed in the MAC (vis-à-vis traditional classroom approaches), which have the potential to meet different learning styles.

A number of students expressed feeling pressured or uncomfortable discussing their thoughts and feelings within the larger group, and at times, found the silence fostered in the MAC awkward. These findings provide useful fodder for discussion on whether school-based MBIs should incorporate the sharing of participant experiences after mindfulness practice, or whether this ought to be reserved for personal reflection. In the MAC programme sharing is voluntary, giving participants the freedom to fully engage in reflective practices and converse with others if they so choose. However, as the programme specifically designates time for discussion during its mindfulness-based lessons, it is important that participation not be perceived as expected or coerced. Though it may have been the perception of some students that they were required to share, the voluntary nature of participation is one of the key values of the programme, explicitly discussed in its guidelines and reiterated at the beginning of each lesson. Other MBIs have been shown to allow time for dialogue after mindfulness practice, albeit in potentially quite different contexts (see Baer, 2003). Other studies, as well, have noted how engaging children and youth in mindful activities can be challenging, as young people often struggle to understand the purpose of specific actions (e.g. closing their eyes) and find it difficult to perform these techniques comfortably in front of their peers (Semple et al., 2005; Thompson and Gauntlett-Gilbert, 2008). Again, we suggest that research is needed to examine if and how MBIs directed to children and youth can strike a balance between creating a space conducive to dialogue on mindfulness experiences, while being careful not to pressure students to engage should they wish not to do so.

Other participants suggested that the MAC could be "more interesting," and that the creative aspects of the training could be further developed. The literature indicates that modifications should be made to MBIs adapted for children and young people to incorporate greater variety and more active and sensory-focused techniques than would generally be offered to adults (Semple et al., 2005; Thompson and Gauntlett-Gilbert, 2008).

We find the discussions provided by Saltzman and Goldin (2008) and Davidson et al. (2012) particularly helpful in considering the ways to enhance the teaching of mindfulness in school settings. As the authors note, in bringing MBIs to the classroom, it is important that they be secular in nature (Saltzman and Goldin, 2008), evidence-based and developmentally and culturally appropriate (Davidson et al., 2012). A proactive approach is needed to garner support from school administrators, teachers and parents to provide mindfulness instruction, as well as opportunities for each of these groups themselves to experience mindfulness. Offering space for participants to ask questions and clarify misconceptions improves the likelihood of mindfulness programmes being successful (Saltzman and Goldin, 2008). Practical implementation issues, such as finding the time amidst competing classroom demands and ensuring the quality of mindfulness instructors (Burke, 2010), also require careful thought and planning. Moreover, research suggests that in order for trainers to comfortably and effectively facilitate MBIs in the classroom, it is imperative that they themselves establish a regular practice (Weare, 2013). Beyond the trained teacher or certified mindfulness therapist, school social workers, nurses and/or psychologists may be logical choices for trained programme facilitators. Although research is equivocal on the length of time required for the practice of mindfulness to demonstrate therapeutic benefits in students, there is consensus that repetition is necessary (Napoli et al., 2005). In Table III, we list a series of "practitioner points" that synthesises the practical insights we have gleaned from the extant literature in regards to the design and implementation of the MAC, which likely are also transferrable to other MBIs with children and youth.

MBIs for young people in school and treatment settings are clearly gaining momentum, and thus research is needed to not only demonstrate their effectiveness (Black et al., 2009; Meiklejohn et al., 2012), but also to address how best to implement such programmes, and with which populations. Although Rempel (2012) argues that MBIs are well suited to universal populations given their non-stigmatised preventative approach, some research (e.g. Zoogman et al., 2014) suggests they may be particularly valuable for clinical populations. Questions also linger as to the most appropriate age to target MBIs, the frequency and dosage of treatment and the outcomes

Table III Practitioner points: considerations for implementing a mindfulness-based intervention with children and adolescents

Practitioner points	Evidence
Who will provide the training Instructor competence must be at a professional standard in order to ensure the integrity of the practices employed in the programme	Lawlor (2014)
Provide training for school teachers Teachers can become role models for students, positively influence students' perceptions of mindfulness and help foster a positive school climate. Students have better outcomes if teachers have the opportunity to attend more training, have practice teaching the programme lessons and are deemed to be moderate- to high-quality programme instructors	Lawlor (2014), Napoli *et al.* (2005), Meiklejohn *et al.* (2012), Wisner (2014)
Continuing education for teachers Learning the skills and practices of mindfulness may help to further develop teachers' knowledge base and skillsets not typically offered in current preservice and/or in-service education training. Teachers can apply mindfulness training for continuing education credits, while advancing skills that are useful, if not necessary, for classroom teaching	Napoli *et al.* (2005), Roeser (2014)
Gradual approach It may be useful to take a step-by-step process in implementing mindfulness-based programming to allow for greater student, teacher, parent and community involvement	Broderick and Jennings (2012)
School staff involvement Implementing a mindfulness-based programme can be challenging. It is important for mindfulness instructors to be connected and supported by school staff, and to include these individuals in the mindfulness training	Lawlor (2014), Wisner (2014)
Length and duration of practice Mindfulness practice in adults can range from 20-45 minutes. With children and youth, shorter practices are required. Semple *et al.* (2006) use practices between 3-5 minutes for children. Wisner *et al.* (2010) use practices of roughly 10 minutes (once daily, several times a week, with one longer session weekly when instruction is provided) with adolescents	Semple *et al.* (2006), Greenberg and Harris (2012), Wisner *et al.* (2010)
Adaptations based on developmental theory Age-appropriate practices and adaptations that take into account the developmental stage of the child and/or youth are necessary	Lawlor (2014), Zack *et al.* (2014)
Programme components The use of experiential exercises (e.g. eating and walking meditation) and concrete instructions are helpful. As the intention of mindfulness-based programmes is to develop mindfulness practice, programmatic features should include: body scan, focused attention meditation, open monitoring meditation, loving-kindness meditation and mindful movement (for more detail, see Roeser, 2014) Include fun and creative exercises. The use of stories, metaphors and examples are encouraged as a way to ground mindfulness exercises to relatable events in the young person's life Endeavour to strike a balance between variety and repetition Use language accessible to the participants	Roeser (2014), Saltzman and Goldin (2008), Thompson and Gauntlett-Gilbert (2008), Zack *et al.* (2014)
Engage parents and caregivers Providing training for parents and caregivers may help to reinforce mindful behaviours, provide role models for children and youth, and may support co-participation, which has the potential to augment treatment efficacy	Burke (2010), Napoli *et al.* (2005)
Class offering As mindfulness has been shown to contribute to health and social wellness, consider offering the programme during a health and physical education class	Napoli *et al.* (2005)
Peer relationships There is a social learning aspect that can be fostered in a group format, allowing participants to learn, teach and support each other	Semple *et al.* (2006), Thompson and Gauntlett-Gilbert (2008)
Programme challenges Some children and youth may have difficulty concentrating, while others may demonstrate non-compliance to programme expectations. As Bögels *et al.* (2008) resigned to do, trust that the group process and eventual effects will likely come into force over the course of the programme. Beginning mindfulness training with children might help to mitigate issues of non-compliance in youth	Bögels *et al.* (2008)

valuable for study inclusion (Roeser, 2014). Though the efficacy of the MBI described here remains to be demonstrated, findings from this study confirm existing literature that such interventions show promise and may be beneficial in reducing stress and anxiety (Biegel *et al.*, 2009; Semple *et al.*, 2005), improving executive functions (Flook *et al.*, 2010), supporting

emotional regulation (Broderick and Jennings, 2012), building interpersonal skills and promoting inner well-being and social-emotional learning in youth (Broderick and Frank, 2014).

Implications for policy and practice

- Evidence is emerging that MBIs with children and adolescents may promote opportunities for personal growth, stress reduction and relaxation, social awareness and self-understanding, relationship building and social-emotional learning.

- There are challenges associated with adapting and delivering MBIs with younger populations.

- Although the study's findings indicate that the Mindfulness Ambassador Council programme shows promise, further research is needed to demonstrate the efficacy of this and other mindfulness-based programmes for young people.

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