



**Evaluation of *Stress Lessons: From Stressed Out to Chilled Out*:
A Program for Students in Grades 7 to 9 on Managing Stress**

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Executive Summary

The report describes the results of the evaluation of the *Stress Lessons: From Stressed Out to Chilled Out*, a school-based, stress reduction program for students in Grades 7 to 9. *Stress Lessons* is an empirically-informed, theory-driven program developed in 2013 by the Psychology Foundation of Canada (PFC, 2013) in collaboration with educators, parents, counselors, and psychologists. This evaluation was carried out between November, 2015 and June, 2016 at four schools of the Toronto Catholic District School Board (TCDSB).

Sixty-five students from five classrooms, and their teachers, participated in the study; 60 students contributed data at both pretest and posttest and so were included in the analyses. Program effects were assessed with measures of school engagement, perceived stress, coping strategies, general self-efficacy in managing stress, emotional regulation, and physiological stress effects. Teachers' self-perceptions of their effective delivery of each of the *Stress Lessons* sessions were assessed through teacher interviews, as were their overall impressions of the program.

It was expected that participating students would acquire a greater understanding of what stress is and use a variety of adaptive strategies for managing their level of stress. As a heuristic model, the program's impact was expected to follow a three-stage progression for the students, from: (1) increased awareness of stress and greater perceived coping self-efficacy, which lead to (2) the use of more effective coping strategies and greater effort in managing the stress, which lead to (3) improved emotional and behavioural self-regulation, emotional well-being, concentration, and focus in the classroom, classroom engagement, and academic performance.

Results

Student effects

The program was found to have a positive impact on students.

- After receiving the program, all students reported experiencing greater behavioural engagement at school.
- Positive effects also were observed on the Active Coping Strategies and General Self-Efficacy measures. However, the effects were qualified by the particular teacher who delivered the program. These effects may be the result of a delayed response to the program, whereby some students show more immediate effects and other students may show positive effects at a later point. The use of a longer follow-up period could address this hypothesis. The effects also may have been due to differences in the implementation of the program across teachers. This possibility is discussed later in this report.
- Contrary to expectation, compared to pretest scores, at posttest, students showed an increase in their level of perceived stress. This may reflect an increased awareness of stress, as a result of participating in the program. The effect also may be a delayed reaction to learning and using new coping strategies for the students; that is, a reduction in their perceived stress may be seen after students had more time to practice the techniques they learned from the program.

- No effects were found for measures of emotional or cognitive school engagement, the use of distraction, support seeking, or avoidance coping strategies, affect regulation, or physiological stress effects. These areas may not have been targeted by the *Stress Lessons* program.

Teacher interviews

- Teachers reported observing positive gains in their students, including using the language of the program and the strategies they learned during the program.
- Teachers found the students were more open about talking about these issues, as the topics seemed to have become less “taboo.”
- Some teachers reported fewer behavioural outbursts as the term went on.
- The interview data also indicated that not all teachers felt comfortable with the material, which may have affected the student outcomes.
- Teacher E reported being particularly comfortable with the material, was experienced with student mental health issues, had personal interests in mindfulness and stress reduction techniques, and did not face barriers such as learning a new “language” of mental health. This might have affected the outcomes of the program.

Recommendations

- Teachers should be adequately prepared to accept the material and feel comfortable with it before they deliver the sessions. It is suggested that the teacher training attend to the teachers’ comfort level in discussing mental health issues, in general, beyond grasping the specifics of the *Stress Lessons* sessions.
- Although outside the purview of the PFC, it would be beneficial for students if teachers could pay greater attention to students’ psychological vulnerabilities and be more prepared to respond to issues as they arise. It is suggested that teachers be provided with training on responding to individual students who bring stress-related and other mental health questions and concerns to them. This could include information or tip sheets that are made available to teachers.
- It is suggested that connections between teachers and guidance counselors, social workers, and psychologists be enhanced within the school, as a further resource for teachers.
- For students, these resources could be an important source of information and support about mental health issues, particularly for those who might need a referral for counseling.

How did the research design work?

- In terms of the research design, we could conclude that this aspect of the evaluation worked out well. We were successful in recruiting teachers to implement the *Stress Lessons* program and participate in the evaluation of the program.
- The measures used to evaluate the program also worked out well. They were developmentally appropriate; relevant to the lessons taught within the *Stress Lessons* program; and for some, appeared to be sensitive to change as a function of the program.

- The use of a quasi-experimental research design enabled us to identify changes over time that could be explained in relation to the program (i.e., the interaction effects), despite its inherent flaws (i.e., lack of a control or comparison group).
- The use of a mixed-method design allowed us to gain valuable information from teachers that provided important contextual material to interpret the student-related findings.

Recommendations

- It was advantageous for the study to enlist the aid of an in-house person who was a champion for the program and the evaluation and was able to help “sell” this project to the teachers. It is ideal to partner with an in-school champion for the implementation of the evaluation.
- It is suggested that this research design and methodology be used as a template for subsequent evaluations of the *Stress Lessons* program. Subsequent evaluations also may include a no-treatment, wait-list, or delayed treatment control group or an alternative program, comparison group, where possible. Subsequent evaluations could also include a third, follow-up period of data collection to identify any potential delayed effects and to determine whether the positive gains observed at posttest are sustained over time.

Study Limitations

The study had a number of limitations.

- Four of the measures had an internal reliability that fell below the .70 cutoff (Kline 2000), which affects our ability to interpret their meaning.
- The study did not include a control or comparison group, against which our findings could be compared. This affects the degree of confidence we have that the observed effects were due to the program and not due to some other variable(s).
- Our study sample was limited to classrooms of students from a single school board in Toronto and to teachers who volunteered to be part of this evaluation project. This affects the generalizability of the study.
- We did not measure treatment fidelity, that is, the degree to which teachers delivered the program in accordance with the *Stress Lessons* manual. Deviations from the program manual may compromise the quality or integrity of the program, which may undermine the program’s effectiveness. Subsequent evaluations could attend to the issue by conducting in-class observations of the teachers as they are delivering the program to assess adherence to the program manual.
- Related to treatment fidelity, not all teachers delivered seven *Stress Lessons* sessions and none delivered the Chill Fair due to time constraints. Rather, several teachers revised the seventh session in keeping with the relevance and interests of their students, electing to implement alternative ways for students to express what they learned from the program.
- The pretest and posttest measures were collected at different times of the year for different classes. As a result, the timing of the administration of the measures was not standardized and may have affected the treatment effects.
- The amount of time between the completion of the program and collection of posttest measures also varied across classes. A longer time period between the end of the program and the administration of the posttest data may have diminished students’ perceptions of the effects of the program, which may have affected the program outcomes.

- The study only assessed immediate treatment effects and did not assess any potential delayed treatment effects.

These limitations notwithstanding, the results of the present evaluation suggested that the program improved students' ability to be engaged with school and provided some students with effective techniques of coping. Methodological enhancements in subsequent evaluations of the *Stress Lessons* program may reveal further effects not uncovered here, such as delayed or sustained benefits.

1.0 Study Overview and Literature Review

This report describes the results of the evaluation of *Stress Lessons: From Stressed Out to Chilled Out* (hereafter referred to as *Stress Lessons*, unless otherwise specified), a school-based, stress reduction program for students in Grades 7 to 9. *Stress Lessons* is an empirically-informed, theory-driven program developed in 2013 by the Psychology Foundation of Canada (PFC, 2013) in collaboration with educators, parents, counselors, and psychologists. The goal of the program is to improve students' understanding of stress through the enhancement of self-awareness and to teach them coping strategies to deal with stressors in their daily lives. Although the program has been widely distributed across Canada and the United States (PFC, n.d.), it has yet to be formally evaluated.

The present evaluation was a pilot study to examine the effectiveness of the program. The evaluation was conducted in four schools within the Toronto Catholic District School Board (TCDSB) in the Greater Toronto Area (GTA). The study examined whether *Stress Lessons* resulted in improvements in students' awareness of stress and their ability to manage stress. The results will be used by the PFC to inform both the wider dissemination of *Stress Lessons* across schools in Canada and subsequent evaluations of the program.

This study was conducted in collaboration with the PFC. The PFC is a national registered charity dedicated to supporting parents and strengthening families through a number of initiatives, including creating educational resources, developing training programs for parents and professionals, and delivering community-based programs through diverse partnerships across Canada. Founded in 1974 to promote the understanding and use of research-based psychological knowledge to help people in their daily lives, the Foundation is guided by a volunteer Board of Trustees comprised of psychologists and business and community leaders.

1.1 BACKGROUND LITERATURE

North American adolescents are reporting higher levels of stress than ever before (American Psychological Association [APA], 2013). The APA survey found that 31% of youth reported that their stress levels had increased from the previous year and 83% said that school was a "somewhat stressful experience." A 2009 Canadian Community Health Survey found that 14% of Canadian youth aged 12 to 19 found most days to be either "quite a bit" or "extremely" stressful (Statistics Canada, 2009). In the Toronto District School Board (TDSB), 18% of Grade 7 to 8 students reported being under a lot of stress "always" or "often," and this percentage increased to 38% when students moved into secondary school (TDSB, 2013). The most common worries reported by students in the TDSB survey concerned school expectations, plans for the future, family issues, and relationships with friends. Last, a recent large-scale, epidemiological survey of students in grades 7 to 12 in Ontario, conducted by the Centre for Addiction and Mental Health (CAMH), indicated that 28.7% of the youth experienced an elevated level of stress, with twice as many female students reporting a high level of stress (38.2%) than male students (19.8%). Moreover, the number of youth who reported an elevated level stress increased from grade 7 (10.9%) to grade 12 (42.2%) (Boak, Hamilton, Adlaf, Henderson, & Mann, 2016).

1.1.1 What are stress and coping?

Stress is defined as the physiological reaction to environmental demands that exceed a person's coping abilities (Lazarus & Folkman, 1984). Although some stress can be positive (e.g., starting a new job), negative or prolonged stress can have maladaptive effects on all aspects of human functioning (Lupien, McEwen, Gunnar & Heim, 2009). Psychosocial stress during adolescence, for example, is a risk factor for psychopathology in subsequent years (Grant, Compas, Stuhlmacher, Thurm, McMahon & Halpert, 2003). Therefore, developing resiliency and learning how to productively cope with the multitude of stressors that may occur over a lifetime is of the utmost importance.

Coping can occur in various ways, both voluntary and involuntary, and emotion-focused or problem-focused. Lazarus (1993) defines coping as a goal-oriented process in which an individual applies behavioural and cognitive strategies to mitigate sources of stress and the related emotional reactions. Broader definitions suggest that coping is any purposeful change in behaviour, cognition or emotion to alleviate a stressor (Compas, Connor-Smith, Saltzman, Harding Thomsen, & Wadsworth, 2001).

1.1.2 Impact of stress on young adolescents

Although stress can be beneficial in small amounts, too much stress and the inability to cope with stress effectively can adversely affect young people's physical and psychological well-being. Unhealthy coping can undermine learning in the classroom and interfere with attention, memory, focus, and classroom engagement (Akgun & Ciarrochi, 2003; Lupien, Fiocco, Wan, Maheu, Lord, Schramek & Tu, 2005). Perceiving greater school and peer stress has been found to be related to decreased self-worth (Fenzel, 2000) and increased anxiety (Grills-Tauchel, Norton, & Ollendick, 2010). Likewise, family-related stressors are associated with lower life satisfaction for young people (Chappel, Suklo, & Ogg, 2014). Youth who report difficulty making school transitions report greater mental health problems, including depression and anxiety (Lester et al., 2013; Waters, Lester, Wendon, & Cross, 2012). Complaints of somatic symptoms, such as stomach aches and headaches, also are associated with stress (Torsheim & Wold, 2001). Among adults living with mental health problems, two-thirds report that their symptoms first appeared during their youth (Government of Canada, 2006). Establishing the foundation for healthy emotional and social development is vital to ensuring the well-being of all Canadians as they progress from childhood to adulthood.

In summary, the inability to deal with stress can affect the well-being of children and youth. Although stress is a normal part of everyday life for all of us, too much stress, or not having the coping strategies to deal with stressors, can be overwhelming and can interfere with a young person's motivation, attention, perception, memory, and learning process. The long term effects of stress can also lead to physical and mental health problems.

1.1.3 Why target this age group?

As noted above, grades 7 to 9 can be an extremely stressful period for young people. The target age range of 12 to 14 years is a critical period for youth to be exposed to adaptive, effective, and healthy coping strategies and techniques. This is a time of substantial growth and maturation in the biological, social, emotional, and behavioural domains. Youth in grades 7 to 9 experience daily hassles, related to problems with peers, teachers, and family that can have a greater impact

on health than major life events (Heubeck & O’Sullivan, 1998). It is also the period just prior to the peak age for antisocial and risky health-related behaviours (i.e., 15 -17 years), such as experimentation with alcohol and drugs, involvement in petty criminal offences, and other rule-breaking behaviour, making this age group an optimal target for preventative measures. According to Thornberry, Giordano, Uggen, Matsudo, Masten, Bulten, & Donker (2012), early adolescence is seen as a “vulnerability window for multiple forms of problems...when developmental changes and contextual challenges converge to accelerate certain problems like risk taking behavior, depression, and delinquency” (p. 69).

For the target age group of 12 to 14 year-olds, in particular, the school transition from elementary school to junior high or high school poses considerable stress, as they face a new environment and changes in academic complexity and emphasis on competition (Berndt & Mekos, 1995; Snow, Gilchrist, Schilling, Schinke, & Kelso, 1986; Wenz-Gross, Siperstein, Untch, & Widaman, 1997). The transition from middle school to high school has been shown to be accompanied by lower grades and poorer academic performance (Alsphaugh, 1998; Forrest, Bevans, Riley, Crespo, & Louis, 2013), low school engagement and teacher and school connectedness (Forrest et al., 2013; Lester, Waters, & Cross, 2013), and greater absenteeism (Barone, Aguirre-Deandrels, & Trickett, 1991), alcohol use (Jackson & Schulenberg, 2013), and school dropout (Alexander, Entwisle, & Kabanni, 2001; Alsphaugh, 2000). In a study of school dropout over a lifetime, Alexander and colleagues (2001) found grade 10 to be the modal grade in which youth dropped out and 34% of students who dropped out, did so before grade 10.

In addition, young people in the target age group may experience the onset of puberty and the associated hormonal changes that can influence stress levels (Stroud, Foster, Papandonatos, Handwerker, Granger, Kivligan, & Niaura, 2009). These hormonal changes may explain why adolescents show higher levels of cortisol than children (Stroud et al., 2009). In relation to academic outcomes, the onset of puberty is associated with lower school engagement, decreases in GPA, and lower school connectedness (Forrest et al., 2013). Socially, youth undergoing puberty experience a range of daily hassles that can affect their health (Heubeck & O’Sullivan, 1998). In a study of 210 Australian youth, 56% reported experiencing daily hassles involving peers, academics, teachers, and home “sometimes” or “often,” with 64% reporting that these daily hassles caused them “some” or “a lot” of bother (Heubeck & O’Sullivan, 1998). Research also suggests that youth in early adolescence are often unequipped with the proper coping skills to handle multiple stressors (Donaldson, Prinstein, Danovsky, & Spirito, 2000). Thus, due to the increase in stressors experienced by youth aged 12 to 14 and their limited coping skills, there is a need to develop effective interventions to facilitate the development of coping and stress management skills for this age group.

1.2 THE STRESS LESSONS: FROM STRESSED OUT TO CHILLED OUT PROGRAM

Evidence suggests that interventions can be effective in reducing stress in youth at this age (Elias, Gara, Ubriaco, Rothbaum, Clabby, & Schuyler, 1986; Snow et al., 1986). Stress reduction programs, like *Stress Lessons*, that place an emphasis on positive feelings, effectively improve young people’s physical, behavioural, and psychological responses to stress (McCraty, Atkinson, Tomasino, Goelitz, & Mayrovitz, 1999). However, most programs have been developed in the United States and so may not be relevant for a Canadian population. *Stress Lessons* was created for Canadian youth by the PFC. Developed as an extension to the grades 1 to 3 and grades 4 to 6

Stress Lessons programs, *From Stressed Out to Chilled Out* for grades 7 to 9, is intended to be used in schools to help young people develop stress management skills and build emotional resiliency.

The program is based on the notion that resiliency can be taught and draws on the field of positive psychology. It is also based on the premise that when students are unable to cope with their stress, their ability to learn and succeed is compromised. The *Stress Lessons* curriculum is designed to be delivered through a student-centered, constructivist style of learning, meaning that teachers act as facilitators of knowledge acquisition as opposed to traditional, didactic styles of teaching. The three core goals of the program are to: (1) provide a curriculum-relevant, evidence-based program to educators; (2) teach students skills that will help them be resilient and emotionally competent; and (3) create teachable moments for promoting these types of skills (PFC, 2013).

The *Stress Lessons* activities are grounded in established theory and solid evidence on the effectiveness of cognitive-behavioural strategies to manage stress. Students learn self-awareness and stress management strategies to enable them to deal with stressors in productive and adaptive ways in their daily lives and throughout their lives. Specific skills taught to students include techniques such as re-framing the stressor as a problem that can be solved; breaking the stressor into manageable parts; challenging negative thoughts (e.g., catastrophizing, absolute thinking); and deep-breathing and other relaxation and mindfulness exercises. Over the course of the program, students learn what stress is and its effects on their physical and emotional well-being; how to recognize when they are stressed; and how to respond effectively to stress in their daily lives.

The program comprises seven lessons that are incorporated into the curriculum by the classroom teacher. Each session is designed to build on the previous lesson to provide students with skills to: (1) know what stress is and what effects stress has on their physical and emotional well-being; (2) recognize when they are stressed; and (3) respond appropriately to stress in their daily lives in ways that can effectively reduce the impact of the stressor, that is, know the difference between healthy and unhealthy coping. However, the program was designed so that teachers could use each session as a stand-alone lesson.

1.3 EXPECTED OUTCOMES

It was expected that participating students would acquire a greater understanding of what stress is and use a variety of adaptive coping strategies for managing their level of stress. It was expected that these techniques would be helpful not only during their time at school, but also during their home life when they are confronted with challenges there. Although not a focus of this evaluation, for the teachers, it was expected that those who implemented the *Stress Lessons* program would learn more about how to address the stress level of their students and about strategies and techniques for decreasing it, which would, in turn, create a more positive classroom environment for both students and themselves. As well, teachers may acquire greater insight into their own stress and learn strategies for reducing it that may be beneficial not only for their work life but also their personal life. Last, at a broader level, the benefits of participating for both students and teachers would be expected to lead to a “ripple effect.” For the school

environment, the participating classroom/teachers/students who are learning more about how to manage their own stress levels, may serve as positive role models for other teachers and students at the school, inspiring them to incorporate the strategies they learned. Likewise, while at home, the student participant may share with parents and siblings what they have learned in the *Stress Lessons* program, thereby introducing its teachings in a way that may enhance the wellbeing of the family (Embree n.d.).

As a heuristic model for this evaluation, the program's impact was expected to follow a three-stage progression for the students, from: (1) increased awareness of stress and greater perceived coping self-efficacy, which lead to (2) the use of more effective coping strategies and greater effort in managing the stress, which lead to (3) improved emotional and behavioural self-regulation, emotional well-being, concentration, and focus in the classroom, classroom engagement, and academic performance. The proposed evaluation focused on all the elements of the three stages of this schema (except for academic performance) and evaluated changes in students' coping self-efficacy, coping strategies, emotional well-being, and classroom engagement. Teachers' self-perceptions of their effective delivery of each of the *Stress Lessons* sessions also were assessed, as were their overall impressions of the program.

2.0 Method

2.1 RESEARCH DESIGN

This program evaluation used a pre-post, quasi-experimental research design (Cook & Campbell, 1979). Measures were collected before the program was implemented (i.e., baseline) and about 5 months after baseline, after the program was completed. The evaluation did not incorporate a control group. In other words, all participating students were exposed to the *Stress Lessons* program. This research design was deemed appropriate for this pilot evaluation study. The study also used a mixed-method design, in which both quantitative and qualitative data were gathered from study participants (i.e., students and teachers). A mixed-methods design provides "rich" qualitative data that can supplement the quantitative data (expansion function) and aid in the interpretation and meaning of the statistical analyses (complementarity function) (Greene, Caracelli, & Graham, 1989). The evaluation proposal, materials, and protocols were reviewed by the Ryerson Ethics Board (REB) at Ryerson and the study was determined to meet the criteria for a program evaluation (Lavallée, personal communication, October 10, 2014) (Appendix A).

2.2 STUDY PARTICIPANTS

Sixty-five students from five classes in four schools (three elementary schools and one high school) in the TCDSB completed the pre-treatment measures. Five teachers and one guidance counselor (who worked with one of the teachers on the program) participated in the study (see Table 1). The response rate for the study across the five classrooms was 52%. In other words, 65 students out of a total of 127 eligible students provided parental consent and youth assent to participate. There were 5 children in grade 6 (M age = 11.6 years); 12 children in grade 7 (M age = 12.5 years); 35 children in grade 8 (M age = 13.5 years); and 13 children in grade 9 (M age = 14.7 years). Thirty-four students identified as female (52.3%) and the sample was ethnically

diverse. However, the majority of the participants identified as East Asian (see Table 2).

Table 1. Number of students per teacher

Teacher	Years Teaching	N of students
A & Guidance Counselor	20 years / 18 years	13
B	8 years	19
C	14 years	10
D	17 years	10
E	<i>Not provided</i>	13

Table 2. Demographic information about the study sample

Variable	Time 1 (<i>N</i> = 65) <i>M</i> (<i>SD</i>) or %	Time 2 (<i>N</i> = 60) <i>M</i> (<i>SD</i>) or %
Age	13.4 (0.90)	13.3 (0.87)
11	4.6%	5.0%
12	21.5	23.3
13	53.8	55.0
14	18.5	16.7
15	1.5	0.0
Gender		
Female	52.3%	50.0%
Grade		
6	7.7%	8.3%
7	18.5	20.0
8	53.8	55.0
9	20.0	16.7
Ethnicity		
African	3.1%	3.3%
African/Caribbean	1.5	1.7
Other Caribbean	3.1	3.3
South Asian	4.6	5.0
East Asian	26.2	26.7
Middle Eastern/North African	3.1	1.7
White/British/Irish	4.6	1.7
White/Italian	15.4	15.0
White/Portuguese	3.1	3.3
White/Eastern European	4.6	5.0
White/ Other European	4.6	5.0
Hispanic/Latino	4.6	5.0
Other	21.5	23.3

At post-treatment, 60 students completed the measures and were included in the pre-post analyses. Therefore, the attrition rate was 7.7% (5/65). The Attrited group ($n = 5$) did not differ from the Included group ($n = 60$) on age or gender and were not more likely to have been in one particular school or classroom. Demographic information about the sample at each point of data collection is presented in Table 2.

2.3 PROCEDURE

Approval to recruit participants for the evaluation was obtained by the TCDSB in January, 2015. In the Fall, 2015, teachers of grades 7-9 and guidance counselors were invited to a training session for the *Stress Lessons* program, provided by a trainer from the PFC. The training session was held on October 27, 2015 and was arranged by Patricia Marra-Stapleton, the Mental Health Leader with the TCDSB. The first author attended a portion of this session to explain the evaluation study to the attendees and to recruit participants from the group. Although training for the program was provided to all attending teachers and guidance counselors, it was made clear that it was not mandatory to participate in the evaluation. Therefore, all attendees were free to implement the *Stress Lessons* program in the classroom. Consent forms were distributed to the group of about 16 attendees and 6 signed forms were returned (Appendix F); one signed consent form was later returned by mail. Five teachers and one guidance counselor (who subsequently worked with one of the teachers in delivering the program) were selected for the study, which was the target number, based on the study budget and timelines.

Several weeks after the training session, the first author contacted the principals of the participating schools by email (along with a Letter to the principals describing the study; Appendix B) for their approval. After agreeing to participate, the principals provided Information Letters (Appendix C) about the evaluation to the five participating teachers to distribute to the students and their parents. Interested parents (or legal guardians) were asked to provide written informed consent for their child to participate (Appendix D) and students were asked to provide informed assent (Appendix E). Consent and assent forms were returned to the teachers, which were forwarded to the first author by courier (although several parents emailed their consent and assent forms directly to the first author). Once the forms were received, arrangements were made to come into the teacher's classroom to gather the baseline data.

Baseline data (Appendix G) from participating students were gathered between December, 2015 and February, 2016, depending on when the teacher intended to begin implementing the program. Data were gathered in the student's classroom and took approximately 30 minutes. Students not participating in the study were given worksheets to complete, comprising age-appropriate puzzles, math problems, and word games.

After the baseline data were collected, teachers were asked to begin implementing the program in their respective classrooms. After each session, teachers were asked to complete a brief, six-item Session Rating Form (Appendix H). At the end of the program, when all their lessons had been delivered, teachers participated in a 30-minute individual interview with a research assistant in order to provide more detailed feedback about the program (Appendix I). Participating teachers were reimbursed for their time with a \$50.00 Chapters gift card.

After the program was completed, the research team returned to the classrooms to gather the posttreatment data from participating students. The same set of measures gathered at baseline was administered. Posttreatment data were gathered in early to mid-June, 2016, about 5 months after baseline (range was between 2.2 and 6.2 months). All participating students (i.e., the 65 students who completed the baseline measures) were entered into a draw for one of five \$25.00 iTunes gift cards.

2.4 MEASURES

Student Measures

Demographic Information. Information regarding student's age, grade, gender, and ethnic background was collected using self-report. Additionally, teachers delivering the *Stress Lessons* program were asked to provide background information regarding their teaching position (i.e., current teaching position, number of years in this position, number of years as a teacher, subjects taught).

Perceived Stress. Students' perceptions of daily stress were assessed using the Perceived Stress Scale (PSS; Cohen, Kamarak, & Mermelstein, 1983). This scale evaluates the extent to which individuals view their daily lives as stressful. Students were asked to rate a series of statements related to their experience of stress over the previous month (e.g., "*In the last month, how often have you felt that things were going your way?*") on a 5-point scale, ranging from "never" to "very often", to reflect how frequently they had felt that way. A total Perceived Stress Score was calculated from the sum of individual participant responses. Scores can range from 10 to 50 and higher scores reflected greater levels of perceived stress. This measure has previously been found to obtain a high internal reliability ranging from .84 to .86 (Cohen et al., 1983).

Self-Regulation. Students' emotion regulation skills were measured using the Affect Regulation Checklist (ARC; Moretti, 2003). The ARC is a 12-item measure, which provides an assessment of emotion regulation. Sample items include "*I have a hard time controlling my feelings;*" "*I try hard not to think about my feelings;*" and "*Thinking about why I have different feelings helps me to learn about myself.*" Participants rated each item on a 3-point scale, ranging from "not like me" to "a lot like me." A total ARC score was generated by summing the individual item responses. Scores can range from 12 to 36 and the measure was scored so that a high score reflected better affect regulation. This scale has previously been found to have an adequate internal reliability ranging from .65 to .88 (Penney & Moretti., 2010).

School Engagement. Students' level of school engagement was evaluated using the School Engagement Measure (SEM; Fredricks et al., 2005). The SEM is a 15-item self-report measure that evaluates the behavioural, emotional, and cognitive aspects of school engagement. The scale contains four items related to behavioural engagement (e.g., "*I follow the rules at school*"), six items associated with emotional engagement (e.g., "*My classroom is a fun place to be*"), and five items pertaining to cognitive engagement (e.g., "*I study at home even when I don't have a test*"). Participants were requested to rate the statements on a 5-point scale, ranging from "not at all true" to "very true." For each subscale, a school engagement score was calculated from the sum of all individual items, with higher scores reflecting a greater level of school engagement. Scores

can range from 4 to 20, 6 to 30, and 5 to 25 on the Behavioural, Emotional, and Cognitive subscales, respectively. This measure has previously been found to demonstrate a good internal reliability of .77, .86, and .82 for the Behavioural, Emotional, and Cognitive subscales, respectively (Fredricks et al., 2005). Scores on the SEM have been found to correlate with students' attachment to school and their beliefs about the importance of school (Fredricks et al., 2005).

Coping Strategies. Student's use of coping skills in stressful situations was evaluated using the Children's Coping Strategies Checklist (CCSC-R1; Ayers & Sandler, 1999), a 54-item self-report measure that evaluates coping strategies used by children and adolescents. As written in the CCSC-R1 manual, students were provided with the following written prompt to introduce the concept of coping skills:

"Sometimes kids have problems or feel upset about things. When this happens, they may do different things to solve the problem or make themselves feel better. For each item below, choose the answer that BEST describes how often you usually did this behaviour to solve your problems or make yourself feel better during the past three months. There are no right or wrong answers, just indicate how often you usually did each thing in order to solve your problems or make yourself feel better during the past 3 months."

Participants were not asked to identify a specific marker event, but they were asked to reflect on their general use of the strategies over the previous three months. Frequency of coping strategy use was rated on a 4-point scale ranging from (1 = never to 4 = most of the time). The scale contains four major factors related to the general categories of coping strategies: (1) Active Coping Strategies; (2) Distraction Strategies; (3) Avoidance Strategies; and (4) Support Seeking Strategies. Scale scores were derived by taking the mean of the scale items and the scales were scored so that a high score reflected better coping. Scores can range from 12 to 48 on the Active Coping Strategies and Avoidance Strategies subscales and from 9 to 36 on the Distraction Strategies and Support Seeking Strategies subscales. The measure has previously been validated with children and adolescents and has been found to have adequate internal reliability, ranging from .77 to .83 (Camisasca, Caravita, Milani, & Blasio, 2012).

Perceived Self-Efficacy. Perceived self-efficacy was assessed using the General Self-Efficacy Scale (GSE; Schwarzer & Jerusalem &, 1995). The GSE is a 10-item self-report measure, which assesses one's perceived ability to cope with difficult situations in life (e.g., "*I can solve most problems if I invest the necessary effort*"). Participants were asked to rate each item on the scale from (1) "not at all true" to (4) "exactly true" in terms of how well it described their ability to cope with difficult problems. Scores can range from 10 to 50, with higher scores indicating good coping self-efficacy. High scores have been found to predict increased use of active coping strategies in stressful situations (Luszczynska, Scholz, & Schwarzer, 2005). This scale has previously been found to have a high internal reliability of .96 (Blank, Connor, Gray, & Tustin, 2016).

Physiological Stress Symptoms. Student's physiological stress symptoms were assessed using a 4-item self-report measure created by the study authors. The scale required participants to rate

how often they had experienced different physiological symptoms of stress over the previous two weeks (e.g., “*I have had difficulty sleeping*”). Children were asked to rate on a 5-point scale, ranging from “never” to “very often,” how frequently they experienced these symptoms over the previous two weeks. A total score was calculated from the sum of the participant’s responses. Scores range from 5 to 20, with higher scores indicating greater effects of stress.

Teacher Measures

Session Rating Forms. In order to evaluate teachers’ perceptions of the different sessions in the *Stress Lessons* program, teachers were asked to fill out a rating form for each session that they delivered. The form was developed for this study and comprised six questions related to the implementation of the session (e.g., “*How confident did you feel to implement this session?*”) and their perception of students’ responses to session (e.g., “*How engaged were students in this session?*”). Teachers were asked to rate each item in terms of how well it reflected their individual experience with the session on a 7-point scale, ranging from (1) “not at all” to (7) “very much.” As well, space was provided for additional comments regarding the session.

Qualitative Interviews. To examine teachers’ overall experience with the *Stress Lessons* program in more detail, all teachers were invited to participate in an interview following the completion of the program. The interviews were delivered on an individual basis using a semi-structured interview format and were recorded for subsequent transcription and analysis. The interview questions related to teachers’ perceptions of the program, challenges encountered during implementation of the program, and positive changes they noticed in their students following the completion of the program. A list of the interview questions is provided in Table 3.

Table 3. Qualitative interview questions

Tell me about your understanding of what the <i>Stress Lessons</i> program is about.
How well do you feel the <i>Stress Lessons</i> program fits with your course curriculum?
Did you implement all or some of the seven sessions? Why or why not? If you did not implement all the sessions, which did you not implement and why?
In general, how easy or hard was it for you to implement the program?
Did you find some sessions more difficult to implement? Why or why not? If so, which ones? Why was that?
Did you see any changes in your students throughout the course of <i>Stress Lessons</i> ? Explain, provide specific examples.
Based on your interactions with students in <i>Stress Lessons</i> , were there any particular components of the program that you think were especially helpful for the students?

2.5 DATA ANALYSIS

Quantitative. A multilevel modeling (MLM) approach was used for the analyses of the program effects. This approach is well-suited for the analysis of longitudinal data because it takes a “person-centred” rather than a “variable-centred” approach to examine change over time on the outcome variables (Singer & Willett, 2003). In a person-centred approach, the change in scores from Time 1 to Time 2 is considered for each student individually, rather than grouping the students at each time period and testing the difference between the *averaged* group score at Time 1 with the *averaged* group score at Time 2. As well, a multilevel modelling approach provides a more efficient way of analyzing data that are hierarchical, that is when one variable is “nested” or clustered within another. In the current study, classrooms (i.e., teachers) were “nested” within schools and students were “nested” within classrooms (see Figure 1). As well, with longitudinal data, repeated data points are nested within a single person.

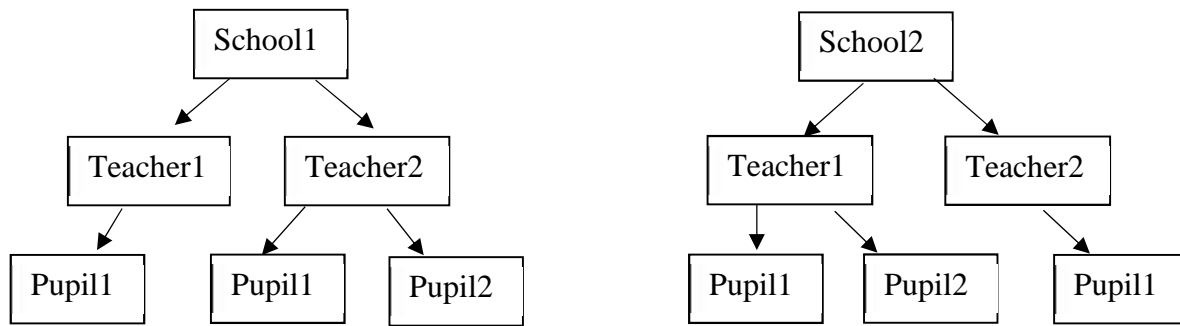


Figure 1. Nesting of variables in the model

Qualitative. Teachers’ responses to the interview questions were subject to a content analysis using the Nvivo software program. Analyses were conducted from a thematic analysis approach (Braun & Clarke, 2006) to identify the main themes of their impressions of the program. Thematic analysis identifies recurring themes and ideas in a qualitative dataset, which allows researchers to determine how often particular themes and ideas are occurring. The frequency and types of themes that occur allow researchers to identify patterns and relationships between them. When a theme or idea is frequently mentioned, this helps researchers determine how important or significant a particular theme is to understanding the viewpoints of participants. However, themes that do not occur frequently can also provide insight into unusual patterns or trends in quantitative data.

3.0 Results

3.1 QUANTITATIVE RESULTS

The quantitative results for the students are presented first, followed by the qualitative results for the teachers. Most of the scales had adequate internal reliability (i.e., Cronbach’s alpha coefficient or “ α ”), with a value of .70 as a cutoff (Kline, 2000). As such, the items on most of the scales were thought to “hang together” well as a measure of a unitary construct. At pretest, students’ scores fell around the approximate midrange of the scales, meaning that they were neither at the high nor low ends of the stress and coping spectrum, on average (see Table 4).

Table 4. Descriptive statistics pertaining to study variables

Scale	Subscale	Published	Pretest Mean (SD) N = 65	Posttest Mean (SD) N = 60	Time 1	Time 2
School Engagement Scale	Behavioral Engagement	= .77 (Fredricks et al. 2005)	12.66 (1.20)	16.08 (2.32)	= .55	= .48
	Emotional Engagement	= .86 (Fredricks et al., 2005)	20.29 (3.09)	20.23 (5.25)	= .85	= .88
	Cognitive Engagement	= .82 (Fredricks et al., 2005)	12.89 (4.31)	12.35 (4.98)	= .74	= .83
Children's Coping Strategies Checklist	Active Coping Strategies	= .82 (Smith et al., 2006)	33.85 (8.04)	33.87 (8.41)	= .78	= .88
	Distraction Strategies	= .72 (Smith et al., 2006)	21.37 (5.34)	21.73 (5.13)	= .54	= .44
	Avoidance Strategies	= .70 (Smith et al., 2006)	33.28 (6.33)	32.23 (7.48)	= .59	= .76
	Support Seeking Strategies	= .79 (Smith et al., 2006)	20.68 (7.80)	20.37 (8.34)	= .85	= .95
General Self-Efficacy Scale		= .9 (Kupst et al., 2015)	29.08 (5.51)	30.09 (5.77)	= .83	= .86
Affect Regulation Checklist			24.37 (4.02)	24.27 (4.66)	= .62	= .73
Perceived Stress Scale		= .87 (Kupst et al., 2015)	28.63 (7.33)	32.30 (5.01)	= .85	= .59
Stress Effects Scale		N/A	11.29 (4.26)	11.02 (4.12)	= .76	= .82

3.1.1 Correlational findings

Some interesting correlations were observed among the variables. Active Coping Strategies and General Self-Efficacy were correlated at $r = .69$ ($p < .001$) (see Figure 2). This means that students who felt more efficacious in coping with stress also were more likely to use active coping strategies to address their stress. This finding is consistent with Luszczynska et al. (2005). The causal relation between these variables is unclear, however (i.e., to say that the use of active coping *causes* one to feel effective in coping with stress), because of the correlational nature of this finding. Interestingly, Active Coping was negatively related to Perceived Stress, $r = -.32$, $p < .001$. In other words, the use of active coping was related to a lower level of perceived stress. None of the other coping strategies subscales was related to perceived stress, suggesting that active coping may be an effective means of coping with stress, though causality cannot be established in this study. This is a hypothesis for further investigation.

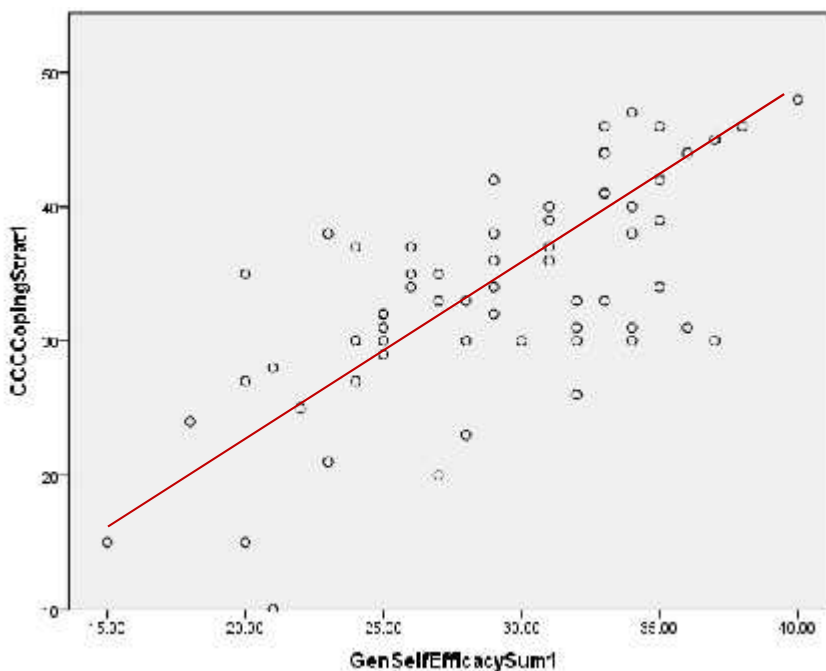


Figure 2. Scatterplot of the relation between General Self-Efficacy and Active Coping Strategies ($r = .69$)

Affect Regulation also was correlated with Perceived Stress, $r = -.43$ ($p < .001$), meaning that those students who reported experiencing greater perceived stress also reported experiencing poorer emotional regulation. Last, we found that General Self-Efficacy and Affect Regulation were correlated at $r = .52$ ($p < .001$), suggesting that feeling effective at coping with stress was related to better emotional regulation.

3.1.2 Program effects

Program implementation. Not all teachers implemented all seven sessions of the *Stress Lessons* program. Two of the teachers (Teachers A and E) delivered five sessions and three of the teachers (Teachers B, C, and D) delivered seven sessions. However, eye-balling the outcome scores suggests that none of the student outcomes was related to the number of sessions students

received. Moreover, although three of the teachers delivered all seven sessions, none implemented the Chill Fair, as described in the manual. These teachers elected to modify or adapt this session in keeping with the relevance of the material and the interests of their class. The teachers had their students either post notes on a bulletin board to get the conversation started or create and present skits to the class related to specific *Stress Lessons* topics. For example, in one class, some students presented a skit illustrating positive self-talk involving a student taking a driver's test while two other students acted out positive and negative self-talk in the car. One teacher mentioned that they decided to do skits because they did not have time to organize the Chill Fair.

Treatment effects. In comparing pretest scores to posttest scores, a summary of the program effects is presented in Table 5. First, a positive effect from pretest to posttest was observed on the School Engagement Behaviour scale. Compared to before they received the *Stress Lessons* program, at posttest students reported that they were more behaviourally involved and engaged at school. This included such behaviours as paying attention in class, staying on task, and following the rules.

Table 5. Treatment effects

Variable		Time	Teacher X Time
School Engagement Scale	Behavioral Engagement	$p < .001$	-
	Emotional Engagement	-	-
	Cognitive Engagement	-	-
Children's Coping Strategies Checklist	Active Coping Strategies	-	$p = .010$
	Distraction Strategies	-	-
	Avoidance Strategies	-	-
	Support-Seeking Strategies	-	$p = .060^*$
General Self-Efficacy Scale		-	$p = .018$
Affect Regulation Checklist		-	-
Perceived Stress Scale		-	$p = .042$
Stress Effects Scale		-	-

Note. * Approached statistical significance

Second, for three scales, Active Coping Strategies, General Self-Efficacy, and Perceived Stress, we observed a Teacher X Time ("teacher by time") effect. In other words, the effects of the program from pretest to posttest depended on the particular teacher delivering the program. It should not be surprising that the analyses yielded these "conditional" effects, as the degree of observed change in the students would be expected to differ as a function of characteristics of the teacher and their delivery of the sessions. First, not all the teachers delivered all seven sessions and second, the degree of ease, comfort, and enthusiasm in delivering the program would be expected to differ across teachers. These context factors are examined in more detail in the section on the qualitative, interview results with the five participating teachers.

For the Active Coping Strategies Scale and the General Self-Efficacy Scale, the positive gains were most pronounced among students in one particular class (Teacher E). The results are graphically presented in Figure 2 for the Active Coping Strategies Scale. This teacher was particularly comfortable and enthusiastic in the delivery of the program. The results indicated that, compared to prior to receiving the program, the students who showed gains on the Active Coping Strategies Scale reported using more active strategies to address the stressor head-on (e.g., responding affirmatively to the item, “*you did something to solve the problem*”), rather than avoiding the stress or trying to ignore it. As well, students in Teacher E’s class, who also showed positive gains on the General Self-Efficacy Scale, reported feeling more confident in their ability to cope with stressors. Last, a positive teacher X time effect was observed on a third scale, Support-Seeking Strategies, but only approached statistical significance, at $p < .06$ (we used the conventional “p” value of .05 as the cutoff for statistical significance).

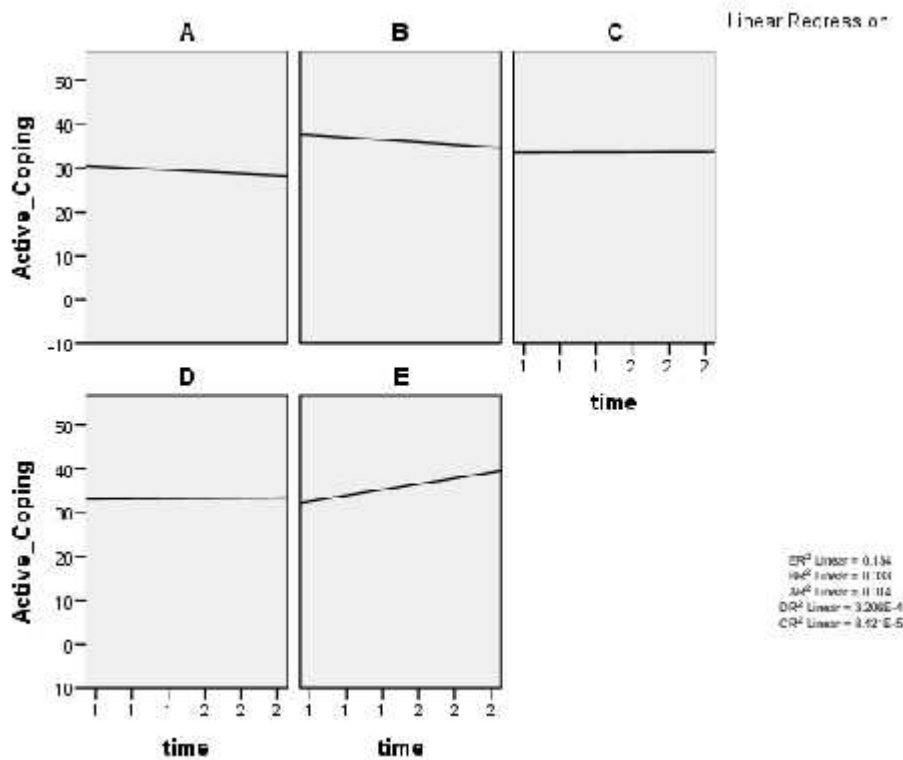


Figure 3. Graphical presentation of change in scores from pretest to posttest on the Active Coping Strategies Scale across five teachers

At the same time, on the Perceived Stress Scale, change over time was seen among students in most of the classes, but the change was in the opposite direction than expected, that is, students showed a poorer outcome at posttest (i.e., a higher score indicated greater perceived stress). On this scale, many students reported perceiving a *higher* degree of stress (see Figure 3). Note that the significant teacher X time effect reflects the different slopes (i.e., rates of change over time) across classes. This effect could be interpreted in a number of ways. First, it might reflect students’ greater awareness of stress effects, as taught to them through the *Stress Lessons* program. Coupled with the observed positive gains made by students in one particular class (Teacher E), this finding might be interpreted as a positive change (i.e., a greater awareness).

Second, the effect also may reflect a delayed reaction to having learned new coping strategies. It may take time for students to experience a reduction in their level of perceived stress as a result of using the newly learned coping techniques. Last, the results may reflect the time of the year in which the posttest data were gathered, that is, in early to mid-June, when the school year begins to wind down, the number of tests increases, and students experience heightened stress. The lack of a no-treatment control group and extended follow-up period make this effect difficult to interpret.

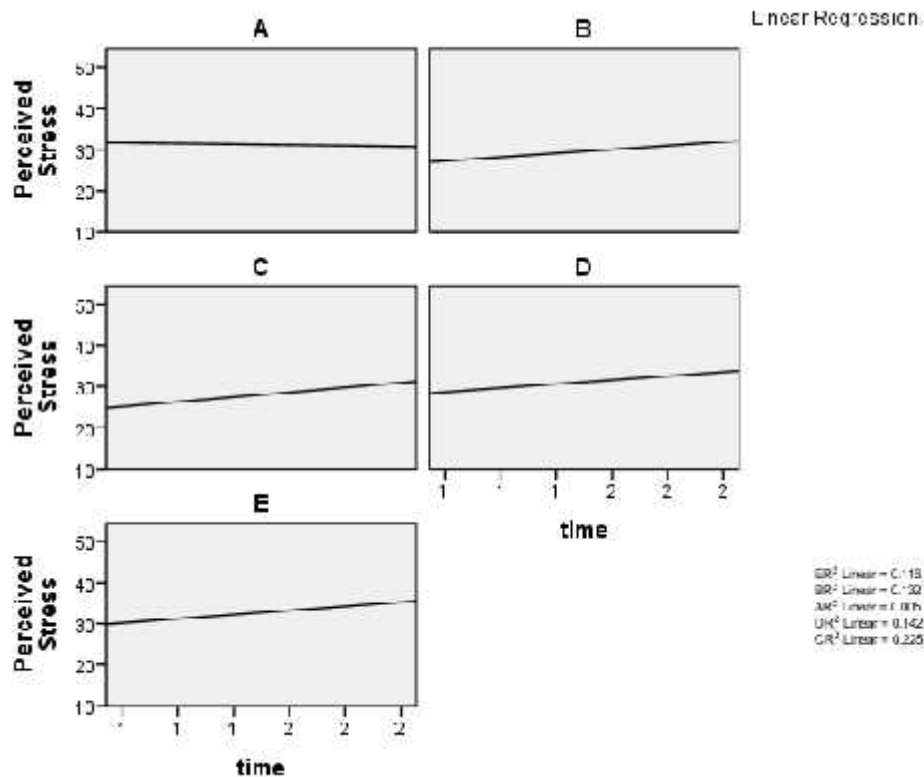


Figure 4. Graphical presentation of change in scores from pretest to posttest on the Perceived Stress Scale across five teachers

3.1.3 Teacher Session Ratings

In addition to gathering student data, teachers were asked to complete a brief, 6-item Teacher Session Ratings Form (see Appendix H) after each session. These items concerned the ease, comfort, confidence, and preparedness teachers felt in delivering each of the *Stress Lessons* Program sessions. Overall, teachers rated the sessions in the more positive direction, providing ratings of between 5 and 7 across the sessions (see Appendix H). Note that the lowest scores were given for Session 4, on Rethinking Stress, which is concerned with managing thoughts, such as positive and negative self-talk, to manage stress; these lower ratings were notably provided by Teacher B. Further examination of all the teachers' experience with the program is provided in the presentation of the qualitative results.

Table 6. Mean ratings for the Teacher Session Ratings Form across seven sessions

Item	Session						
	1*	2	3	4	5	6**	7
1. Hard/easy	6.75	6.60	6.20	5.80	6.60	7.00	7.00
2. Comfortable	6.80	6.80	5.25	6.00	6.60	7.00	7.00
3. Confident	6.60	6.20	5.60	6.00	6.60	7.00	7.00
4. Prepared	6.80	6.40	6.25	5.50	6.20	7.00	7.00
5. Enjoy	6.80	6.20	6.40	6.20	6.60	7.00	7.00
6. Engaged	7.00	6.00	6.00	5.25	6.50	7.00	7.00

Note: * Ratings were provided by either 4 or 5 teachers for Sessions 1 to 5.

** Only two teachers provided ratings for Sessions 6 and 7.

3.2 QUALITATIVE RESULTS

A semi-structured interview was conducted with each participating teacher. Transcripts of the interviews were coded with the Nvivo software following a thematic analysis approach (Braun & Clarke, 2006) to identify common themes and ideas. Analyses of these “rich” data revealed a number of recurring themes: (1) teachers felt that they understood the program; (2) the program fit well with their existing curriculum; (3) the program was timely and appropriate for students; and (4) the teachers noticed changes in the students’ behaviour.

3.2.1 Logistics: Understanding *Stress Lessons* and program training

The participating teachers demonstrated a strong understanding of the program’s goals and intended outcomes. The majority of teachers reported that they believed the program was designed to help their students understand what stress was and that stress is a normal process to go through. Further, teachers noted that the program taught students stress management and coping skills. In particular, they believed these skills would set them up for future success (e.g. in university), and believed that the program would also teach empathy and compassion for their classmates and others.

Regarding training for Stress Lessons, most teachers felt that the in-service training they received was sufficient and that the program’s manual was helpful and outlined the sessions very clearly. They did not feel they had questions about program delivery that went unanswered, as they would turn to school guidance counselors for help, although one teacher mentioned that a designated contact for Stress Lessons-related questions would have been beneficial. However, some teachers noted that a familiarity and comfort with discussing mental health and stress management might vary significantly among teachers. They stated that teachers may feel comfortable delivering the program if they already enjoy these types of topics, but that additional supports in “learning the stress management language” might be needed for some.

“Uhm it’s a very easy to follow, uhm non- complicated, you know, color coding and ah it’s organized in such a way, this is a teacher handout this is a student handout.... it’s seamless, it couldn’t be any easier.”

3.2.2 Strengths of the program

Teachers identified that the sessions that focused on stress management techniques and interactive activities were most beneficial and enjoyable for students. Specifically, the session on positive self-talk was noted for being especially important:

“Any moment where they had a strategy to deal with the stress as the biggest thing because I think a lot of students were, [pause] were able to realize that they did experience stress, just didn’t know how to deal with it or they didn’t know what they were doing was wrong and like a right way to deal with it, right. So I think they especially liked the strategies, like what to do when I feel this way.”

Further, several teachers enjoyed the lesson on the adolescent brain and how stress affects the brain and body, noting that students like these kinds of lessons. At the beginning of the program, some teachers were not sure how their students would respond to the program. They were worried that it would not come across as credible or that they would be uncomfortable discussing mental health issues and stress. However, all teachers reported that their students were engaged and enjoyed the lessons.

3.2.3 Impacts on students

Increased comfort in discussing mental health issues and managing stress was reported to have a significant impact on students. Teachers reflected that, over the course of the program, their students began using the terms and language they learned in Stress Lessons, such as referring to themselves as being “absolute thinkers” (e.g. believing things are black or white) but trying to be “positive thinkers” (e.g. utilizing positive self-talk), or discussing insights into their own behaviours with their teachers. Many of the teachers reported observing their students utilizing strategies they learned during Stress Lessons outside of class time.

“Today a student came to me. I was in, I was having my lunch in my little room, and a kid came to me; he said ‘oh I’m doing, I’m doing my stress doodling.’ I’m like ‘that’s awesome, good for you.’ So when students are taking it upon themselves instead of me saying and today we’re going to do, you know, a guided meditation and today we’re going to be doing some colouring.”

Some teachers reported that, as the program continued, students began discussing and raising real concerns and problems they faced and that discussing them in class became less “taboo.” Others reported that they noticed fewer behavioural outbursts in class and an increased level of acceptance for other students.

“It allowed them to know why certain children in the class behaved the way they do and more of an acceptance. So you know one of the children said ‘well now I know that when I work in groups, when you know he starts getting fidgety or anxious it’s not that he’s not engaged, perhaps he’s feeling a little bit stressed.’”

Two of the teachers interviewed taught classes of gifted students and noted that this population of students tends to be especially stressed and in need of supports. These students often emphasize the importance of their grades and worry about their academic performance. These two teachers stated that the program provided an opportunity for students to complete activities that are not graded. They believed that this allowed the students to enjoy the activities and lessons more without concerns about adjudication and assessment of their skills.

3.2.4 Enjoyment of the program and ease of implementation

Most teachers described the *Stress Lessons* program as enjoyable to deliver and noted that it required little preparation on their part, fit easily into the curriculum, and was well laid out in the manual. Several teachers identified that their comfort in discussing mental health issues, however, was an issue during implementation. For instance, one teacher noted that she was initially unsure about how her students would respond to the material and this affected her confidence while delivering the program.

“At the beginning I wasn’t sure because you’re dealing with, it can be a very sensitive topic, and I think the part that I was a little bit uneasy about was how it was going to be received by them. Grade seven and eight is an interesting, you know, age and I was concerned that maybe they wouldn’t take it seriously and uhm so that part, like the credibility behind it. But after the first lesson when they were so engaged about putting how they were feeling on those post-it notes, I realized that they were really open to this.”

Additionally, one teacher (Teacher B) noted that information regarding mental health was very unfamiliar to him and therefore he relied on the manual quite heavily when implementing the lessons.

Teacher B: “Self-talk, where it had, like, different types of self-talk, so for me in terms of delivering it I felt less confident because I didn’t memorize all of them like I had to kind of have the book in front of me to remember all of the, uh, the negative trap, whatever all the labels were, so that we, the, um, in terms of not having the background knowledge, it was one of the more, uh, quote unquote stressful lessons.”

Conversely, Teacher E was very experienced and comfortable with student mental health and had personal interests in mindfulness and stress reduction techniques. Teacher E did not face barriers such as learning a new “language” of mental health, and reported that students already knew her in a guidance-style of role which may have made delivering Stress Lessons easier.

Teacher E: Uhm I, I guess there could’ve been, although again I never felt the need to do that, maybe part of it is because of my own background with mental health and my own uhm educational background in terms of my, what I studied and why I’m comfortable with it all. Uhm I can’t speak to somebody who ah, you know, whose background isn’t in this. I’m not sure if anybody would volunteer to do this if they didn’t feel comfortable

with the whole mental health platform. So not everybody is comfortable speaking the mental health language that I think is really the, the precursor to all of this, you have to feel comfortable teaching mental health, like you have to feel comfortable teaching sex ed. If you don't feel comfortable then it's going to be, it can be a really difficult experience.

Researcher: "So you felt comfortable?"

Teacher E: "Yeah. I think students really recognize when it's done with authenticity with a, a degree, with certainly a degree of comfort and uhm sensitively and all of those markers, then they know that they can also speak quite candidly and not just give you uhm lip surface answers."

None of the teachers reported encountering major difficulties while implementing the Stress Lessons program. However, several teachers reported minor challenges during implementation due to time constraints or a lack of fit with the existing curriculum. In particular, teachers reported that fitting Stress Lessons into the curriculum was difficult due to other curriculum requirements competing with it, but in general, it was easy to implement and they enjoyed it. Teacher E reported that they would try to "dovetail" Stress Lessons sessions into another lesson on a related or similar topic. Others reported that they would use interactive classroom activities to teach the lessons (e.g. group work). The limited classroom time availability was identified by all teachers as the primary structural barrier to implementing mental health-related programming in their classrooms.

One teacher noted that issues related to student maturity and readiness for change impacted his delivery of the program. Specifically, he noted that some of the students did not seem initially mature enough to cope with the material, which was manifest during the sessions (e.g., eye rolling).

"Some kids are just not ready or some kids don't see the point right; some kids don't believe in stress or some kids say it's stress. Some kids are already at the point maybe they're fooling themselves where they're like 'I don't have stress, like I just do what I need to do' and we have those kids in this program they're just like 'I do my work, whatever;' you know, like, if you give them an amount of work they're like meh ok and other kids you give them one thing they're like 'oh my gosh Sir I can't,' so you, you have that going in. All I want, I wanted them to do was just be open to the progress and for the most part they were right and then sometimes that can undermine group stuff, but they were pretty good."

3.2.5 Opportunities to improve *Stress Lessons*

While the response from teachers was largely positive, all teachers identified possible ways to improve the program. All teachers recognized that classroom time was limited and suggested incorporating Stress Lessons into physical or health education classes. Two teachers also suggested incorporating the program into religious classes, as they implement similar programs during religious education classes (e.g., a mindfulness intervention). However, to successfully

implement the program, teachers felt that the program's training should ensure that teachers delivering the sessions feel comfortable discussing mental health and stress with students.

One component of Stress Lessons that was identified as a challenge was the final session of the program, the "Chill Fair," where students teach others about stress management through a public Fair. None of the teachers implemented this session, citing time limitations. Some teachers did suggest that the concept of a Fair was also not in line with how students communicate and share information in 2016. They proposed having students make videos or public awareness campaign videos instead of a formal Fair, which presented logistical difficulties. They also noted that these videos could be screened for all students in the school, which would allow other teachers and students to learn from the program.

"I don't know if I would do it as a Fair component I think I would, I would ah, I like using technology, I like film I would maybe open it up to more of a visual media like as opposed to like you know you have a board and you come and you talk. "

Finally, Teacher C pointed out that delivering a curriculum designed to increase awareness about stress and stress management skills led to an increase in the number of issues and concerns students raised with them.

Teacher C: Um I guess my concern, not concern but, um [pause] when for example we did the pretest the first time and there was that boy who cried, , and um, if I were to incorporate anything into there, it would be what to do when, right. And I think that that's really important when you notice that this is beyond just something you can handle in a stress lesson you know, how to address that and um, I think that for me, it surprised me, his reaction and then, you know, just incorporating like, like what's the next step. So someone who's going to do this, just guidelines for the next step, perhaps speak to the child, maybe contact the family, speak to the school. "

Teacher C also spoke at length about a need for resources and supports that teachers can utilize when students come forward with these issues, as mental health programming may bring these issues to the surface and current resources are lacking.

Teacher C: "What's interesting is a lot more things did come up, you know, throughout the lessons with various students. Um and its interesting how they would do it, sometimes after a lesson, a lesson usually lead into recess you know you would often have one or two who'd want to stay in and perhaps talk a little bit more, about you know something that maybe was going on or just stay for a quiet time of reflection so that I did find uhm. And we had a few things that have come up since we started the lessons. Was it coincidental? Was it because of the lesson? Perhaps it allowed them to understand that what was going on in their own lives was too overwhelming for them to deal with on their own. "

Researcher: *“Yeah, because I guess there’s not a lot of opportunities to talk about mental health and then also hearing from teachers who maybe don’t feel super comfortable delivering the material at that age or given their background or....”*

Teacher C: *“Yes it is, I think that people, teachers themselves, the reality is we have their own issues that they’re dealing with, right, and so you also need to be in a certain mindset when you’re delivering things like that because it does stir up things that are going on maybe with your own family or, um, and you’re afraid of what might come out in the class right. Like in this case we have a few kids and, you know, and that can be a little bit overwhelming. Like am I prepared to deal with this and you know, we should be because to me this is more important than, like academic. All of that is important, but a child’s mental health you know um, through this even through the lessons I had another child you know one night send me an email and said ‘I just can’t do this anymore.’”*
[inaudible at 12:25- P.A announcement overlap].

This teacher encouraged the student to speak with a guidance counselor.

Thus, successful mental health and stress education programming for students should also prepare teachers to address individual students’ needs, as well as provide additional strategies and resources for students who might require additional supports and services. Stronger connections could be made between teachers and school guidance counselors, social workers, and psychologists when considering implementing programs like *Stress Lessons* that touch on mental health issues, even in the periphery. These issues can be particularly acute for some students, as one teacher noted, such as those in gifted classes, who may be particularly sensitive to these types of issues.

4.0 Discussion

This report describes the results of a pilot study conducted to evaluate the impact of *Stress Lessons: From Stressed out to Chilled Out*, a school-based program for students in grades 7 to 9. The evaluation was a collaboration between Ryerson University and the PFC, the developer of the *Stress Lessons* program.

The program was found to have a positive impact on students. After receiving the program, all students reported experiencing greater behavioural engagement and involvement at school. Moreover, results of the interviews indicated that teachers observed positive gains in their students, which was attributed to the program. Students were observed to use the language of the program and the strategies they learned during the program. Teachers found the students were more open about talking about these issues, as the topics seemed to have become less “taboo.” Some teachers reported fewer behavioural outbursts as the term went on.

Other gains made by students, however, were qualified by the particular teacher who delivered the program. Our findings indicated that students in Teacher E’s class showed positive gains in

two areas, their ability to use active coping strategies and their general self-efficacy in managing their stress. Possible explanations for these effects is discussed below.

In spite of the positive gains made by the students in their use of coping strategies, we also found that many of the students reported an increase in their perceived stress at posttest. This effect may have been due to a greater awareness of their stress as a result of receiving the *Stress Lessons* program. It may also reflect a possible delayed effect, as students experience a delayed reaction in their perceived level of stress as a result of practicing their new coping techniques. It also may reflect the time of the year at which the posttest data were collected. The use of no-treatment control group and a third, follow-up period of data collection could shed light on these hypotheses.

No statistically significant changes were found for measures of emotional or cognitive school engagement, the use of distraction, support seeking or avoidance coping strategies, affect regulation, or physiological stress effects. These areas may not have been targeted by the *Stress Lessons* program. The absence of treatment gains on these measures (or the other measures for which an interaction effect was observed) also may be due to a delayed effect for some students. It may be the case that students who did not show an immediate effect at posttest may still experience positive gains at a later time. The lack of a control group and longer-term, follow-up period make it difficult to draw conclusions about this hypothesis, however.

The teacher X time interaction effect for the positive gains made by some students may be interpreted in light of the teacher interview data. Results of the teacher interviews indicated that Teacher E reported being particularly comfortable with the material, was experienced with student mental health issues, had personal interests in mindfulness and stress reduction techniques, and did not face barriers such as learning a new “language” of mental health. This finding raises some important issues about the implementation of effective in-class, mental health programs for students and are particularly acute when teachers are requested (or required) to deliver the material to their classes.

First, it was evident from the interview data that not all teachers were comfortable discussing this type of material with their students. Therefore, teachers should be well-prepared to accept the material and to feel comfortable with it before they deliver the sessions. For the present study, all teachers received the same training in delivering the *Stress Lessons* program. This was done in a full-day training session delivered by one of the PFC’s experienced trainers. Indeed, our teacher interviews indicated that all the teachers were quite satisfied with the training they received and reported that they understand what the program’s goals and intended outcomes were. They also noted that the program manual was helpful and outlined the sessions very clearly. At the same time, some teachers were more ready to accept the material than others. Therefore, it is suggested that the teacher training attend to their comfort level in discussing mental health issues, in general, beyond grasping the specifics of the *Stress Lessons* sessions.

Second, a related issue that emerged from our findings concerned putting more supports in place that allow teachers to feel comfortable discussing mental health issues with individual students, as they may be more likely to bring issues to the teacher’s attention. Some teachers reported that, as the students were exposed to more information about stress and coping in the *Stress Lessons*

program, they also expressed a greater willingness to raise issues about struggles they might have been experiencing. As noted above, some teachers may not be prepared or comfortable to respond to such matters or may not know how to respond. Therefore, it is suggested that teachers be provided training about how to respond to individual students who bring stress-related and other mental health questions or concerns to them. Resources in the form of information or tip sheets could be made available to teachers. Connections between teachers and guidance counselors, social workers, and psychologists could be enhanced as a further resource for teachers. For students, these resources could be an important source of information and support, particularly for those who might need further counseling with a mental health practitioner. It was noted in our teacher interviews that gifted students may be particularly sensitive to such material and vulnerable to experiencing heightened stress and other mental health issues. Teachers could pay greater attention to their students' psychological vulnerabilities and be more prepared to respond to issues as they arise.

In addition to reporting on program effects, we could also report on the “success” of this evaluation to achieve its intended goals as a pilot study. The aim of conducting a pilot study is to “test out” various aspects of the research before investing the time and energy in a larger study. These aspects include recruitment methods, research design or methodology, and measures used to assess outcomes. In these regards, we could conclude that this evaluation project could be considered a success. We were successful in recruiting teachers to both implementing the *Stress Lessons* program and to participate in the evaluation of the program. We recognize that we were asking a great deal of the teachers to invest their time in being trained to deliver the program and then subsequently work the program into their busy schedules. We were also asking them to give up some of their class time so that we could come into their classrooms to gather data on two occasions and then to meet with a research assistant for a posttest interview. This is a testament to their commitment to the *Stress Lessons* program, of which many were already familiar from other contexts, and to the enthusiasm and support of the Mental Health Leader with the TCDSB, who was an important champion for buying into the program and the evaluation. It was advantageous for the study to enlist the aid of this in-house person who was an asset in this regard and was able to help “sell” this project to the teachers.

Beyond the recruitment piece, we found that the measures we used to evaluate the program worked well. They were developmentally appropriate, relevant to the lessons taught within the *Stress Lessons* program, and appeared to be sensitive to change as a function of the program. In addition, the research design served our purposes well. The quasi-experimental design, despite its inherent flaws (i.e., lack of a control or comparison group) worked well to identify changes over time that could be explained in relation to the program (i.e., the interaction effects).

Furthermore, the use of a mixed-method design allowed us to gain valuable information from teachers that provided important contextual material to interpret the student-related findings. In this regard, we suggest that this design be used as a template for subsequent evaluations of the *Stress Lessons* program. Subsequent evaluations also may include a no-treatment, wait-list, or delayed treatment control group or an alternative program, comparison group, where possible. It is also suggested that subsequent evaluations use a third, follow-up period of data collection to identify any potential delayed effects and to determine whether the positive gains observed at posttest are sustained over time.

4.1 LIMITATIONS

This evaluation study is not without its limitations. First, four of the measures had an internal reliability that fell below the .70 cutoff (Kline 2000), which affects our ability to interpret their meaning. Second, the study did not include a control group or comparison group against which our findings could be compared. As a result, we are limited in the degree of confidence we have that the positive gains made by students were the result of the program and not due to some other factor. This speaks to the internal validity of the study. Third, our study sample was limited to classrooms of students from a single school board in Toronto and to teachers who volunteered to be part of this evaluation project. This limits the degree to which we can generalize our findings to other students in this age group and speaks to the external validity of the study.

Fourth, we did not measure treatment fidelity, that is, the degree to which teachers delivered the program in accordance with the *Stress Lessons* manual. A program's success is dependent on the adherence to the program manual. Deviations from the program manual may compromise the quality or integrity of the program, which may undermine the program's effectiveness. Subsequent evaluations could attend to the issue by conducting in-class observations of the teachers as they are delivering the program to assess adherence to the program manual. Fifth, in a related treatment fidelity issue, not all teachers delivered seven *Stress Lessons* sessions and none of the teachers delivered the Chill Fair. Some teachers reported that it was a challenge to fit the *Stress Lessons* program into their existing curriculum. One teacher suggested that the program could be incorporated into the physical education/health curriculum, delivered on a weekly basis to avoid running out of time or having to place it on the back burner for a period of time. Two teachers suggested the program be incorporated into religious classes, as they implement similar programs during their religious education classes. It was also reported to be difficult to implement the Chill Fair within the timeframe of the program. Rather, teachers revised the program in keeping with the relevance and interests of their students, electing to implement alternative ways for students to express what they learned from the program.

Sixth, the pretest and posttest measures were collected at different times of the year for different classes. As a result, the timing of the administration of the measures was not standardized and may have affected the treatment effects. For example, collecting pretest measures closer to the Christmas break might have been a more stressful period for students than when measures were collected in February. As well, posttest measures collected later in June, closer to the end of the school year, might have been a more stressful period for students than collecting the measures earlier in the month. This may have impacted student's perceived stress levels. Seventh, the duration of time between the completion of the program and collection of posttest measures also varied across classes. A longer time period between the end of the program and the administration of the posttest data may have diminished students' perceptions of the effects of the program, which may have affected the program outcomes. Eighth and last, as noted above, the research design only allowed for a test of the immediate effects of the program. It is suggested that a third, follow-up period of data collection be included in subsequent evaluations of the *Stress Lessons* program.

These limitations notwithstanding, the results of the present evaluation suggested that the program improved students' ability to be engaged with school and provided some students with

effective techniques of coping. Methodological enhancements in subsequent evaluations of the *Stress Lessons* program may reveal further effects not uncovered here, such as delayed or sustained effects. We give the final word to two participating teachers who each sent an email to the first author at the end of the study with their thoughts on the *Stress Lessons* program and the evaluation (see Appendix J).

5.0 References

- Akgun, S., & Ciarrochi, J. (2003). Learned resourcefulness moderates the relationship between academic stress and academic performance. *Educational Psychology, 23*(3), 287-294. doi:10.1080/0144341032000060129
- Alexander, K. L., Entwisle, D. R., & Kabanni, N. S. (2001). The dropout process in life course perspective: Early risk factors at home and school. *Teachers College Record, 105*, 760-822. doi:10.1111/0161-4681.00134
- Alsphaugh, K. L. (2000). The effect of transition grade to high school, gender, and grade level upon dropout rates. *American Secondary Education, 29*, 2-10. Retrieved from www.wantaghschools.org.
- Alsphaugh, J. W. (1998). Achievement loss associated with the transition to middle school and highschool. *Journal of Educational Research, 92*, 20-25. doi:10.1080/00220679809597572
- American Psychological Association. (2013). *Stress in America: Are teens adopting adults' stress habits?* Washington, DC: American Psychological Association. Retrieved from <http://www.apa.org/news/press/releases/stress/2013/stress-report.pdf>.
- Ayers, T. A., & Sandler, I. N. (1999). *Manual for the children's coping strategies checklist & how I coped under pressure scale*. Unpublished Manuscript, Arizona State University.
- Barone, C., Aguirre-Deandrels, A. I., & Trickett, E. J. (1991). Means-ends problems solving skills, life stress, and social support as mediators of adjustment in the normative transitions to high school. *American Journal of Community Psychology, 19*, 207-224. doi:10.1007/BF00937928
- Berndt, T. J., & Mekos, D. (1995). Adolescents' perceptions of the stressful and desirable aspects of transition to junior high. *Journal of Research on Adolescence, 5*, 123-142. doi:10.1207/s15327795jra0501_6
- Blank, M., Connor, J., Gray, A., & Tustin, K. (2016). Alcohol use, mental well-being, self-esteem and general self-efficacy among final-year university students. *Social Psychiatry Psychiatric Epidemiology, 51*, 431-441.
- Boak, A., Hamilton, H. A., Adlaf, E. M., Henderson, J. L., & Mann, R. E. (2016). *The mental health and well-being of Ontario students, 1991-2015: OSDUHS highlights*. (CAMH Research Document Series No. 44). Toronto, ON: Centre for Addiction and Mental Health (CAMH).
- Braun, V. & Clarke, V (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2): 77-101.
- Camisasca, E., Caravita, S. C. S., Milani, L., & Blasio, P. D. (2012). The children's coping strategies checklist-revision1: A validation study in the Italian population. *Testing, Psychometrics, Methodology, in Applied Psychology, 19*, 197-218.
- Chappel, A. M., Suklo, S. M., & Ogg, J. A. (2014). Associations between adolescents' family stressors and life satisfaction. *Journal of Child Family Studies, 23*, 76-84. doi:10.1007/s10826-012-9687-9
- Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 386-396.
- Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: problems, progress, and potential in theory and research. *Psychological Bulletin, 127* (1), 87-127.

- doi:10.1037//0033-2909.127.1.87
- Cook, T. D. & Campbell, D. T. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Boston, MA: Houghton Mifflin.
- Donaldson, D., Prinstein, M. J., Danovsky, M., & Spirito, A. (2000). Patterns of children's coping with life stress: Implications for clinicians. *American Journal of Orthopsychiatry*, 70, 351-359. doi:10.1037/h0087689
- Elias, M. J., Gara, M., Ubriaco, M., Rothbaum, P. A., Clabby, J. F., & Schuyler, T. (1986). Impact of a preventive social problem solving intervention on children's coping with middle school stressors. *American Journal of Community Psychology*, 14, 259-275. doi:10.1007/BF00911174
- Embree, S. (n.d.). *Teaching children ho to manage stress: Piloting/evaluating the Psychology Foundation of Canada's Stress Lessons Toolkit*. Research Proposal, University of Guelph, Guelph, Ontario.
- Fenzel, M. L. (2000). Prospective study of changes in global self-worth and strain during the transition to middle school. *Journal of Early Adolescence*, 20, 93-116. doi: 10.1177/0272431600020001005
- Forrest, C. B., Bevans, K. B., Riley, A. W., Crespo, R., & Louis, T. A. (2013). Health and school outcomes during children's transition into adolescence. *Journal of Adolescent Health*, 52, 186-194. doi:10.1016/j.jadohealth.2012.06.019
- Fredricks, J.A., Blumenfeld, P., Friedel, J., & Paris, A. (2005). School engagement. In K.A. Moore & L. Lippman (Eds.), *What do children need to flourish?: Conceptualizing and measuring indicators of positive development*. New York: NY: Springer.
- Grant, K. E., Compas, Stuhlmacher, A. F., Thurm, A. E., McMahon, S. D., & Halpert, J. A. (2003). Stressors and child and adolescent psychopathology: Moving from markers to mechanisms of risk. *Psychological Bulletin*, 129(3), 447-466. doi:10.1037/0033-2909.129.3.447
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational evaluation and policy analysis*, 11, 255-274.
- Grills-Tauchel, A. E., Norton, P., & Ollendick, T. H. (2010). A longitudinal examination of factors predicting anxiety during the transition to middle school. *Anxiety, Coping, & Stress*, 23, 493-513. doi:10.1080/10615800903494127
- Government of Canada (2006). *The human face of mental health and mental illness in Canada*. Ottawa, Ontario: Author. Available from http://www.phac-aspc.gc.ca/publicat/human-humain06/pdf/human_face_e.pdf.
- Heubeck, B., & O'Sullivan, C. (1998). An exploration into the nature, frequency and impact of school hassles in middle school years. *Australian Psychologist*, 30, 130-137. doi:10.1080/00050069808257394
- Jackson, K. M., & Schulenberg, J. E. (2013). Alcohol use during the transition from middle school to high school: National panel data on prevalence and moderators. *Developmental Psychology*, 49, 2147-2158. doi:10.1037/a0031843
- Kline, P. (2000). *The handbook of psychological testing*. New York, NY: Routledge.
- Kupst, M. J., Butt, Z., Stoney, C. M., Griffith, J. W., Salsman, J. M., Folkman, S., & Cella, D. (2015). Assessment of stress and self-efficacy for the NIH toolbox for neurological and behavioral function. *Anxiety, Stress & Coping: An International Journal*, 28(5), 531-544.
- Lazarus, R. S. (1993). Coping theory and research: past, present and future. *Psychosomatic*

- Medicine*, 55, 2324-2347. doi:10.1.1.115.9665
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer
- Lester, L., Waters, S., Cross, D. (2013). The relationship between school connectedness and mental health during the transition to secondary school: A path analysis. *Australian Journal of Guidance and Counselling*, 23, 157-171.
doi:http://dx.doi.org/10.1017/jgc.2013.20
- Lupien, S. J., Fiocco, A., Wan, N., Maheu, F., Lord, C., Schramek, T., & Tu, M. T. (2005). Stress hormones and human memory function across the lifespan. *Psychoneuroendocrinology*, 30, 225-242. doi:10.1007/500406—008—5023
- Lupien, S. J., McEwen, B. S., Gunnar, M. R., & Heim, C. (2009). Effects of stress throughout the lifespan on the brain, behaviour and cognition. *Nature Reviews*, 10, 434-445.
doi:10.1038/nrn2639
- Luszczynska, A., Scholz, U., Schwarzer, R. (2005). The general self-efficacy scale: Multi-cultural validation studies. *The Journal of Psychology*, 139, 439-457.
- McCraty, R., Atkinson, M., Tomasino, D., Goelitz, J., & Mayrovitz, H. N. (1999). The impact of an emotional self-management skills course on psychosocial functioning and autonomic recovery to stress in middle school children. *Integrative Physiological and Behavioral Science*, 34, 246-268. doi:10.1007/BF02688693
- Moretti, M. M. (2003). *Affect regulation checklist*. Unpublished research measure, Simon Fraser University, Burnaby, British Columbia, Canada.
- Psychology Foundation of Canada. (n.d.) *Annual Report, 2012-2013*. Available in electronic form from <http://media.psychologyfoundation.org/pdf/PFCAnnualReport2012-13.pdf>.
- Psychology Foundation of Canada. (2013). *Stress Lessons: From Stressed Out to Chilled Out program for grade 7 – 9 classrooms Manual*. Toronto, Ontario. Author.
- Penny, S., & Moretti, M. M. (2010). The roles of affect dysregulation and deficient affect in youth violence. *Criminal Justice and Behavior*, 37 (6), 709-731.
- Schwarzer, R., & Jerusalem, M. (1995). Generalized self-efficacy scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), *Measures in health psychology: A user's portfolio* (pp. 35-37). Windsor, Berks, UK: Nfer-Nelson.
- Singer J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*. New York, NY: Oxford University Press.
- Smith, C. L., Eisenberg, N., Spinrad, T. L., Chassin, L., Morris, A. S., Kupfer, A., . . . Kwok, O. (2006). Children's coping strategies and coping efficacy: Relations to parent socialization, child adjustment, and familial alcoholism. *Development and Psychopathology*, 18(2), 445-469.
- Snow, W. H., Gilchrist, L. Schilling, R. F., Schinke, S. P., & Kelso, C. (1986). Preparing students for junior high school. *Journal of Early Adolescence*, 127-137.
doi:10.1093/cs/9.1.33
- Statistics Canada. (2009). *Canadian Community Health Survey, 2009: Annual [Share microdata file]*. Ottawa, ON: Statistics Canada.
- Stewart, S. D. (2010). The characteristics and well-being of adopted stepchildren. *Family Relations*, 59, 558-571.
- Stroud, L. R., Foster, E., Papandonatos, G. R., Handwerger, K., Granger, D. A., Kivligan, K. T., & Niaura, R. (2009). Stress response and the adolescent transition: Performance versus peer rejection stressors. *Development and Psychopathology*, 21, 47-68.
doi:10.1017/S0954579409000042

- Thornberry, T. P., Giordano, P. C., Uggan, C., Matsuda, M., Masten, A. S., Bulten, E., & Donker, A. G. (2012). Explanation for offending. In R. Loeber & D. P. Farrington, (Eds.). *From juvenile delinquency to adult crime: Criminal careers, justice policy, and prevention* (pp. 47-85), New York, NY: Oxford University Press.
- Toronto District School Board. (2013). TDSB Students (Grades 7-12): Emotional Well-being (Part 1 of 2). *2011-12 Student Parent Census*. Retrieved from <http://www.tdsb.on.ca/Portals/0/AboutUs/Research/2011-12CensusFactSheet2EmotWellbeingPart1.pdf>.
- Torsheim, T., & Wold, B. (2001). School-related stress, school support, and somatic complaints: a general population study. *Journal of Adolescent Research*, 16(3), 293-303. doi:10.1177/0743558401163003
- Waters, S. K., Lester, L., Wenden, E., & Cross, D. (2012). A theoretically grounded exploration of the social and emotional outcomes of transition to secondary school. *Australian Journal of Guidance and Counselling*, 22, 190-205. doi :10.1007/s10648-014-9258-2.
- Weisz, J. R., Francis, S. E., & Bearman, S. K. (2010). Assessing secondary control and its association with youth depression symptoms, *Journal of Abnormal Child Psychology*, 38, 883–893. doi: 10.1007/s10802-010-9440-z
- Wenz-Gross, M., Siperstein, G. N., Untch, A. S., & Widaman, K. F. (1997). Stress, social support, and adjustment of adolescents in middle school. *Journal of Early Adolescence*, 17, 129-151. doi:10.1177/0272431697017002002

6.0 Appendices

APPENDIX A: REB APPROVAL

October 10, 2014

Re: REB 2014-332 Evaluation of Stress Lessons: From Stressed Out to Chilled Out: A Program for Teens on Managing Stress

Dear David Day,

The Research Ethics Board has determined that your protocol does not require its review.

Based on the information provided it appears that the proposed study is program evaluation and results will be used exclusively for program assessment. As such, the protocol does not require research ethics review or approval.

If you have any questions regarding your submission or the review process, please do not hesitate to get in touch with the Research Ethics Board (contact information below).

Record respecting or associated with a research ethics application submitted to Ryerson University.

Yours sincerely,

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APPENDIX B: INFORMATION LETTER FOR PRINCIPALS



Information Sheet for School Principals

Title of Research Study:

Evaluation of the "Stress Lessons: From Stressed Out to Chilled Out:" A program for teens on managing stress

This letter is to explain an evaluation study we would like to conduct at your school during the 2015 school year in one of the Grade 7 to 9 classes. The study will involve four classrooms across four schools in the Greater Toronto area (GTA). It is conducted as a joint project between Ryerson University and the Psychology Foundation of Canada (PFC), the organization that developed the "*From Stressed Out to Chilled Out*" program.

Principal Investigator:

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Purpose of the Study:

In the field of developmental psychology, there is much interest in the effects of stress on the daily lives of young adolescents and the ability of young people to cope with stress. For example, it is generally acknowledged that the early teen years can be a stressful period for young people. This time of development can be characterized by substantial biological, social, emotional, and behavioural changes that may pose challenges to a young person. Although most youth navigate these changes well, many experience stress that at times may be perceived as overwhelming, challenging, and difficult to manage. When stress becomes unmanageable for an adolescent it may cause problems in various aspects of their lives, including school performance and social and family relations.

As a result, we would like to undertake an evaluation of the “*From Stressed Out to Chilled Out*” program that is provided by teachers in Grades 7 to 9 at your school. By evaluating the program in four classrooms at four different schools, psychologists and educators will be able to determine whether the program should be recommended for formal integration into Canadian junior high and high school curriculum in order to improve the mental health and well-being of Canadian adolescents.

Date of Research Study:

January 2015 to July 2015

Activities Requested of the Teachers:

- (1) To incorporate the PFC's *From Chilled Out to Stressed Out* program sessions as part of one of your grade 7-9 classroom's curriculum.
- (2) To complete a brief post session questionnaire after each lesson of the program.
- (3) To be interviewed by the principal investigator and a research assistant for 30 minutes in June 2015 in order to share your experience of teaching the session activities and its impact on their students.

Activities Requested of Students:

- (1) To complete pre-test and post-test questionnaires in their classrooms. The questionnaires should take about 30 minutes to complete at each time period. The questions will ask about many different things, including, the way they think and feel about themselves and about their behaviour. Some examples of the questions are: “I wished that bad things wouldn't happen;” “If another kid is mean to me, it is hard for me to get over it;” “I have a hard time controlling my feelings;” and “I like being in school.”

Potential Risks:

The potential risks and discomforts of participation include:

- (1) Being uncomfortable with sharing personal thoughts, feelings, and work situations with the researcher team (students and teachers).
- (2) Being uncomfortable with being audio-recorded (teachers)

To address these concerns, every effort will be made to ensure confidentiality. As well, for teachers, an opportunity for a brief debrief will be provided with the principal investigator to discuss your discomforts and concerns. For students, they will be told that they may skip any item(s) or stop completing the questionnaire altogether if they wish. Additionally, if students become upset and would like to talk to someone after completing the questionnaire, the research team will arrange for them to speak with a counselor at the school.

Potential Benefits:

The potential benefits of participating in the study are many and include:

- (1) For the teachers, they will learn more about how to address the stress levels of their students in the classroom and strategies for decreasing it, which, in turn, is expected to create a more positive classroom environment for both their students and themselves. Moreover, they may acquire greater insight into their own stress level and learn strategies for reducing it that may have beneficial effects not only for their work life, but also their personal life.
- (2) For the student participants, it is expected that they will acquire a greater understanding

of what stress is (i.e., signs of stress that they may experience but are not yet fully aware of) as well as the tools and strategies for managing it (e.g., breathing exercises, re-framing their perceptions of the stressor, etc.) These strategies are expected to be helpful not only during their time at school, but also during their home life when confronted with challenges there.

(3) At a broader level, the expected benefits for both the teachers and their students may also lead to a “ripple effect.” For the school environment, participating students/teachers/classrooms who are learning how to manage their stress levels may serve as positive role models for other students and teachers at the school, inspiring them to incorporate the strategies and techniques being learned. Likewise, at home, the student participant may share with parents and siblings what they are learning in the program/study, thereby introducing teachings in a way that may enhance the health and wellbeing of their family.

(4) As a gesture of appreciation, we would like to offer the participating teacher a \$50 gift card to Chapters bookstore. This gift card will be presented at the end of the study in July, 2015.

Dissemination of Results:

The study’s data (i.e., youth questionnaires, teacher interviews) will be compiled into a final report, which will address the original question of the efficacy of the program and its possible adoption by school boards across Canada. The final report will be submitted to Psychology Foundation of Canada, its stakeholders, and funders. As well, it will be submitted to the principals, teachers, and school board(s) of the participating schools. For the general public, the final report will be available on the Psychology Foundation of Canada website. Portions of the report may also be submitted for presentation at scientific conferences, such as the Canadian Psychology Association or Canadian Mental Health Association.

We thank you for your consideration.

David Day, PhD, CPsych
Robin Alter, PhD, CPsych
Irene Bevc, PhD, CPsych

APPENDIX C: INFORMATION LETTER FOR PARENTS/GUARDIANS



Information letter to parents/guardians

Dear Parent/Guardian:

It is generally acknowledged that the early teen years can be a stressful period for young people. This time of development can be characterized by substantial biological, social, emotional, and behavioural changes that may pose challenges to a young person. Although most youth navigate these changes well, many experience stress that at times may be perceived as overwhelming, challenging, and difficult to manage. When stress becomes unmanageable for an adolescent it may cause problems in various aspects of their lives, including school performance as well as social and family relations. As a result, we are undertaking an evaluation of the “From Stressed Out to Chilled Out” program that is provided by teachers at your son or daughter’s school. The program was developed by the Psychology Foundation of Canada and is conducted with their collaboration. I would like to include your son or daughter in this study.

Participation in this study will require your son or daughter to complete a number of questionnaires at two time periods over the school year. The questionnaires should take about 30 minutes to complete and will involve a variety of questions regarding the way your son or daughter thinks and feels about himself or herself and his or her behaviour. Some examples of these things are: “I wished that bad things wouldn’t happen;” “If another kid is mean to me, it is hard for me to get over it;” “I have a hard time controlling my feelings;” and “I like being in school.” There are no “right” or “wrong” answers to these questions; we are looking for your son or daughter’s views about these issues. The questionnaires will be administered in class by a research assistant who will be available if your son or daughter needs assistance during the study. While there are no direct risks or benefits to participation in this study, most people find it to be an interesting experience.

Participation in the research project is voluntary. Your son or daughter may stop participating at any time and he or she can choose not to answer questions that he or she does not want to. All the information collected for the study will be kept confidential at all times. This means that your son or daughter’s responses to the questionnaire will not be connected to his or her name or other personal information at any point in the study. All the data and contact email addresses collected will be kept in password-protected files on the researcher’s computer at Ryerson University to be stored for 10 years following the completion of the study. All paper-based files will be stored in a locked filing cabinet in a locked office at Ryerson University, and these files will be destroyed (shredded) after they have been entered into the study database. Your son or daughter will only be asked to provide his or her name and email address in order to be entered into the draw to win a \$25.00 iTunes gift card at the end of the study. Only the study’s researchers will be able to see this information and any presentation or publication of the results will be reported as

part of the overall findings; no person's identity will ever be revealed as part of this study. The results of the study will be used to write a report for the Psychology Foundation of Canada and may be presented at scientific conferences. The data gathered during this study also may be used in future research projects. For those interested in participating, a copy of the results of the study will be available at your son or daughter's school once the information has been analysed. If you wish to receive a summary of the results directly, you may fill in your name and address on this letter below and submit it to your child's teacher. If you have any questions or concerns about the research, please contact **Dr. David Day** at **dday@psych.ryerson.ca** or by telephone at **416.979.5000 x 7104**.

To indicate whether you will allow your son or daughter to be included in the study, please fill in and return the form that is attached to this letter. Please keep a copy of this form and this letter for your records. Thank you very much for taking the time to consider your son or daughter participating in this study!

Receive a summary of the results

Yes, please send me a summary of the results!

☐

Name: _____

Email Address: _____

Mailing Address (optional): _____

APPENDIX D: CONSENT FORM FOR PARENTS



Evaluation of the “From Stressed Out to Chilled Out:” A program for teens on managing stress Consent Form for Parents

Your son or daughter is being asked to take part in an evaluation study of the “From Stressed Out to Chilled Out” program for teens on managing stress. Before your son or daughter agrees to volunteer, it is important that you read the following information and ask as many questions as necessary to be sure you understand what he or she will be asked to do. Your son or daughter is also being provided with this information and asked to provide his or her assent.

Who is doing the study? The study is being conducted by Dr. David Day, from Toronto Metropolitan University and Dr. Irene Bevc from the Hincks-Dellcrest Children’s Centre, in collaboration with Dr. Robin Alter of the Psychology Foundation of Canada (PFC), the organization that developed the “From Stressed Out to Chilled Out” program. The results of the study will be written up as a report to the Psychology Foundation of Canada and may also be presented at a professional conference.

What’s the study about? This study will help us better understand your son or daughter’s experiences with the “From Chilled Out to Stressed Out” program; what he or she liked about the program; what he or she didn’t like about the program; and about how the program might have helped him or her to manage and cope with stress in his or her daily life. The study will include about 100 students in grades 7 to 9 who have received the same program.

Your son or daughter will be asked to fill out a set of questionnaires at two time periods to the best of his or her ability. In all, the questionnaires should take about 30 minutes to complete at each time period. The questions will ask about many different things, including, the way he or she thinks and feels about himself or herself and about his or her behaviour. The results of the study will be made available to you and your son or daughter we will send a summary or our findings to your school.

Who will know how your son or daughter has answered the questionnaires? All of your son or daughter’s responses on the questionnaires will remain private throughout the study. This means that his or her responses to the items will not be connected to his or her name or other personal information, and all the information collected will be kept in password-protected files on the researcher’s computer at Toronto Metropolitan University to be stored for 10 years after the completion of the study. All paper-based files will be stored in a locked filing cabinet in a locked office at the University and these files will be destroyed (shredded) after entry into the study database. Only the study’s researchers will have access to your data and any presentation or publication of the results will be reported as part of the overall findings, never individually.

How will you use the results? We may use the results of this study in presentations, reports or articles. We will not identify your son or daughter by name, or include any information that could identify him or her in any presentation, report or article.

Are there any risks? The potential risk of harm in this study is very low. Some of the questions on this survey may seem personal and might make your son or daughter feel uncomfortable. If he or she feels uncomfortable at any time while completing any items on the questionnaire, he or she may skip the item(s) or stop completing the questionnaire altogether. If he or she becomes upset and would like to talk to someone after completing the questionnaire, we will arrange for your son or daughter to speak with a counselor at the school.

Are there benefits? This study is important in helping us understand the effects of stress on the lives of young people and how this program might positively affect their ability to cope with and manage stress better in their everyday lives. Additionally, it may help us understand the importance of support provided by teachers in schools, allow us to learn more about adolescent development and allow us to inform the development of other school-based intervention programs for adolescents. We also anticipate that the young people participating will benefit from the study by gaining self-awareness and learning more about their emotional responses to a variety of situations.

What does your son or daughter receive? Your son or daughter's contribution to this study is very important to improving our knowledge in this area. To compensate for his or her time, we will give him or her entry into a draw to win a \$25.00 iTunes gift card as a token of our appreciation.

What if he or she does not want to be part of the study? Participation in this study is completely voluntary and does not affect the education your son or daughter receives at his or her school. If you decide to allow your son or daughter to participate, he or she is free to stop participation at any time without consequence. At any particular point in the study, your son or daughter may refuse to answer any particular question or stop participation altogether.

Do you have questions about the study? If you have questions later about the study, you may contact Dr. David Day. The Principal of the school also has the telephone number of the researcher.

Dr. David Day
Toronto Metropolitan University
(416) 979-5000, ext. 7104
dday@ryerson.ca

Please tear off and return this section to:

Dr. David Day
Department of Psychology
Toronto Metropolitan University
350 Victoria Street
Toronto, ON M5B 2K3

Consent:

Your signature below indicates that you have read the information in this agreement and have had a chance to ask any questions you have about the study. Your signatures also indicate that you agree to have your son or daughter participate in the study and have been told that your son or daughter can change his or her mind and withdraw consent to participate at any time. You have been given a copy of this agreement.

You have been told that by signing this consent agreement you are not giving up any of your legal rights.

Signature of Parent/Guardian of Participant

Date _____

Name of Child (print) if applicable

Signature of Research Assistant

Date _____

APPENDIX E: ASSENT FORM FOR YOUTH



Evaluation of the “From Stressed Out to Chilled Out:” A program for teens on managing stress Assent Form for Youth

We are inviting you to take part in an evaluation study of the “From Stressed Out to Chilled Out” program for teens on managing stress. This form explains the study so that you know what is involved.

Who is doing the study? The study is being conducted by Dr. David Day, from Toronto

Metropolitan University and Dr. Irene Bevc from the Hincks-Dellcrest Children’s Centre, in collaboration with Dr. Robin Alter of the Psychology Foundation of Canada (PFC), the organization that developed the “From Stressed Out to Chilled Out” program. The results of the study will be written up in a report to the Psychology Foundation of Canada and may also be presented at a professional conference.

What’s the study about? This study will help us better understand your experiences with the “From Chilled Out to Stressed Out” program; what you liked about the program; what you didn’t like about the program; and about how the program might have helped you to manage and cope with stress in your daily life. The study will include about 100 students in grades 7 to 9 who have received the same program.

What’s my part? If you choose to participate, we will ask you to fill out a set of questionnaires as best as you can at two different time periods. In all, the questionnaires should take you about 30 minutes to complete at each time period. The questions will ask about many different things, including, the way you think and feel about yourself and about your behaviour. Some examples of these things are: “I wished that bad things wouldn’t happen;” “It is very hard for me to calm down when I get upset;” “I have a hard time controlling my feelings;” and “I like being in school.” The results of the study will be made available to you if you are interested, we will send a summary of our findings to your school to distribute.

Who will know how I have answered the questionnaires? All of your responses on the questionnaires will remain private throughout the study. This means that your responses on the questionnaires will not be connected to your name or other personal information, and all the information collected will be kept in password-protected files on the researcher’s computer at Ryerson University to be stored for 10 years after the completion of the study. All paper-based files will be stored in a locked filing cabinet in a locked office at the University and these files will be destroyed (shredded) after entry into the study database. Only the study’s researchers will have access to your data and any presentation or publication of the results will be reported as part of the overall findings, never individually.

How will you use the results? We may use the results of this study in presentations, reports or articles. We will not identify you by name, or include any information that could identify you in any presentation, report, or article.

Are there any risks? The potential risk of harm in this study is very low. Some of the questions on this survey may seem personal and might make you may feel uncomfortable. If you feel uncomfortable at any time while completing any items on the questionnaire, you may skip the item(s) or stop completing the questionnaire altogether. If you become upset and would like to talk to someone after completing the questionnaire, we will arrange for you to speak with a counselor at the school. Please keep in mind that there are caring adults in the school that you can turn to if you need someone to talk to. If you have any questions about the survey or you're feeling upset/sad/worried about something, you may want to talk to another adult you trust, like a parent, your teacher, guidance counselor, or a coach.

Are there benefits? You will receive no direct benefits for participating in this study, but the results of this study may allow us to help other adolescents in the future.

Some of the ways this research can help future adolescents, include:

- It may help us understand the benefits of school-based interventions
- It allows us to learn about adolescent development and also the impact of stress on development
- It may help us inform the development of other school-based programs for other adolescents

As well, students who participate in the study will have an opportunity to learn how to recognize stress and strategies to better manage it, such as better self-regulation. Teachers who participate in the study will likely learn how to recognize stress in their students and how to support them more effectively.

What do I receive? To thank you for completing our questionnaire, you can choose to be entered in a draw to win one of five itunes gift cards (\$25.00 each). You will be able to enter into this draw even if you do not finish survey questions. Once you have completed the questionnaires, or when you decide you want to stop, you can fill out a form where you can enter your email address for entry into the draw.

What if I don't want to be part of the study? If you don't want to be part of the study, that is totally your choice. You don't have to answer any question on any of the questionnaires that makes you feel uncomfortable. You can stop participating in the study at any time. Your decision will have no effect on the services or the type of services you receive at your school in any way.

Do you have questions about the study? If you have any questions about the study now, please ask. If you have questions later about the study, you may contact:

Dr. David Day, Toronto Metropolitan University, (416) 979-5000, ext. 7104,
dday@ryerson.ca

Assent: By signing this form, it means that:

- You have read the information about the study.
- You understand what the study is about and what you will be doing.
- You have been able to ask questions about the study and are OK with the answers.
- You have been given a copy of this agreement.
- You understand that if you do not want to be part of the study, you do not need to give a reason. Your decision will not affect your services you receive at your school in any way.
- You understand that you can change your mind and withdraw your consent to participate at any time.

I have read and understood the information, and I agree to participate in this study. I have been given a copy of this consent form for my records.

Youth's name: (please print) _____

Youth's signature: _____ Date: _____

Research Assistant's signature: _____ Date: _____

APPENDIX F: CONSENT FORM FOR TEACHERS



Evaluation of the “From Stressed Out to Chilled Out:” A program for teens on managing stress Consent Form for Teachers

You are being asked to take part in an evaluation study of the “From Stressed Out to Chilled Out” program for teens on managing stress. Before you agree to volunteer, it is important that you read the following information and ask as many questions as necessary to be sure you understand what you are being asked to do.

Who is doing the study? The study is being conducted by Dr. David Day, from Toronto Metropolitan University and Dr. Irene Bevc from the Hincks-Dellcrest Children’s Centre, in collaboration with Dr. Robin Alter of the Psychology Foundation of Canada (PFC), the organization that developed the “From Stressed Out to Chilled Out” program. The results of the study will be written up as a report to the Psychology Foundation of Canada and may also be presented at a professional conference.

What’s the study about? This purpose of this study is to evaluate the “From Stressed Out to Chilled Out” program for teens in grades 7 – 9 on managing stress in four classrooms in four different schools in the Greater Toronto Area.

The program is a free classroom resource that helps young people learn problem-solving and stress management skills, and become more self-aware. The program was developed by a range of experts, including educators, counselors, and psychologists in response to growing evidence that that today’s youth are faced with more stress than ever before. According to a survey conducted by the American Psychological Association (APA, 2009), 31% of youth reported that their stress levels had increased from the following year and 83% said that school was a ‘somewhat stressful experience.’

By evaluating the program in four classrooms, psychologists and educators will be able to determine whether the program should be recommended for formal integration into Canadian junior high and high school curriculum in order to improve the mental health and well-being of Canadian adolescents.

Date of Research Study:
January 2015 to July 2015

Activities Requested of the School/Teachers:
You are being asked to complete three activities:

(1) To incorporate the PFC’s *From Chilled Out to Stressed Out* program sessions as part of one of your grade 7-9 classroom curriculum.

- (2) To complete a brief session rating form after each lesson of the program.
- (3) To be interviewed by the principal investigator and a research assistant for 30 minutes in June 2015 in order to share your experience of teaching the *From Chilled Out to Stressed Out* session activities and its impact on your students.

To complement these activities, the research team will also distribute a set of pre-test and post-test questionnaires to your students.

Potential Risks:

The potential risks and discomforts of your participation include:

- (1) Being uncomfortable with sharing personal thoughts, feelings, and work situations with the researcher team.
- (2) Being uncomfortable with being audio-recorded

To address these concerns, every effort will be made to ensure confidentiality. As well, an opportunity for a brief debrief will be provided with the principal investigator to discuss your discomfort and concerns.

Potential Benefits:

The potential benefits of participating in the study are many and include:

- (1) For the teachers, they will learn more about how to address the stress levels of their students in the classroom and strategies for decreasing it, which, in turn, is expected to create a more positive classroom environment for both their students and themselves. Moreover, they may acquire greater insight into their own stress level and learn strategies for reducing it that may have beneficial effects not only for their work life, but also their personal life.
- (2) For the student participants, it is expected that they will acquire a greater understanding of what stress is (i.e., signs of stress that they may experience but are not yet fully aware of) as well as the tools and strategies for managing it (e.g., breathing exercises, re-framing their perceptions of the stressor, etc.) These strategies are expected to be helpful not only during their time at school, but also during their home life when confronted with challenges there.
- (3) At a broader level, the expected benefits for both the teachers and their students may also lead to a “ripple effect.” For the school environment, participating students/teachers/classrooms who are learning how to manage their stress levels may serve as positive role models for other students and teachers at the school, inspiring them to incorporate the strategies and techniques being learned. Likewise, at home, the student participant may share with parents/guardians and siblings what they are learning in the program/study, thereby introducing teachings in a way that may enhance the health and wellbeing of their family.
- (4) As a gesture of appreciation, we would like to offer the participating teacher a \$50 gift card to Chapters bookstore. This gift card will be presented at the end of the study in July, 2015.

Confidentiality and privacy:

The confidentiality and privacy of study participants is of utmost importance to the research team and are upheld in accordance with the Canadian government's Tri-Council Policy Guidelines.

The data collected from the interview, that is, digital tape recording of session, electronic transcripts, and written notes, will be kept in a secure manner, either stored on Dr. Day's computer, which has anti-virus software installed and a password to protect information from unauthorized access, loss, and modification, or stored in a locked cabinet in Dr. Day's lab at Ryerson University. Only the principal investigator and research assistants will have access to these data. All data will be conserved in this manner for a period of ten years after publication of this research study at which time electronic files stored on the computer will be deleted and any written documents will be shredded. The audio recordings will be deleted once transcription is complete.

Withdrawal Procedures:

You are free to withdraw from the study at any time without consequences or penalty of any kind. The specific method for withdrawal would be a formal request to the principal investigator, who would then withdraw you from the study. You may also exercise the option of removing data from the study after it has been collected. Likewise, you may also refuse to answer any questions you do not want to answer and still remain in the study.

Dissemination of Results:

The study's data (i.e., youth questionnaires, teacher interviews) will be compiled into a final report, which will address the original question of the efficacy of the program and its possible adoption by school boards across Canada. The final report will be submitted to Psychology Foundation of Canada, its stakeholders, and funders. As well, it will be submitted to the principals, teachers, and school board(s) of the participating schools. For the general public, the final report will be available on the Psychology Foundation of Canada website. Portions of the report may also be submitted for presentation at scientific conferences, such as the Canadian Psychology Association or Canadian Mental Health Association.

Do you have questions about the study? If you have any questions about the study now, please ask. If you have questions later about the study, you may contact:

David Day

Professor, Department of Psychology
Toronto Metropolitan University
350 Victoria Street
Toronto, ON M5B 2K3
(416) 979-5000, ext. 7104
dday@psych.ryerson.ca

Consent:

Your signature below indicates that you have read the information in this agreement and have had a chance to ask any questions you have about the study. You have been given a copy of this agreement.

You have been told that by signing this consent agreement you are not giving up any of your legal rights.

Signature of Teacher

Date

Your signature below indicates that you agree to being audio-taped.

Participant's Signature

Interviewer's Signature

Date

APPENDIX G: MEASURES PACKAGE FOR STUDENTS

ID# _____

Cover Sheet

Please complete out this page before turning the next page. Thanks!

Today's date: _____

Please print your name: _____

Birthdate: _____

School: _____

Grade: _____

Teacher: _____

ID# _____

Demographic Information

Gender

Male

Female

Other gender identity (please specify): _____

Ethnic background (check as many as apply to you):

African (e.g., Nigeria, Ghana, Ethiopia)

African-Caribbean (i.e., from the Caribbean and of Black/African descent)

Indo-Caribbean (i.e., from the Caribbean and of South Asian descent)

Other Caribbean (i.e., from the Caribbean and of other ethnic descent)

South Asian (e.g., India, Pakistan, Bangladesh, Sri Lanka)

East Asian (e.g., Hong Kong, China, Vietnam, Korea, Philippines)

Middle Eastern or North African (e.g., Iran, Israel, Egypt, Morocco)

White - British and/or Irish background (e.g., England, Scotland, Wales, Ireland)

White - Italian

White - Portuguese

White - Greek

White - Eastern European (e.g., Russia, Ukraine, Romania)

White - Other European (e.g., Germany, France)

Hispanic / Latino/a (e.g., Mexico, Puerto Rico, Cuba)

Aboriginal (e.g., First Nations, Inuit, Métis, Native American)

Other (please specify) _____

In the above question, there was a list of ethnic backgrounds. However, this list may or may not specify how you identify. Regardless of your answer to the previous question, how do you identify your ethnic background(s)?

Ethnically, I identify as _____

ID# _____

School Engagement Scale

The following questions ask about your involvement in your school. Select the response that best reflects your involvement (*select only one answer for each question*).

Behavioural Engagement

1. I pay attention in class
 - ☐ Never
 - ☐ On occasion
 - ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time
2. When I am in class I just act as if I am working
 - ☐ Never
 - ☐ On occasion
 - ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time
3. I follow the rules at school
 - ☐ Never
 - ☐ On occasion
 - ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time
4. I get in trouble at school
 - ☐ Never
 - ☐ On occasion
 - ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time

Emotional Engagement

5. I feel happy in school
 - ☐ Never
 - ☐ On occasion
 - ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time
6. I feel bored in school
 - ☐ Never
 - ☐ On occasion

- ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time
- 7. I feel excited by the work in school
 - ☐ Never
 - ☐ On occasion
 - ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time
- 8. I like being at school
 - ☐ Never
 - ☐ On occasion
 - ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time
- 9. I am interested in the work at school
 - ☐ Never
 - ☐ On occasion
 - ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time
- 10. My classroom is a fun place to be
 - ☐ Never
 - ☐ On occasion
 - ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time

Cognitive Engagement

11. When I read a book, I ask myself questions to make sure I understand what it is about
- ☐ Never
 - ☐ On occasion
 - ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time
12. I study at home even when I don't have a test
- ☐ Never
 - ☐ On occasion
 - ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time
13. I try to watch TV shows about things we are doing in school
- ☐ Never
 - ☐ On occasion
 - ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time
14. I check my schoolwork for mistakes
- ☐ Never
 - ☐ On occasion
 - ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time
15. I read extra books to learn more about things we do in school
- ☐ Never
 - ☐ On occasion
 - ☐ Some of the time
 - ☐ Most of the time
 - ☐ All of the time

Children's Coping Strategies Checklist

Sometimes kids have problems or feel upset about things. When this happens, they may do different things to solve the problem or to make themselves feel better.

For each item below, choose the answer that BEST describes how often you usually did this to solve your problems or make yourself feel better during the past 3 months. There are no right or wrong answers, just indicate how often YOU USUALLY did each thing in order to solve your problems or make yourself feel better during the past 3 months.

Questions	1=Never, 2=Sometimes, 3=Often, 4=Most of the time
1. <i>When you had problems in the past 3 months</i> , you thought about what you could do before you did something.	1 2 3 4
2. You tried to notice or think about only the good things in your life.	1 2 3 4
3. You tried to ignore it.	1 2 3 4
4. You told people how you felt about the problem.	1 2 3 4
5. You tried to stay away from the problem.	1 2 3 4
6. You did something to make things better.	1 2 3 4
7. You talked to someone who could help you figure out what to do.	1 2 3 4
8. You told yourself that things would get better.	1 2 3 4
9. You listened to music.	1 2 3 4
10. You reminded yourself that you are better off than a lot of other kids.	1 2 3 4
11. <i>When you had problems in the past 3 months</i> , you daydreamed that everything was okay.	1 2 3 4
12. You went bicycle riding.	1 2 3 4
13. You talked about your feelings to someone who really understood.	1 2 3 4

Questions	1=Never, 2=Sometimes, 3=Often, 4=Most of the time
14. You told other people what you wanted them to do.	1 2 3 4
15. You tried to put it out of your mind.	1 2 3 4
16. You thought about what would happen before you decided what to do.	1 2 3 4
17. You told yourself that it would be OK.	1 2 3 4
18. You told other people what made you feel the way you did.	1 2 3 4
19. <i>When you had problems in the past 3 months</i> , you told yourself that you could handle this problem.	1 2 3 4
20. You went for a walk.	1 2 3 4
21. You tried to stay away from things that made you feel upset.	1 2 3 4
22. You told others how you would like to solve the problem.	1 2 3 4
23. <i>When you had problems in the last 3 months</i> , you tried to make things better by changing what you did.	1 2 3 4
24. You told yourself you have taken care of things like this before.	1 2 3 4
25. You played sports.	1 2 3 4
26. You thought about why it happened.	1 2 3 4
27. You didn't think about it.	1 2 3 4
28. You let other people know how you felt.	1 2 3 4
29. You told yourself you could handle whatever happens.	1 2 3 4
30. You told other people what you would like to happen.	1 2 3 4

Questions	1=Never, 2=Sometimes, 3=Often, 4=Most of the time
31. You told yourself that in the long run, things would work out for the best.	1 2 3 4
32. You read a book or magazine.	1 2 3 4
33. <i>When you had problems during the past 3 months</i> , you imagined how you'd like things to be.	1 2 3 4
34. You reminded yourself that you knew what to do.	1 2 3 4
35. You thought about which things are best to do to handle the problem.	1 2 3 4
36. You just forgot about it.	1 2 3 4
37. You told yourself that it would work itself out.	1 2 3 4
38. <i>When you had problems in the past 3 months</i> , you talked to someone who could help you solve the problem.	1 2 3 4
39. You went skateboard riding or roller skating.	1 2 3 4
40. You avoided the people who made you feel bad.	1 2 3 4
41. You reminded yourself that overall things are pretty good for you.	1 2 3 4
42. You did something like video games or a hobby.	1 2 3 4
43. You did something to solve the problem.	1 2 3 4
44. <i>When you had problem in the last 3 months</i> , you tried to understand it better by thinking more about it.	1 2 3 4
45. You reminded yourself about all the things you have going for you.	1 2 3 4

Questions	1=Never, 2=Sometimes, 3=Often, 4=Most of the time
46. You wished that bad things wouldn't happen.	1 2 3 4
47. You thought about what you needed to know so that you could solve the problem.	1 2 3 4
48. <i>When you had problems in the last 3 months</i> , you avoided it by going to your room.	1 2 3 4
49. You did something in order to get the most you could out of the situation.	1 2 3 4
50. You thought about what you could learn from the problem.	1 2 3 4
51. You wished that things were better.	1 2 3 4
52. You watched TV.	1 2 3 4
53. You did some exercises.	1 2 3 4
54. You tried to figure out why things like this happen.	1 2 3 4

General Self-Efficacy Scale (GSE)

The following questions ask about your ability to deal with problems. For each statement select the response which best describes you (select only one response for each question).

Question	1= Not at all true, 2= Hardly true, 3=Moderately true, 4= Exactly true
1. I can always manage to solve difficult problems if I try hard enough.	1 2 3 4
2. If someone opposes me, I can find the means and ways to get what I want.	1 2 3 4
3. It is easy for me to stick to my aims and accomplish my goals.	1 2 3 4
4. I am confident that I could deal efficiently with unexpected events.	1 2 3 4
5. Thanks to my resourcefulness, I know how to handle unforeseen situations.	1 2 3 4
6. I can solve most problems if I invest the necessary effort.	1 2 3 4
7. I can remain calm when facing difficulties because I can rely on my coping abilities.	1 2 3 4
8. When I am confronted with a problem, I can usually find several solutions.	1 2 3 4
9. If I am in trouble, I can usually think of a solution.	1 2 3 4
10. I can usually handle whatever comes my way.	1 2 3 4

Affect Regulation Checklist (ARC)

The following questions relate to your experiences with your emotions. For each question circle the answer that best describes you (circle only one answer for each question).

- | | | | |
|--|---------------|------------------|-------------|
| 1) I have a hard time controlling my feelings. | A lot like me | A little like me | Not like me |
| 2) It is very hard for me to calm down when I get upset. | A lot like me | A little like me | Not like me |
| 3) My feelings just take over me and I can't do anything about it. | A lot like me | A little like me | Not like me |
| 4) When I get upset, it takes me a long time to get over it. | A lot like me | A little like me | Not like me |
| 5) Thinking about why I have different feelings helps me to learn about myself. | A lot like me | A little like me | Not like me |
| 6) Thinking about why I act in certain ways helps me to understand myself. | A lot like me | A little like me | Not like me |
| 7) The time I spend thinking about what's happened to me in my life helps me to understand myself. | A lot like me | A little like me | Not like me |
| 8) When I think about my feelings, it just makes everything worse. | A lot like me | A little like me | Not like me |
| 9) I try hard not to think about my feelings. | A lot like me | A little like me | Not like me |
| 10) It's best to keep feelings in control and not to think about them. | A lot like me | A little like me | Not like me |
| 11) I keep my feelings to myself. | A lot like me | A little like me | Not like me |
| 12) I try to do other things to keep my mind off how I feel. | A lot like me | A little like me | Not like me |

Perceived Stress Scale

The following questions relate to your experiences with stress. For each question circle the description that best represents how often you have felt or thought that way **during the past month**.

1) Been upset because of something that happened unexpectedly?	Never	Almost Never	Sometimes	Fairly Often	Very Often
2) Felt that you were unable to control the important things in your life?	Never	Almost Never	Sometimes	Fairly Often	Very Often
3) Felt nervous and "stressed"?	Never	Almost Never	Sometimes	Fairly Often	Very Often
4) Felt confident about your ability to handle your personal problems?	Never	Almost Never	Sometimes	Fairly Often	Very Often
5) Felt that things were going your way?	Never	Almost Never	Sometimes	Fairly Often	Very Often
6) Found that you could not cope with all the things that you had to do?	Never	Almost Never	Sometimes	Fairly Often	Very Often
7) Been able to control irritations in your life?	Never	Almost Never	Sometimes	Fairly Often	Very Often
8) Felt that you were on top of things?	Never	Almost Never	Sometimes	Fairly Often	Very Often
9) Been angered because of things that were outside of your control?	Never	Almost Never	Sometimes	Fairly Often	Very Often
10) Felt difficulties were piling up so high that you could not overcome them?	Never	Almost Never	Sometimes	Fairly Often	Very Often

Stress Effects Scale

Using the 5-point scale, where 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, and 5 = Very Often, please indicate your response to the following statements.

In the past 2 weeks...

1	2	3	4	5
Never	Rarely	Sometimes	Often	Very Often

I have experienced headaches _____

I have experienced stomachaches _____

I have had difficulty sleeping _____

I have been more tired than usual _____

APPENDIX H: SESSION RATINGS FORM FOR TEACHERS
Teacher Session Ratings

Session No.: _____

Date: _____

1. How hard or easy was this session to implement?

Very hard:	2	3	4	5	6	7: Very easy
1						

2. How comfortable did you feel to implement this session?

Not at all:	2	3	4	5	6	7: Very comfortable
1 comfortable						

3. How confident did you feel to implement this session?

Not at all:	2	3	4	5	6	7: Very confident
1 confident						

4. How prepared did you feel to implement this session?

Not at all:	2	3	4	5	6	7: Very prepared
1 prepared						

5. How much did you enjoy delivering this session?

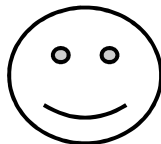
Not at all:	2	3	4	5	6	7: Very much
1						

6. How engaged were students in this session?

Not at all:	2	3	4	5	6	7: Very much
1						

Additional comments:

Thank you!



APPENDIX I: INTERVIEW PROTOCOL FOR TEACHERS

Teacher Information

Position at the school: _____
Subjects you teach: _____
Years of teaching: _____
Years at this school: _____
Number of *Stress Lessons* session taught: _____
Did you include the Chill Fair project? Yes No
Why or why not? _____

Posttest

Tell me about your understanding of what the *Stress Lessons* program is about.

Probes: Did you receive training for the Stress Lessons program? Did you feel confident in delivering the *Stress Lessons* program? Did you feel comfortable in delivering the program? Did you feel prepared to deliver the sessions? Did you enjoy delivering the sessions? Do you have remaining questions about the program? Was there someone you could ask about the program?

How well do you feel the *Stress Lessons* program fits with your course curriculum?

Probes: Do you feel you needed to accommodate your lesson plan to fit in the sessions or did you feel the sessions fit very well with your lesson plans?

Did you implement all or some of the seven sessions? Why or why not? If you did not implement all the sessions, which did you not implement and why?

In general, how easy or hard was it for you to implement the program?

Probes: What were some of the issues that may have made it difficult to implement, such as time constrictions, limited space in the classroom, uncooperative students, or poor instructions in the manual?

[illegible]

Did you find some sessions more difficult to implement? Why or why not? If so, which ones? Why was that?

Did you see any changes in your students throughout the course of *Stress Lessons*? Explain, provide specific examples.

Probes: Teacher-student relationships (conflict resolution, respect...)

Peer relationships (conflict resolution, respect...)

School engagement

Independent work, on-task, attention

Class participation

Enhanced communication with students

Attendance

Managing Stress

Impulse control

Self-confidence

Based on your interactions with students in *Stress Lessons*, were there any particular components of the program that you think were especially helpful for the students? Why? Probe for specific examples.

APPENDIX J: EMAILS FROM TWO TEACHERS AT THE END OF THE STUDY

June 9, 2016:

Hello David,

Thank you for that Itunes gift card. I did receive it yesterday and gave the same to XX. Thank you for this interesting study on Stress. I truly hope we get some gainful insights from the study which will be good for students in the future. Thank you, Jessica and Monique for all your efforts here. We are glad to be a part of it. Do keep us posted about the outcome of this study and how it shapes up for the future.

Thank you again on behalf of Brianna for the gift card.

All the best and take care,

June 17, 2016

thank you David for the generous gift card incentive I hand delivered the gift card to XX just yesterday on what was our last day of classes heading into the June exam cycle. He was delighted as a grade X, XX year old boy can project enthusiasm and delight ... LOL
I certainly will take many aspects of the stress lessons into the new school year with a new group of teens. For now though we all need some recovery time and some good self care!

Have a lovely summer