Integrating a relaxation response-based curriculum into a public high school in Massachusetts

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ABSTRACT

Academic and societal pressures result in U.S. high school students feeling stressed. Stress management and relaxation interventions may help students increase resiliency to stress and overall well-being. The objectives of this study were to examine the feasibility (enrollment, participation and acceptability) and potential effectiveness (changes in perceived stress, anxiety, self-esteem, health-promoting behaviors, and locus of control) of a relaxation response (RR)-based curriculum integrated into the school day for high school students. The curriculum included didactic instruction, relaxation exercises, positive psychology, and cognitive restructuring. The intervention group showed significantly greater improvements in levels of perceived stress, state anxiety, and health-promoting behaviors when compared to the wait list control group. The intervention appeared most useful for girls in the intervention group. The results suggest that several modifications may increase the feasibility of using this potentially effective intervention in high schools.

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Stress is an unavoidable part of our daily lives, and the developmental challenges of adolescence often result in high school students feeling particularly stressed. In addition to the stress-inducing physical changes associated with puberty, psychological transformations also provide a significant challenge. For example, Erikson (1968) describes the main developmental task of adolescence as the formation of a personal identity and Levinson (1978) expresses the nature of changing relationships during this period; both can be stressful transition events in the lives of adolescents. At the same time that adolescents attempt to differentiate themselves from their parents, they work to obtain a desirable place in their peer arena. As a result, relational stressors with friendships, romantic relationships, and family are emergent and threatening (Frydenberg et al., 2004; Groer, Thomas, & Shoffner, 1992).

High school is also a time of increased academic and societal pressure. Adolescents are often starting to make choices for themselves and starting to think about the future. The need to perform academically is a major stressor for many students, particularly those desiring to attend college (de Anda et al., 2000; Frydenberg et al., 2004; Hardy, 2003; Ollfors & Andersson, 2007; Suldo, Shaunessy, & Hardesty, 2008). High school students also feel stressed about their futures (de Anda et al., 2000). Studies exploring the relationship between gender and stress in adolescents have found differing results. Some studies have found that stressors are different in nature for girls and boys, with girls exhibiting higher levels of perceived stress (Groer et al., 1992; Ollfors & Andersson, 2007), while other work has shown no gender differences (de Anda et al., 2000).

The 2010 documentary, *Race to Nowhere*, depicts how students have "been pushed to the brink" and provides a haunting illustration of the high levels of stress that students currently face (http://www.racetonowhere.com/about-film). These myriad pressures on students today warrant interventions for stress reduction. If stressors are present in the absence of proper coping, students are vulnerable to increasingly alarming negative outcomes. Stress is documented to contribute to escalation of substance abuse (Wills, Vaccaro, McNamara, & Hirky, 1996), violence (Williams, Stiffman, & O'Nea, 1998), and depression (Stader & Hokanson, 1998) in adolescents. Even suicide is a possible, and irreversible, consequence of stressful life events in the absence of healthy coping (Beautrais, 2003).

To counteract the negative outcomes of perceived stress, students need a toolbox of positive coping mechanisms. Stress management and relaxation training may help students build resiliency against stress by decreasing perceived stress and anxiety, increasing self-esteem and promoting healthy behaviors. Other interventions such as cognitive restructuring can teach students to reframe unhealthy thought patterns. Although there is limited research on school stress management, some high school stress management programs used to reduce negative emotional outcomes have been studied. In particular, a variety of relaxation interventions (Kraag, Zeegers, Kok, Hosman, & Abu-Saad, 2006; Rasid & Parish, 1998) have been shown to be effective in treating general anxiety (Kiselica, Baker, Thomas, & Reedy, 1994), test anxiety (Dendato & Diener, 1986; van der Ploeg-Stapert & van der Ploeg, 1986), and math anxiety (Sime, 1987). While effective, most studies have focused on anxiety (Neil & Christensen, 2009), or on youth with pre-existing conditions (Black, Milam, & Sussman, 2009), rather than using a primary prevention strategy to target stress.

The Benson-Henry Institute for Mind Body Medicine (BHI) at Massachusetts General Hospital (MGH) (formerly the Mind Body Medical Institute; MBMI) has provided trainings to students and teachers through its Education Initiative (EI) since 1989. The cornerstone of the BHI EI training is the elicitation of the relaxation response (RR), a physiological state that is understood to be the opposite of the fight-or-flight (stress) response (Benson, 1975). Nearly a century ago, Walter B. Cannon described the fight-or-flight (stress) response as a set of bodily changes that occur in response to stress (Cannon, 1939). Researchers studying the long-term effects of the fight-or-flight (stress) response have concluded that it may lead to permanent, harmful physiological changes (McEwen, 2007). Ongoing practice of the RR has been shown to counteract the hormonal changes brought on by stress (Hoffman et al., 1982). Acutely eliciting the RR leads to a decrease in respiratory rate, heart rate, oxygen consumption and blood pressure (Wallace, Benson, & Wilson, 1971). Examples of ways to elicit the RR include meditation, yoga, tai chi, and diaphragmatic breathing. Elicitation of the RR requires two components: a) the repetition of a word, sound, prayer, thought, phrase or muscular activity and b) the passive return to the repetition when everyday thoughts intrude (Benson, 1975).

Previous work at the BHI, including several research studies, has focused on teaching RR-based stress management skills to students. In a 1994 BHI EI study, high school students were exposed to either a RR-based curriculum which included education in stress management, or a control health education condition, each of which took place three times per week for a semester during health class (Benson et al., 1994). After exposure to the RR group, students showed a significant increase in self-esteem ($p < .05$). In addition, the second group to receive the intervention also had a significant shift toward internal locus of control ($p < .05$). Another study by the BHI introduced the RR into urban middle school classrooms by training teachers to teach RR skills to their students. Students who took three or more classes in which the teacher was trained in the RR had significantly higher GPAs, and demonstrated better work habits and more classroom cooperation than those with two or fewer exposures ($p < .0001$) (Benson et al., 2000). In a third study, college students were exposed to six 90-min RR trainings. Significant reduction in psychological symptoms, state anxiety and perceived stress were found ($p = .018, .001$ and $.008$ respectively) (Deckro et al., 2002). A review of the BHI clinical programs found that RR interventions also improved health-promoting behaviors as measured by the Health-Promoting Life-style Profile-II (HPLP-II) ($p < .001$) (Samuelson et al., 2010).

The current study investigates an 8-session curriculum in which EI trainers utilized a standardized protocol that was taught during physical education classes. Needham High's participation in the intervention was prompted by several teen suicides and other tragedies that took place in the two years preceding the intervention; these events highlighted the need for a coping skills intervention at the high school. The school agreed to allow any 10th and 11th grade students who desired to participate to be excused from physical education classes.

The Needham study design was built upon, but was distinct from, previous research conducted at BHI. Previous EI work (Benson et al., 1994, 2000; Deckro et al., 2002) differed from the current study's combination of target population and intervention design and delivery: it included different school age targets (i.e. middle school or college), different interventionist (i.e., teacher), different treatment-delivery duration (i.e., semester long), and adjunctive curriculum status (i.e. evenings after school). The current design was built based upon what was believed would be feasible and effective: a 4-week, EI interventionist-delivered treatment integrated into the high school students' gym class schedule. The objective of this non-randomized cohort study was to examine the feasibility (recruitment and enrollment, participation, retention and completion, and acceptability and perceived value) and potential effectiveness of this RR-based curriculum while examining outcome variables of perceived stress, anxiety, self-esteem, health-promoting behaviors, and locus of control.

Methods

Participants

We mailed a letter to the parents of all 10th and 11th grade students (745 students) at Needham High School, inviting their children to participate. We obtained parental informed consent and student assent from fifty-four 10th graders (control

group) and sixty 11th graders (intervention group) which was a sample of about 15% of the population. All of these students completed the baseline survey. The 10th and 11th grade groups were each comprised of approximately $^1/_3$ males. We did not collect additional demographic characteristics on the current sample as there is a high level of homogeneity in the student population. According to the 2000 US Census, 95% of Needham residents are Caucasian and 4% are Asian. In addition, 88% of families are two-parent families and 81% of Needham residents own their homes (U. S. Census Bureau, 2000).

Design

In this non-randomized cohort study with wait list control, 11th graders were the intervention group and 10th graders were the control group. We examined the psychological and behavioral effects of the BHI RR-based curriculum at Needham High School. Surveys were administered to intervention and control group students pre-post intervention.

The program teaches techniques to reduce stress and empower students to maximize their potential through elicitation of the RR, utilization of positive psychology, and learning cognitive restructuring skills. The intended intervention consisted of eight 45-min sessions co-taught over 4 weeks by 2 BHI trainers. The intervention was re-designed to be completed in 4 weeks in order to fit into the school's academic timeline. During each of the 8 sessions, students were led through a different technique to elicit the RR. Varied methods were used to expose students to many techniques thereby allowing them to identify the ones they most enjoyed. These included meditation, breath focus, mindfulness, progressive muscle relaxation, imagery/visualization, and yoga. The program also integrated didactic information on stress awareness, positive psychology activities such as creating a gratitude journal, and cognitive restructuring exercises to reframe unhealthy thoughts that cause and exacerbate stress.

In addition to the in-class training component of the intervention, students were instructed to practice the RR at home for at least 5–10 min daily utilizing guided meditation audio tracks. Students could access tracks by logging on to a website with an assigned login and password.

Outcome measures

Feasibility in social science research answers questions used to develop an optimum intervention and study design (Campbell, Fitzpatrick, Haines, Kinmonth, Sandercock et al., 2000). In the present study, we tested the feasibility of a brief intervention that was integrated into the school day by evaluating (a) recruitment and enrollment, (b) participation, (c) retention and completion, and (d) acceptability and perceived value.

Recruitment and enrollment

Our intent was to determine how many students would choose to participate in the study as designed. Eligibility criteria for the study included: being a 10th or 11th grader at Needham High School, ability and willingness to provide informed assent, willingness to miss physical education classes for the intervention, and having parental/guardian informed consent. After we obtained IRB approval through the Partners-Human Research Committee/Massachusetts General Hospital, the school sent all parents of 10th graders and 11th graders at Needham High School a mailing with an introduction letter and consent form. In a supplemental form, parents were encouraged to call the researchers or the school principal with any questions about the study. Study staff presented the study to parents at two evening meetings at the beginning of the school year.

Participation

We examined the level of participation by enrollees in both the intervention and the at-home practice. An attendance record was kept for each of the 8 RR curriculum sessions. At-home practice was assessed electronically by the number of times a student logged into the website that contained audio tracks of RR exercises.

Retention and completion

We assessed retention by attendance records and completion by tracking the number of students who filled out the post-intervention surveys.

Acceptability and perceived value

We gave a post-intervention questionnaire in which we asked 7 open-ended questions regarding assessment of intervention components and intention for ongoing use of material (e.g. "What did you like the best about participating in the group?" and "What will you keep doing to practice the RR in the future?").

Measures of effectiveness

Perceived Stress Scale (PSS)

The PSS is a 10-item scale measuring a global perception of stress during the previous month. Scores range from 0 to 40, with higher scores indicating more perceived stress. This scale has sufficient internal and test-retest reliability and is

correlated in a way that is expected with a range of self-report and behavioral criteria (Cohen, Kamarck, & Mermelstein, 1983). The Cronbach's alpha for the PSS is 0.91 which indicates good internal reliability. The PSS scale is moderately correlated with the Impact of Event Scale (IES) ($p < .01$) and significantly associated with all three versions of the PSS scale and the Post-traumatic Stress-Arousal Symptom Scale (PTS-AS) scale ($p < .01$) which confirms appropriate construct and convergent validity (Mitchell, Crane, & Kim, 2008).

State-trait anxiety inventory- form Y (STAI-Y)

The STAI-Y is a 40-item scale measuring state (S) and trait (T) anxiety. The S-Anxiety subscale consists of 20 statements that evaluate how respondents currently feel. The T-Anxiety scale consists of twenty statements that assess how respondents generally feel. For each subscale, scores range from 20 to 80; a higher score indicates more anxiety. The mean score for high school students for both subscales is approximately 40 (Spielberger, 1983). Pearson correlations for the STAI-State, STAI-Trait and Anxiety Sensitivity Index (Peterson & Heilbronner, 1987) were strongly significant ($rs > .82$; $ps < .001$) as a measure of construct validity among panic disorder patients (Smeets, Merckelbach, & Griez, 1996). Cronbach's alphas for STAI-State and STAI-Trait were .40 and .86 respectively among 29 male college undergraduate students in a social analog setting (Rule & Traver, 1983).

Health-promoting life-style profile-II (HPLP-II)

The HPLP-II is a 52-item scale measuring the frequency of 6 domains of health-promoting behaviors. We were interested in the 2 domains of spiritual growth and stress management. The spiritual growth questions inquire about feelings of fulfillment and of attaining self-actualization. The stress management questions help recognize sources of stress and take steps toward increasing perception of ability to manage stress (Walker, Sechrist, & Pender, 1995). Each of the domains produces a subscale score ranging from 1 to 4. Higher scores indicate more frequent health-promoting behaviors. The alpha reliability coefficient for the total instrument is .94. Validity of this instrument has been supported in various populations including adolescents and community-residing adults (Gillis, 1994; Walker, Sechrist, & Pender, 1987; Walker et al., 1995).

Rosenberg self esteem scale (RSES)

The RSES is a 10-item measure of global self-esteem consisting of statements related to overall feelings of self-worth or self-acceptance. Scores range from 0 to 30, a higher score indicating higher self-esteem (Rosenberg, 1965). The RSES demonstrates concurrent, predictive and construct validity using known groups (Rosenberg, 1979). The alpha reliability for the RSES is 0.88, which indicates good test-retest reliability (Robins, Hendin, & Trzesniewski, 2001).

Locus of control (LOC)

The LOC is a 13-item questionnaire measuring generalized expectancies for internal versus external control of reinforcement. Scores range from 0 to 13. A low score indicates internal control while a high score indicates external control (Rotter, 1966). The LOC scale has high reliability (from 0.70 to 0.80) and sound discriminant validity (Lester, 2001).

Analysis

We conducted descriptive statistics to examine control and intervention group baseline profiles. Students' *t*-tests were used to conduct pre-post tests with control and intervention groups; we ran a Bonferroni correction to correct for multiple testing. We conducted ANCOVAS to assess group differences in pre-post tests, controlling for gender, on all outcomes. To assess for a group by gender interaction effect, we ran ANOVAS with post-hoc analyses for all outcomes.

Results

Participation

Of the 11th grade intervention group students, 58% attended 5 or more RR-based training sessions. Throughout the study period, we asked students to log on to a website daily and listen to RR based guided meditation audio tracks for at least 5–10 min per day. Forty-one percent of 11th grade intervention group students did not log into the website at all. Forty-one percent of 11th grade intervention group students logged in only 1 time during the 4-week intervention period.

Retention and completion

No student indicated that they would like to withdraw from the intervention or research, therefore all dropouts were passive. Forty-four 10th graders (81% of enrollees) and forty-two 11th graders (70% of enrollees) completed the post-intervention survey indicating a total passive dropout rate of 26%.

Acceptability and perceived value

After program completion, students filled out a questionnaire with open-ended questions about the RR training. When asked what they considered to be the best parts of the program, students' most frequent responses were practicing relaxation

techniques, setting aside time to relax, and doing yoga. Learning breathing and relaxation techniques and identifying cognitive distortions were cited as the most useful aspects of the program. Students also recommended that more relaxation exercises and additional sessions be added to the program. Students said that they would continue to practice relaxation/meditation techniques.

We also gathered additional process measures including number of times students attended the relaxation response-based curriculum trainings and the number of times they listened to the at-home meditation tracks on the website.

Pre-intervention survey

At baseline, both groups reported levels of perceived stress significantly higher than the adult norm. Mean scores on the Perceived Stress Scale (PSS) were approximately 20 for both groups (Table 1) while the adult norm is approximately 14 (adolescent norms unavailable) (Cohen & Williamson, 1988). We calculated that a minimum sample size of 38 would be needed to achieve 80% power to detect an approximate 3-point change in total PSS score. The intervention and control groups did not differ at baseline on any of the outcome variables. In terms of group gender makeup, 61% of the 10th grade control group was female, compared to 74% of the 11th grade intervention group ($p = .22$). When comparing baseline scores for girls and boys, girls tended to have worse scores. Girls scored significantly lower on the STAI-T ($p = .019$, $d = 0.54$) and showed trends, albeit not statistically significant, of worse scores on the PSS ($p = .09$, $d = 0.39$), STAI-S ($p = .08$, $d = 0.42$), and RSES ($p = .06$, $d = 0.45$), using an independent t-test and Cohen's d to determine effect size. Therefore, both unadjusted and adjusted analyses were run, controlling for gender, on all pre and post analyses.

Post-intervention survey

Using a Bonferroni correction to adjust for multiple testing, and comparing post-assessment to baseline assessment, the 11th grade intervention group reported significantly lower perceived stress scores (PSS mean pre = 20.36, mean post = 17.14; $p < .001$) and state anxiety (STAI-S mean pre = 44.81, mean post = 39.43; $p = .004$) and higher levels of spiritual growth behaviors (HPLP-II: Spirituality mean pre = 2.57, mean post = 2.80; $p = .001$), and stress management behaviors (HPLP-II: Stress mean pre = 1.94, mean post = 2.38; $p < .001$) (Table 2). When comparing change scores for the two groups, as compared to the control group, the intervention group significantly improved on perceived stress (PSS), state and trait anxiety (STAI-S, STAI-T) and stress management behaviors (HPLP-II) (all $ps<.01$).

When examining group by gender differences using a post-hoc analysis with Tukey's method, girls in the intervention group reported significantly greater improvements compared to girls in the control group in the PSS (21.23–17.65, mean change of −3.58 vs. 20.48–21.52, mean change of 1.04; $p < .001$) and the HPLP-II: Spirituality (2.54–2.83, mean change of 0.29 vs. 2.37–2.39; $p < .05$). Girls in the intervention group reported significantly greater improvements versus boys and girls in the control group in the STAI-S (46.06–40.00, mean change of −6.06 vs. 41.41–43.00, mean change of 1.59 and 44.63–45.93, mean change of 1.30 respectively; $p < .05$), the STAI-T (47.29–42.97, mean change of −4.32 vs. 43.06–44.06, mean change of 1.00 and 47.11–48.44, mean change of 1.33 respectively; $p < .05$), and the HPLP-II Stress (1.91–2.42, mean change of .51 vs. 2.11–2.13, mean change of .02 and 2.08–2.05, mean change of −.03 respectively; $p < .001$).

Discussion

The objectives of this study were to examine the feasibility and potential effectiveness of an RR-based curriculum integrated into the school day for high school students. The results suggest that the RR-based curriculum was beneficial to students and that several modifications may increase the feasibility of using this intervention in a high school setting. In this non-randomized convenience sample cohort study, students received a 4-week, 8-session RR-based curriculum training provided by the BHI EI and completed surveys before and after the intervention.

The first goal of this study was to assess the feasibility of completing the intervention and research surveys with the collaboration of school officials. There are several study limitations with respect to the mechanics of the curriculum and survey delivery. First, surveys were conducted in the short homeroom period and were too long to be completed in that time.

Table 1
Psychological assessment- baseline assessment.

Survey variables	Control group $n = 44$		Intervention group $n = 42$		
	Mean	SD	Mean	SD	Sig.
PSS	20.05	5.73	20.36	4.83	.786
STAI-State	43.39	10.51	44.81	9.66	.516
STAI-Trait	45.55	10.86	45.45	8.66	.965
HPLP-II: Spirituality	2.45	0.44	2.57	.37	.180
HPLP-II: Stress	2.09	0.43	1.94	0.31	.057
RSES	18.16	5.57	19.07	4.35	.401
LOC	7.47	2.41	6.83	2.50	.235

Note: There were no significant differences between the 11th graders and 10th graders at baseline.

Table 2
Psychological assessment- comparison of control & intervention group pre- and post-intervention mean scores.

Survey variables	Control group $n = 44$				Intervention group $n = 42$			
	Pre	Post	Cohen's d	Sig.	Pre	Post	Cohen's d	Sig.
PSS	20.05	20.43	−.06	.41	20.36	17.14	.66	.000*
STAI-State	43.39	44.80	−.14	.20	44.81	39.43	.58	.004*
STAI-Trait	45.55	46.75	−.11	.08	45.45	42.19	.40	.019
HPLP-II: Spirituality	2.45	2.48	−.07	.38	2.57	2.80	.57	.001*
HPLP-II: Stress	2.09	2.08	−.03	.75	1.94	2.38	−1.23	.000*
RSES	18.16	18.36	−.04	.57	19.07	20.45	−.32	.039
LOC	7.47	7.41	.02	.88	6.83	6.02	.33	.016

Notes: The table displays the results of paired ANCOVA analyses; p values with significance after Bonferroni correction ($<.007$) are indicated with * for ease of reader. Pre-assessment occurred on January 2, 2008 and post-assessment occurred on January 30, 2008. Analyses were run, adjusting for gender, but no changes in significance were found.

This may have resulted in rushed survey completion, or students deciding not to finish and turn in their surveys post-intervention. In addition, students were responsible for their own attendance at the survey completion. We recommend having students fill out surveys in a scheduled classroom time to increase response rate.

Although students reported being engaged in the classroom trainings, the assigned online home practice of the RR was not well utilized. Despite the fact that in the qualitative post-questionnaire, 46% of students who responded said that online program worked well for them, 82% of students only logged in 0–1 times. Some students reported that logging into the website at the computer was inconvenient and it was hard to relax at the location of their computers. In the future, we recommend using a portable method of listening to the meditation tracks such as a CD, mp3s or podcast. Some students reported using more informal RR practices (i.e., taking a few deep breaths before an exam), therefore it may be beneficial to promote and quantify these in future versions of the intervention.

While recruitment yielded enough student subjects to obtain statistically significant results, only a small proportion of eligible students enrolled ($\sim 15\%$). It is notable, though, that similar studies had a comparable response rate (Oliver et al. 2006), which reflects the challenges of intervening in real-world settings. Low participation could be due to the informed consent form of 14 pages that contained much required hospital legal language. Subsequently, we have been able to collaborate with the Partners-Human Research Committee to reduce the form to 1 page. A strength of the current study is that it was available to all students in the two grades, however, the intervention was optional, requiring students to be absent from their regular physical education class. There may have been concern from the students and/or parents about missing class time despite teacher reassurance that it was acceptable. Third, students may have felt social pressure against participation, preferring to be with their friends during class. These difficulties reflect the realities of real-world studies as have been found in community-based participatory research (Wallerstein & Duran, 2006). It is necessary to tailor the intervention to each school instead of applying a one-size-fits-all model. Therefore we recommend that the RR curriculum be truly integrated into the school's curriculum. Current studies are assessing the impact of the train-the-trainer model where we train the teachers in the elicitation of the RR and instruct them in how to bring it to their students. This model allows teachers to offer the intervention as part of their curriculum and to use it on a daily basis throughout the school year.

Another feasibility issue was that to accommodate the school schedule, the RR-based intervention was taught in 8 sessions over 4 weeks as opposed to the original proposal of 1 session per week over 8 weeks. Based on previous EI experience and participant feedback to extend the length of the intervention, we recommend a model delivering 1 session per week for 8 weeks as is done in our clinical groups. We believe that this may provide more robust results, because this intervention is based on behavior change and it takes time to integrate the RR skills into one's life. In the future we may compare a 4 week intervention to an 8 week intervention to see if there is a difference in intervention effectiveness based on time frame of delivery.

In terms of the effectiveness of the intervention, the RR-based curriculum reduced intervention group students' levels of perceived stress and anxiety as expected. A previous EI study similarly found improvements in levels of perceived stress and state anxiety in college students after receiving RR-based curriculum trainings (Deckro et al., 2002). This intervention proved most effective among girls in the intervention group particularly in decreasing stress and anxiety and in promoting stress management behaviors. Given the sample size of the study and the brevity of the program, we believe that the statistically significant changes were meaningful. Statistically significant improvements were also seen in health-promoting behavior in the areas of spirituality and stress management. Because stress management behaviors were those precisely targeted, it was expected that those behaviors would increase. It is less intuitive to predict that spirituality promoting behaviors would increase. The change could be explained by the fact that the spirituality questions on the HPLP-II seem to focus on general feelings of self-esteem, mindfulness, and connectedness and not a religious spirituality. These concepts were directly and indirectly targeted through the intervention. For example, several students mentioned in the process evaluation that they enjoyed hearing that other students struggle with similar issues, an unplanned part of the intervention which could increase feelings of connectedness.

Additional study limitations exist. First of all, the sample was self- (or parent) selected which could systematically affect the parameters. Although the study yielded a respectable pre-post response rate (70% of intervention group and 81% of control group), a higher rate would be preferred. Generalizability of findings is limited due to the homogeneity of the sample

and due to the multicomponent nature of the intervention, at this point we are not able to parse out the effective ingredients of this intervention. Finally, all findings are self-report only. Follow-up studies by the BHI EI are beginning to address some of these limitations.

In summary, a 4-week relaxation management intervention, integrated into a real-world school setting, was found to be relatively feasible. In addition, students who participated in the intervention demonstrated a positive change in perceived stress, anxiety, and health-promoting behaviors. Limitations included overall participation rate and engagement in the at-home practice sessions. We recommend that future interventions be tailored to the needs of the individual school by using a train-the-trainer model in order to increase participation.

Acknowledgments

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