RANDOMIZED CONTROL TRIAL OF MINDFULNESS-BASED INTERVENTION TO PROMOTE ADOLESCENTS' WELL-BEING

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Abstract

Background: Mindfulness skills are widely recognized for their positive impact on mental and physical well-being. However, various populations who could benefit from mindfulness practice often face barriers preventing them from engaging in it. To address this issue, a five-week mindfulness module was developed, with the aim of examining the effects of mindfulness-based interventions on emotion regulation and happiness levels among Indian students in a randomized controlled trial (RCT).

Method: A two-group pretest-posttest design was utilized with a total sample of 100 students aged 14 to 19 years. The students were randomly assigned to two groups: an experimental group (n=50) and a waitlist control group (n=50). Participants from both groups completed the Emotion Regulation Questionnaire (2003) and the Oxford Happiness Questionnaire (2002) to assess their emotional regulation abilities (cognitive restructuring and emotional suppression) and happiness levels.

Results: Analysis of pre-test and post-test scores in the experimental group demonstrated statistically significant changes in Emotion Regulation and Happiness levels following the completion of the mindfulness sessions. Results show a significant improvement in happiness levels ($MD = 0.84$, $t = 11.3166$, $p < 0.0001$), Cognitive Restructuring ($MD = 1.98$, $t = 10.2676$, $p < 0.0001$), and Emotional Suppression ($MD = 6.67$, $t = 17.6130$, $p < 0.0001$).

Conclusion: The findings indicate that the mindfulness-based module effectively assists students in developing skills to enhance their overall well-being.

Keywords: Mindfulness Based Intervention, Emotion Regulation, Happiness, Randomized Control Trial, Adolescents.

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1.INTRODUCTION

Adolescents face unique challenges as they navigate the transition from childhood to adulthood, which can include academic pressures, social stressors, and emotional upheavals. Adolescence is also a critical period for brain development, as the prefrontal cortex responsible for executive functioning and emotion regulation continues to mature. Mindfulness skills can be particularly beneficial for adolescents during this period of development, as they can help to cultivate emotional regulation, reduce stress and anxiety, and enhance overall well-being. Mindfulness involves paying attention to present-moment experiences with a non-judgmental attitude, which can help adolescents to develop a greater awareness of their thoughts, emotions, and physical sensations (Bishop et al, 2004). This increased awareness can help them to better manage their emotions and respond to stressors in a more adaptive way.

Research has shown that mindfulness interventions can be effective in promoting well-being and reducing stress in adolescents, including reducing symptoms of anxiety and depression and enhancing emotional regulation skills (Brown et al, 2003). Additionally, mindfulness skills can be useful for adolescents in a variety of contexts, such as academic settings, social situations, and family relationships (Sanger et al, 2015).

There are a number of mindfulness-based programs that have been developed specifically for adolescents and have shown effectiveness in promoting well-being and reducing stress (Perry-Parrish et al, 2016). One example of such program is the Mindfulness-Based Stress Reduction for Teens (MBSR-T) which is an adaptation of the adult MBSR program and consists of an 8-week course that includes guided meditation practices, mindful movement exercises, and group discussions. It has been shown to be effective in reducing symptoms of anxiety and depression and improving well-being in adolescents. A randomized controlled trial of Mindfulness-Based Stress Reduction for adolescents (MBSR-T) found that the program was effective in reducing symptoms of anxiety and depression, and improving self-esteem and quality of life in adolescents (Biegel et al., 2009).

Mindfulness-Based Cognitive Therapy for Adolescents (MBCT-A) is a program that combines mindfulness practices with cognitive-behavioral therapy techniques to help adolescents develop skills for managing negative thoughts and emotions. It has been shown to be effective in reducing symptoms of depression and anxiety in adolescents. A randomized controlled trial of Mindfulness-Based Cognitive Therapy for adolescents (MBCT-A) found that the program was effective in reducing symptoms of depression and anxiety in adolescents, and improving emotional regulation skills (Bohlmeijer et al., 2014).

Learning to BREATHE is another mindfulness-based program that focuses on developing skills for emotion regulation and stress reduction. It includes mindfulness practices, breathing exercises, and cognitive-behavioral techniques. It has been shown to be effective in reducing stress and improving well-being in adolescents. A study of the Learning to BREATHE program found that the program was effective in reducing stress and improving well-being in middle school students (Broderick & Metz, 2009).

Mindful Schools is a program that brings mindfulness practices into the classroom, with the goal of promoting emotional regulation and academic success. It includes mindfulness practices, mindful movement exercises, and strategies for integrating mindfulness into daily life. It has been shown to be effective in reducing stress and improving well-being in both students and teachers. A randomized controlled trial of the Mindful Schools program found that the program was effective in reducing symptoms of stress and improving well-being in both students and teachers (Jennings et al., 2013).

A systematic review and meta-analysis of 15 studies on mindfulness-based interventions for school-aged children and adolescents found that these interventions were effective in improving well-being outcomes, including reducing symptoms of anxiety and depression, and enhancing emotional regulation skills (Zenner et al., 2014).

A study of high school students found that those who participated in a mindfulness program had lower levels of perceived stress, anxiety, and depressive symptoms, and higher levels of positive affect and life satisfaction than a control group (Weare & Nind, 2011).

It is important to note that not all studies have found positive effects of mindfulness-based interventions, and some studies have reported mixed results. For example, a randomized controlled trial of the Mindfulness-Based Cognitive Therapy for adolescents (MBCT-A) program found that the program was effective in reducing symptoms of depression and anxiety in adolescents, but had no

significant effect on other measures of well-being (Bohlmeijer et al., 2014).

Overall, while the research on mindfulness-based interventions for young people is promising, more research is needed to better understand the mechanisms underlying their effectiveness, identify optimal delivery methods and implementation strategies, and determine which young people may benefit most from these interventions.

1.2. The Present Study

Our proposed mindfulness-based module represents a novel contribution to the field, as it is specifically designed for beginners seeking to learn and incorporate the fundamentals of mindfulness into their daily lives. The module covers key components such as mindfulness of breath, body, listening, emotions, and thoughts, providing a comprehensive understanding of the concept across its various aspects. Additionally, our module is a concise, time-effective course that can be delivered to students individually or in groups.

1.2.1. Objectives

The aim of this study is to assess the effects of a Mindfulness-Based Module on the emotion regulation abilities and levels of happiness among adolescents. The study will compare pre- and post-test scores of the intervention group to evaluate the impact of the module.

1.2.2 Hypothesis

1) There will not be a significant difference between pre and post-test scores on emotion regulation and happiness levels.
2) There will be a significant difference between pre and post-test scores on emotion regulation and happiness levels.
3) There will be no significant difference between post-test scores of the experimental group and waitlist group.
4) There will be a significant difference between the post-test scores of the experimental group and waitlist group.

2. METHODS

2.1. Study Design

The study is a two-group pretest-posttest design. The participants are randomly divided into two groups: experimental group (n=50) and waitlist control group (n=50). To investigate the impact of the Mindfulness module convenience sampling is adapted among particpants in age range of 14 to 19 years. The sample of participants was on the voluntary enrollment of students. All the participants who enrolled were potential participants in the study since they registered for the study themselves after gaining enough information on what it is about. Considering ethics, the sessions were conducted with liscence to practice psychological assessments and therapies. The survey forms filled by the participants had no identifying information. All the records related to their tests were kept safe in a secure folder making sure to maintain the confidentiality. The particpants were also informed of that the nature of the program is voluntary and they participate and complete the tests and sessions on their free will. The study protocol was conducted during November 2022 and January 2023.

2.2. Participants

Following the informed consent (from student and guardian), study participants (Indian students, ages fourteen till nineteen) completed standardized self-report questionnaires via Google forms within 1 week before and after participating in the MBI. Full approval by the university's Institutional Review Board was obtained prior to data collection. The participants enrolled in program of mindfulness via a google link post which one on one interviews were scheduled to discuss the basic nature of the study with students. A total of 100 participants joined in the group for Mindfulness intervention module. Students were eligible for the study if they were (a) currently enrolled as a school or undergraduate student; (b) at least 14 and under 20 years of age; (c) proficient in English; (d) able to use a computer with internet access; and (e) willing to be randomized to MBI group.

Table 1: Socio-demographic features of the participants

Demographics	Experimental group (N=50)%	Waitlist control group (N=50)%
Age		
14	10	15
15	10	15
16	15	25
17	25	25
18	30	15
19	10	5
Gender		
Male	50	45

Female	50	55
Grade/Class		
VIII	10	15
IX	10	15
X	15	25
XI	25	25
XII	40	20
Number of Siblings		
0	20	35
1	65	55
2	15	10
Family Type		
Nuclear	85	70
Joint	15	30
Parent's Education		
XII	20	15
Graduate	65	55
Post-graduate	15	30
Place of Residence		
Urban	85	80
Semi-urban	10	10
Rural	5	10

2.3. Procedure

Participants were randomly assigned to either the experimental group or the waitlist control group. Both groups initially completed a pretest questionnaire to measure their levels of emotion regulation and happiness before the intervention. The scores obtained from each participant for both variables were analyzed.

Shortly after the pretest, the intervention began for the experimental group. The experimental group met with an associate clinical psychologist for one-hour sessions held weekly for five consecutive weeks. These sessions followed a structured format, incorporating various mindfulness activities and techniques, with a different theme addressed each week. Participants in the experimental group were motivated to practice the techniques learned during the sessions at home for enhanced results.

In contrast, participants in the waitlist control group did not receive the intervention immediately. They were placed on a waitlist and did not engage in the intervention during the initial five-week period.

At the end of the five-week intervention period, both the experimental group and the waitlist control group completed a posttest questionnaire to compare their scores with their respective pretest scores. The analysis of the posttest scores allowed for an evaluation of the effects of the intervention in the experimental group compared to the waitlist control group. No financial compensation was provided to participants for completing the surveys.

2.4. Measures

2.4.1. Emotion Regulation Questionnaire (ERQ): The ERQ is a 10-item self-report scale designed to assess the use of two emotion regulation strategies: cognitive reappraisal and expressive suppression. In our study, we utilize this questionnaire to analyze how the acquisition of mindfulness skills and techniques can assist adolescents in developing the ability to regulate or alter their emotional responses (Gullone et al, 2012).

2.4.2. Oxford Happiness Questionnaire (OHQ): Developed by Michael Argyle and Peter Hills at Oxford University, the OHQ is a 29-item scale widely employed to measure an individual's subjective sense of happiness in their daily life. We incorporate this scale in our study to examine any differences in participants' perceived levels of happiness before and after the mindfulness-based intervention (Hills et al, 2002).

2.5. Intervention

The mindfulness-based intervention is conducted over a period of 5 weeks in group sessions. The structure of the program, including activities and techniques, is outlined in Table 2. The sessions are designed to be easily facilitated in a group setting.

During each session, after completing the activities and techniques outlined in Table 2, questions are asked, and discussions are held to ensure that the objectives of the session are met. These discussions provide an opportunity for participants to reflect on their experiences and deepen their understanding of the mindfulness practices. Each session has a duration of approximately 1 hour and is conducted once a week. The program emphasizes the importance of practicing the activities and techniques outside of the sessions. Participants are encouraged to engage in regular practice to

reinforce their learning and integration of mindfulness skills into their daily lives.

Table 2: Mindfulness Based Intervention Sessions and Themes

Timetable of Sessions	Activities of Session
Session 1: Mindfulness of Breath	Introduction of the Group Goal Setting Anchor Breathing Technique Five Senses Technique Homework: Expressing Gratitude and Practicing the activites learnt in session.
Session 2: Mindfulness of Body	Understanding the concept of Mindfulness Mindful STOP Technique Mindfulness Body Scan Homework: Journal three good things and practice activities at home.
Session 3: Mindful Listening	Mindfulness Listening Communicating Mindfully Listening to Inner voice The Iceberg Homework: Practice mindful listening technique discussed in session.
Session 4: Mindfulness of Emotions	Be a Man/ Be a Woman Activity Internal Weather Report RAIN Technique Practice Homework: Work on your personal weather report.
Session 5: Mindfulness of Thoughts	Cognitive Triad Discussion about Thoughts Activity: Letting go of "stuck" thoughts Reflection Homework: Practice letting go of stuck thoughts activity.

2.6. Data Analysis

The sample size consists of 100 participants, divided equally between the waitlist control and experimental groups. We use *descriptive statistics* to summarize the characteristics of sample, such as mean, standard deviation, minumum and maximum scores. To compare the post-intervention scores between the waitlist control and experimental groups for outcome variables such as emotion regulation and happiness, we use *Independent t-test*. This analysis helps determine if there are significant differences in the outcomes between the two groups. We conduct *paired t-test* within each group to compare pre-test and post-test scores for the outcome variables. This analysis evaluates the significance of changes in emotion regulation (CR & ES) and happiness within each group separately.

3. RESULTS

Table 3: Descriptive Table of Experimental and Waitlist control group of MBI module

Variable	N	Mean	Standard Deviation	Minimum	Maximum
Experimental Group					
OHQ (Pre-test)	50	4.08	0.67	3	5.5
OHQ (Post-test)		5.28	0.55	4	6.5
CR (Pre-test)		30.62	4.22	22	38
ES (Pre-test)		18.64	2.49	12	24
CR (Post-test)		37.46	2.59	31	42
ES (Post-test)		11.96	2.44	7	16
Control Group					
OHQ (Pre-test)	50	4.33	0.92	3	6
OHQ (Post-test)		4.5	0.74	3	6
CR (Pre-test)		29.53	4.64	20	38
ES (Pre-test)		17.57	2.66	12	24
CR (Post-test)		29.6	4.37	22	37
ES (Post-test)		17.2	1.94	14	21

(OHQ- Oxford Happiness Questionnaire, CR- Cognitive Reappraisal, ES- Emotional Suppression. Note: The values in the table are rounded to two decimal places.)

Table 3 reports descriptive statistics for six variables in two groups: an experimental group and a waitlist control group. The variables are OHQ (Oxford Happiness Questionnaire), CR (Cognitive Restructuring), and ES (Emotional Suppression), with pre-test and post-test measurements for each variable.

For the experimental group, the pre-test mean for OHQ was 4.08, with a standard deviation of 0.67, a minimum value of 3, and a maximum value of 5.5. The post-test mean for OHQ was 5.28, with a standard deviation of 0.55, a minimum value of 4, and a maximum value of 6.5, which shows a significant difference in the pre and post-test scores. The pre-test measurements, the mean for CR in the experimental group was 30.62, with a standard deviation of 4.22, a minimum value of 22, and a maximum value of 38 and post-test measurements, the mean for CR in the experimental group was 37.46, with a standard deviation of 2.59, a minimum value of 31, and a maximum value of 42, showing a significant difference. The pre-test mean for ES in the experimental group was 18.64, with a standard deviation of 2.49, a minimum value of 12, and a maximum value of 24.And post-test scores for ES were: Mean = 11.96, with a standard deviation of 2.44, a minimum value of 7, and a maximum value of 16, showing a significant difference.

For waitlist control group, the pre-test mean for OHQ was 4.33, with a standard deviation of 0.92, a minimum value of 3, and a maximum value of 6. The post-test mean for OHQ was 4.5, with a standard deviation of 0.74, a minimum value of 3, and a maximum value of 6. For the pre-test measurements, the mean for CR in the waitlist control group was 29.53, with a standard deviation of 4.64, a minimum value of 20, and a maximum value of 38. For the post-test measurements, the mean for CR in the waitlist control group was 29.6, with a standard deviation of 4.37, a minimum value of 22, and a maximum value of 37. The mean for ES in the waitlist control group was 17.57, with a standard deviation of 2.66, a minimum value of 12, and a maximum value of 24. The mean for ES in the waitlist control group was 17.2, with a standard deviation of 1.94, a minimum value of 14, and a maximum value of 21. This group of scores show no significant difference in the pre and post-test scores in either of the variables.

Table 4: Independent t-test results for post-test scores of Experimental Group and Waitlist Control Group

Variable	N	T value	Mean	SD	SEM	P value
OHQ (Exp.)	50	6.0249	5.33	0.650	0.091	P < 0.0001
OHQ (Control)			4.52	0.70	0.098	
CR (Exp.)		12.2677	37.75	2.61	0.36	P < 0.0001
CR (Control)			29.25	4.20	0.59	
ES (Exp.)		13.2448	11.67	2.18	0.31	P < 0.0001
ES (Control)			17.37	2.17	0.30	

To compare the post-intervention scores between the control and experimental groups for outcome variables such as emotion regulation and happiness, we used Independent t-test. This analysis helps determine if the significance of differences in the post-test outcomes between the experimental and waitlist control groups.

For the first variable, OHQ (Oxford Happiness Questionnaire), the table shows that the experimental group had a significantly higher mean (5.33) compared to the waitlist control group (4.52), with a large t-value (6.0249) and a very small p-value ($P < 0.0001$). The standard error of mean (SEM) for the experimental group was 0.091, indicating a relatively precise estimate of the population mean. This result shows that there is a significant difference between experimental and waitlist control group considering the post-test scores and post-test scores of happiness levels.

For the second variable, CR (cognitive restructuring), the table shows a significant difference in means between the two groups, with the experimental group having a much higher mean (2.61) than the waitlist control group (29.25), with a large t-value (12.2677) and a very small p-value ($P < 0.0001$). The standard error of mean (SEM) for the experimental group was 0.36, indicating a relatively imprecise estimate of the population mean. This supports the hypothesis showing that there is a significant difference between the post-test scores obtained by the experimental group in comparison with the waitlist control group for CR.

For the third variable, ES (emotional suppression), the table shows that the experimental group had a significantly lower mean (2.18) compared to the waitlist control group (17.37), with a moderate t-value (13.2448) and a very small p-value ($P < 0.0001$). The SEM for the experimental group was 0.31, indicating a relatively precise estimate of the population mean. This result suggests that there is a significant difference between the post-test scores obtained by the experimental group in comparison with the waitlist control group.

Table 5: Paired t-test results for pre and post-test results of Experimental and Control Groups

Variables	OHQ (Exp.)	CR (Exp.)	ES (Exp.)	OHQ (Control)	CR (Control)	ES (Control)
Mean	4.047	30.40	18.33	4.38	29.22	17.76
SD	0.586	4.11	2.62	0.88	4.14	2.68
SEM	0.082	0.59	0.37	0.12	0.58	0.38
T value	11.3166	10.2676	17.6130	0.9098	0.1519	0.6615
P value	<0.0001	<0.0001	<0.0001	0.3674	0.8799	0.5114

Table 5 shows that for the experimental group, the paired t-test results show a significant improvement in OHQ (mean difference = 0.84, t-value = 11.3166, p-value < 0.0001), CR (mean difference = 1.98, t-value = 10.2676, p-value < 0.0001), and ES (mean difference = 6.67, t-value = 17.6130, p-value < 0.0001), indicating that these variables significantly improved from pre-test to post-test.

However, for waitlist control group, the paired t-test results for OHQ did not reach statistical significance (mean difference = -0.08, t-value = 0.9098, p-value = 0.3674), indicating no significant change in OHQ from pre-test to post-test. The paired t-test results for CR (mean difference = -0.78, t-value = 0.1519, p-value = 0.8799) and ES (mean difference = -0.56, t-value = 0.6615, p-value = 0.5114) also did not reach statistical significance, indicating no significant change in these variables from pre-test to post-test.

The paired t-test results suggest that the experimental group showed significant improvement in OHQ, CR, and ES, while the waitlist control group showed no significant change in these variables. This suggests a significant difference between the post-test scores of the experimental group and waitlist wait list control group. The results prove the efficacy of our Mindfulness Based Module for students of the given age group.

4. DISCUSSION

This study provides evidence that practicing mindfulness-based activities can be an effective intervention for improving the overall well-being of students. The results suggest that the program helped improve emotion regulation and happiness in the student population. The program involved various activities and techniques that helped participants focus on the present moment without judgement, and purposefully. By increasing their awareness of their surroundings and inner world, participants were better equipped to react more mindfully and positively in a given moment. Practicing mindfulness can also help students cope better with the stressors and challenges of life, leading to a decrease in their chances of developing a faulty personality as an adult.

The program was structured and time-bound, with each session having a specific goal. The activities and techniques were beginner-friendly, making it easy for an adolescent or young adult to understand and start incorporating mindfulness into their daily life. The program progressed towards focusing on the emotional and thought process of the adolescent, introducing concepts like acceptance of all emotional states without judgement and letting go of "stuck" thoughts. The program included exercises like guided visualizations, anchor breathing, mindful STOP, and the five senses technique.

5. CONCLUSION AND FUTURE DIRECTIONS

This randomized control trial study aims to evaluate the potential effectiveness of a Mindfulness-Based Module in improving students' well-being, specifically in their ability to regulate emotions and increase happiness levels. The study promotes the use of mindfulness techniques both in class and at home, highlighting the role of mindfulness in enhancing overall well-being. Despite the limitations of the study, the results demonstrate promising benefits of the intervention and suggest the need for further research in the area of mindfulness and its utility for the student population. The study also reflects the feasibility of the intervention, the study design, and the utility and application of research tools for school or college students.

Overall, the study suggests that the mindfulness-based module can be used to improve participants' emotion regulation and happiness levels, leading to an improvement in their overall well-being by becoming more mindful of their inner and outer world with a non-judgmental and accepting attitude. One limitation of the study was the non-randomized sampling procedure, as participants were selected through an online enrollment process. Moreover, some participants had a background or previous knowledge in psychology, which may have influenced their level of understanding of the sessions compared to those with non-psychology backgrounds.

To gain a deeper understanding of the underlying influences of mindfulness on emotion regulation and happiness, future research can explore the

utility of mindfulness-based interventions for different groups like high-risk populations, special populations, or sports players. Collecting qualitative data from participants can also help researchers better understand their psychological experiences. Overall, the study provides promising evidence for the effectiveness of mindfulness-based interventions for promoting well-being in young people, and further research can be done to fully explore its potential.

References

1. Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., Segal, Z. V., Abbey, S., Speca, M., Velting, D., & Devins, G. (2004). Mindfulness: A proposed operational definition. Clinical Psychology: Science and Practice, 11(3), 230–241.
2. Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. Journal of Personality and Social Psychology, 84(4), 822–848.
3. Sanger, K. L., & Dorjee, D. (2015). Mindfulness training for adolescents: A neurodevelopmental perspective on investigating modifications in attention and emotion regulation using event-related brain potentials. Cognitive, Affective, & Behavioral Neuroscience, 15(3), 696-711.
4. Perry-Parrish, C., Copeland-Linder, N., Webb, L., Shields, A. H., & Sibinga, E. M. (2016). Improving self-regulation in adolescents: current evidence for the role of mindfulness-based cognitive therapy. Adolescent health, medicine and therapeutics, 7, 101.
5. Johnstone, J. M., Roake, C., Sheikh, I., Mole, A., Nigg, J. T., & Oken, B. (2016). School-based mindfulness intervention for stress reduction in adolescents: Design and methodology of an open-label, parallel group, randomized controlled trial. Contemporary clinical trials communications, 4, 99–104. https://doi.org/10.1016/j.conctc.2016.07.001.
6. Gullone, E., & Taffe, J. (2012). The emotion regulation questionnaire for children and adolescents (ERQ–CA): a psychometric evaluation. Psychological assessment, 24(2), 409.
7. Hills, P., & Argyle, M. (2002). The Oxford Happiness Questionnaire: a compact scale for the measurement of psychological well-being. Personality and Individual Differences, 33, 1073–1082.
8. Kang, C., Whittingham, K. Mindfulness: A Dialogue between Buddhism and Clinical Psychology. Mindfulness 1, 161–173 (2010). https://doi.org/10.1007/s12671-010-0018-1.
9. Biegel, G. M., Brown, K. W., Shapiro, S. L., & Schubert, C. M. (2009). Mindfulness-based stress reduction for the treatment of adolescent psychiatric outpatients: A randomized clinical trial. Journal of consulting and clinical psychology, 77(5), 855.
10. Broderick, P. C., & Metz, S. (2009). Learning to BREATHE: A pilot trial of a mindfulness curriculum for adolescents. Advances in school mental health promotion, 2(1), 35-46.
11. Jennings, P. A., Frank, J. L., Snowberg, K. E., Coccia, M. A., & Greenberg, M. T. (2013). Improving classroom learning environments by Cultivating Awareness and Resilience in Education (CARE): results of a randomized controlled trial. School Psychology Quarterly, 28(4), 374.
12. Weare, K., & Nind, M. (2011). Mental health promotion and problem prevention in schools: what does the evidence say?. Health promotion international, 26.
13. Zenner, C., Herrnleben-Kurz, S., & Walach, H. (2014). Mindfulness-based interventions in schools—a systematic review and meta-analysis. Frontiers in psychology, 5, 603.
14. Goldberg, J.M., Sklad, M., Elfrink, T.R. et al. Effectiveness of interventions adopting a whole school approach to enhancing social and emotional development: a meta-analysis. Eur J Psychol Educ **34**, 755–782 (2019). https://doi.org/10.1007/s10212-018-0406-9
15. Choudhury, S., & Moses, J. M. (2016). Mindful interventions: Youth, poverty, and the developing brain. Theory & Psychology, 26(5), 591-606.