



# “EFFECTIVENESS OF MINDFULNESS-BASED INTERVENTIONS FOR REDUCING STRESS IN SECONDARY SCHOOL STUDENTS”

**Dr. VENKATA NARAYANA VENDI, PGT ENGLISH, AP MODEL SCHOOL  
AND JUNIOR COLLEGE, SEETHARAMAPURAM, SPSR NELLORE, INDIA**

## Abstract

*This study aimed to assess the effectiveness of mindfulness-based interventions on Mindful Attention Awareness among Secondary school students in Andhra Pradesh, India. A total of 150 students participated in an intensive mindfulness intervention program from 2nd January 2023 to 24th March 2023. The study used both qualitative and quantitative data collection methods to assess the intervention's effectiveness. The intervention involved a structured mindfulness program that included various techniques such as guided meditations, breathing exercises, and body scans. The study's primary outcome measure was Mindful Attention Awareness, assessed using self-report measures administered before and after the intervention. The study's results indicate that the mindfulness intervention was effective in improving students' Mindful Attention Awareness, as evidenced by significant improvements in pre- and post-intervention scores. The study's findings highlight the potential of mindfulness-based interventions as an effective tool for promoting mental health and well-being among Secondary school students. Further research is needed to explore the long-term benefits of mindfulness interventions and its effectiveness in addressing other mental health issues in school settings.*

**Key words:** *Mindfulness-Based Interventions, Stress, Secondary School Student.*

## Introduction

Secondary school students frequently feel anxiety and stress, which may have a negative impact on both their academic performance and general well-being. Attention has been drawn to mindfulness-based therapies as a potential means of assisting pupils in controlling these unfavorable feelings. Studies have shown that mindfulness-based therapies are beneficial in lowering stress and anxiety in a variety of

populations, including adults and children. The usefulness of mindfulness-based therapies for secondary school pupils, however, has received very little investigation. Adolescence is a crucial developmental period during which people are more prone to stress and anxiety, therefore it's crucial to comprehend how well mindfulness-based therapies work in this group. By assessing the efficacy of mindfulness-based therapies for lowering stress and anxiety in secondary school students, this study seeks to fill this vacuum in the literature. The study will analyze the body of research on mindfulness-based interventions for secondary school students and assess how well they work to lessen anxiety and stress. The study will also examine potential mechanisms, such as enhancements in emotion regulation and attention control, by which mindfulness-based interventions might lower stress and anxiety. In general, this study aims to advance knowledge about the efficacy of mindfulness-based interventions in secondary school students and to offer suggestions for how they might be incorporated into school-based interventions to enhance secondary school students' wellbeing.

### **Need of the Study**

Secondary school students today deal with a variety of pressures, such as peer interactions, academic pressure, social media use, and family strife. Their entire well-being, academic performance, and mental health may all suffer as a result of these challenges. Finding practical strategies to lower stress and anxiety in secondary school pupils is therefore of great importance. One such remedy that has attracted attention recently is mindfulness-based Intervention (MBIs). MBIs are a type of meditation that entails accepting one's thoughts and feelings without passing judgment and focusing attention on the present moment. These techniques have been modified for use with kids and teenagers since it has been demonstrated that they may help adults with anxiety and depressive symptoms. However, it is still unclear how effectively MBIs work with secondary school kids. There is a need for more thorough study to validate the claims made in certain studies that MBIs can help Secondary school students with their stress and anxiety symptoms. To fully realize the potential benefits of MBIs, it is also necessary to comprehend how they may be applied in secondary school settings. The purpose of this study is to determine if MBIs are beneficial at lowering stress and anxiety in secondary school pupils. With an emphasis on the possible advantages and restrictions of these therapies, this study will review the most recent studies on MBIs in teenage populations. Additionally, in order to make MBIs more accessible to students, this research will examine the most efficient ways to apply them in secondary school settings as well as any potential obstacles that may need to be removed. The study's overall conclusions have significant ramifications for educators and mental health specialists who interact with secondary school children. Professionals may build evidence-based treatments that have a favourable influence on students' mental health and academic performance by comprehending how well MBIs work to reduce stress and anxiety. This research can also add to the expanding body of knowledge about mindfulness and its potential uses in educational settings.

### **Review of Related Literature**

**Felver et al. (2016)** performed an assessment of mindfulness-based programs for young people in educational settings. The results of the study's analysis of 15 randomized control trials showed that

mindfulness therapies significantly improved the psychological and academic outcomes of secondary school pupils. The findings demonstrated that mindfulness therapies reduced students' feelings of anxiety, despair, and stress while enhancing their emotional control, self-esteem, and resilience. Additionally, the therapies increased attention and cognitive control, which had significant effects on academic achievement.

**Bluth and Eisenlohr-Moul (2017)** The effects of a mindful self-compassion intervention on teenagers were evaluated. The study, which comprised 48 youths, found that the intervention had a positive impact on mindfulness and self-compassion levels, which resulted in appreciable improvements in emotional well-being outcomes. The findings showed that the intervention improved participants' life satisfaction and happiness while reducing their feelings of stress, anxiety, and melancholy. The results suggest that self-compassion may be a crucial element of mindfulness therapy for adolescents.

**Butterworth, Singh, and Bluth (2019)** A mindfulness program for teens with intellectual disabilities was evaluated in a classroom setting. According to the 12-student study, the intervention improved emotional regulation, concentration, and social skills. The findings revealed a significant improvement in the children's emotional regulation, as well as an increase in prosocial behavior and a decrease in problematic behavior. The students also shown improvements in working memory and attention, which may improve their academic performance.

**Smith et al. (2019)** A thorough analysis of mindfulness-based stress reduction was conducted as a stress management strategy for healthy individuals. The study, which comprised 32 randomized controlled trials, found that mindfulness treatments significantly improved results in terms of stress management and well-being. The results showed that mindfulness treatments improved quality of life and subjective well-being while reducing symptoms of anxiety, melancholy, and stress. The medicines also enhanced physiological stress indicators like blood pressure and cortisol levels.

**Gueldner and Feuerborn (2020)** The research on mindfulness-based programs in educational contexts was examined. The study examined 21 studies and showed that mindfulness therapies enhanced secondary school children's social-emotional, behavioral, and academic outcomes. The interventions improved emotional regulation, self-esteem, and coping strategies while alleviating anxiety and stress symptoms, according to the findings. Furthermore, the treatments improved test scores as well as other areas of academic performance such as attention and memory. The study did, however, highlight the need for more comprehensive research on the usage and efficacy of mindfulness treatments in educational contexts.

### **Operational definition of key terms**

**MINDFULNESS-BASED INTERVENTIONS:** Mindfulness-based interventions refer to programs or techniques that incorporate mindfulness practices, such as meditation, breathing exercises, and awareness of the present moment, to promote mental and emotional well-being. These interventions typically involve structured mindfulness activities, often led by a trained facilitator, that aim to cultivate a state of mindfulness in individuals. Mindfulness-based interventions may be used in a variety of settings, including

schools, workplaces, and healthcare facilities, and can be tailored to address specific concerns, such as stress, anxiety, and depression.

**STRESS:** Stress can be defined as the body's response to a demanding situation or event that requires a physical, mental, or emotional effort to cope with. It is a natural physiological and psychological response that helps prepare the body for action, but if it is prolonged or chronic, it can lead to negative health outcomes such as anxiety, depression, and physical illness. Stress can be caused by a variety of factors, such as work, school, relationships, and life changes, and individuals may experience it differently depending on their coping mechanisms and resilience.

### Objectives of the study

1. To find out the significant relationship between Mindful Attention Awareness and Stress in pre & post test score among the Secondary school students

### Hypotheses of the study

1. There is no significant mean difference between pre and post test of Mindful Attention Awareness among the Secondary school students of students in Experimental group.
2. There is no significant mean difference between pre and post test of Stress among the Secondary school students in Experimental group.
3. There is no significant mean difference between pre and post test of Mindful Attention Awareness among the Secondary school students in control group.
4. There is no significant mean difference between pre and post test of Stress among the Secondary school students in control group.

### Method of the Study

The main purpose of the study was to impact the Mindful Attention Awareness and Stress on Secondary school students in the district of Guntur, of A.P state. For this purpose, an intensive intervention technique was conducted in 150 students from the state of Andhra Pradesh. The study was to find out the effectiveness of mindfulness intervention on Mindful Attention Awareness among the Secondary school students. This phase includes the description of different steps followed in collecting all qualitative and quantitative data from the primary sample under this study and the process of analyzing it. Data was collected from the secondary school students during 2<sup>th</sup> January 2023 to 24<sup>th</sup> March 2023.

### Sample of the study

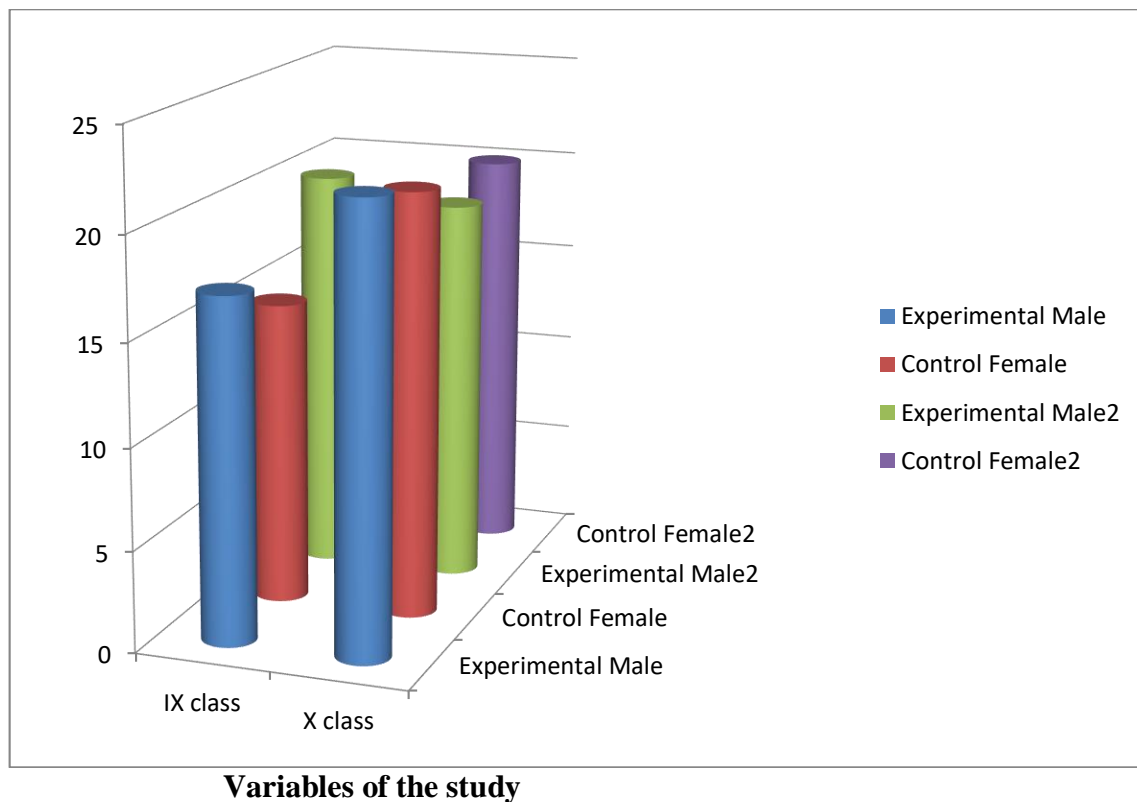
The sample (150 Secondary school students) selected for the present study was non-random sampling technique. The sample ranged between the age group of 13 to 16 years old. Studying 9<sup>th</sup> and 10<sup>th</sup> class secondary school students in the district of SPSR Nellore, District of A.P state. Mindfulness Meditation interventions is useful and effective to enhance the attention; and on

the other hand this interventions is reduced stress of the students, if they are ready to accept the training strategies. Consequently, the study included 150 samples, which were separated into two classes. Each class had 75 students; so, the first was control group (75) and the second was experimental group (75). Table 1 is shown gender wise sample distribution of the primary sample.

*Table 1: Gender wise sample distribution*

Present class	Male		Female		Total number
	Experimental	Control	Experimental	Control	
IX	17	15	20	16	68
X	22	21	19	20	82
Total	39	36	39	36	150

*Figure 1: Gender wise sample distribution*



**Independent Variable:** Gender, Age and Study class were used for the independent variables in this study.

**Treatment Variable:** In case of any intervention research, treatment variables are always considered as independent variable because those are the influencing factors that affect the dependent variables. In this study, the treatment variable is MindfulnessMeditation interventions techniques.

**Dependent variable:** Other names for dependent variables are replies variables and left-side variables. The variable being measured or evaluated in an experiment is known as the dependent variable. The primary dependent variables for this study's experiment were stress levels among

secondary school students and mindful attention awareness.

## **Tools of the Study**

### **Tool 1: Mindful Attention Awareness Scale**

The tool to assess Mindful Attention Awareness developed by Azharul Islam and Saleh Siddique. It is a scale based on a 1 through 6 Likert scale of a 15 item questionnaire. This scale aims to appraise a certain key specific attribute of dispositional (or trait) mindfulness, including accessible consciousness, and responsiveness to what is occurring in the present situation or existing time. Total 15 questions were measured on a predefined scale of 6 points– 1 –Usually 2 – Very often 3 – Somewhat often 4 – Somewhat rarely 5 - Very frequently 6 – Scarcely ever

The overall MAAS score is the sum of all components. A higher score suggests that you have a greater level of dispositional mindfulness. The internal consistency and temporal stability were similarly good (Cronbach's alpha 0.85). The Bengali version of MAAS was found to be notably and conclusively correlated to SF- 36 Mental and Physical health factors, but adversely associated with IAT outcome

### **Tool 2: Student's Stress Scale:**

The scale was developed by Dr. Zaki Akhtar (2011) which comprised of 51 statements of which 41 are positively worded and 10 negatively worded statements. The scale is developed on 5-point scale with responses always, often, sometimes, rarely and never.

The reliability of the tool was established by test-retest method. The coefficient correlation was 0.71 (df 198) is significant at 0.01 level. The scale has construct validity. It was scrutinized by a panel of six judges and item analysis done. The other type of validity was ascertained by testing it against a parallel form. It was tested against Agarwal & Naidu's Life Stress Scale. The coefficient of correlation obtained was 0.72. This confirms that the scale was highly reliable and valid too.

## **Procedure of the experiment**

A special hall was exclusively used for the purpose of Meditation Experiment. Every day, Meditation therapy was given to all the secondary school students (Experimental Group) in this special Hall room for 10 minutes at the same time, because body and mind is such a mechanism that any regular activity become a habit pattern and Physically as well as mentally one is prepared for the particular activity. This activity was conducted for the various levels of students in 81 days or 2 months 22 days. As no association was to be formed subjects/students were very clearly asked to be loose and natural.

## **Instruction and Explanation**

A melody music (Therapy Related) was used for being consistent in instruction throughout the experiment. Special instructions were to help the sample or students (Experimental Group).

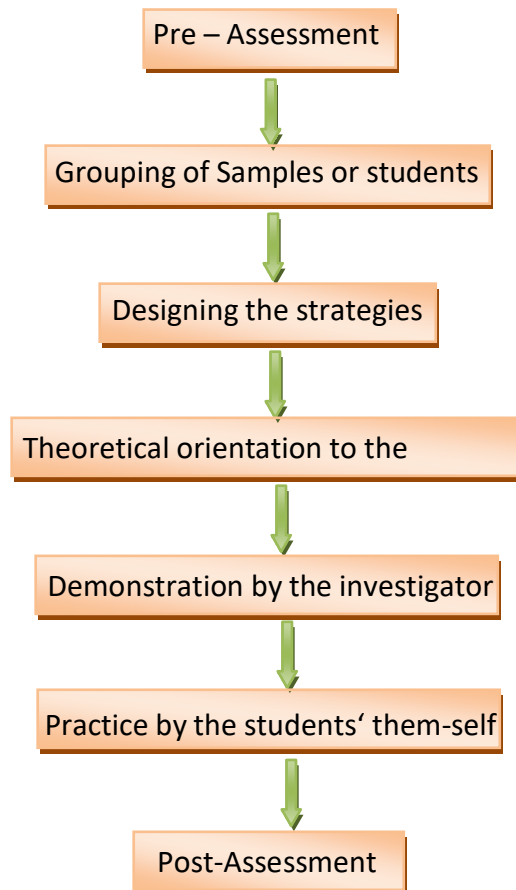


## Practice

Breathing is the key to any practice in mindfulness. Anyone can practice breathing awareness in any moment what so ever. It does not need any particular space or time to practice it. Mindfulness is a simple breathing awareness for about 10 minutes a day. There are various ways to practice it in a very simple method:

- It is possible for all of us whenever we find it convenient.
- It should be a noise-free atmosphere.
- Open the spectacles.
- Keep the body erect.
- Sit comfortably in a comfortable dress.
- Keep the eyes and mouth gently closed.
- Take three deep breathings.
- Focus the entire attention on the area around the nostrils.
- Awareness of every breath that in coming in and going out.
- Breath naturally and normally as it is.
- There should be no forceful effort.
- If it is extended, it is extended; if it is shortened, it is shortened.
- If it is through one nostril let it be so or both the nostrils.
- Attentive vigilance of every incoming and outgoing breath.
- The entire awareness of every incoming and outgoing breath.
- Feel the sensation of every incoming and outgoing breath.
- Towards the beginning the mind has every possibility to get diverted, but very soon it will come back to the attention towards the entrance of the nostril like a gatekeeper, watchman.
- In this way, one may practice at least for 10 minutes a day.
- After 10 minutes take 3 deep breaths and feel relaxed and happy.
- Then gently open the eyes.
- More practice is welcome.
- The first time the practice should be done guided by a person. It can also be done with a soft mindful music or without any such accompaniment, but generally in the traditional practice, it is done with a mindful bell.

## Experimentation in Phase



- **Pre – Assessment:** the pre-Assessment of the level of Mindful Attention, depression, Anxiety and stress levels found in the adult participants were assessed by the investigator.
- **Grouping of Samples or students:** After complete the first phase, the primary samples were grouped into two groups; one is Experimental group (60 students) and another is Control group (60 students).
- **Designing the strategies:** The investigator planned the activities for enhancing the student's Mindful attention Awareness; reduced the Depression, Anxiety and stress level.
- **Theoretical orientation to the students** – After conducting the pre- assessment the investigator conducted theoretical orientation programme on Mindfulness Meditation for the Adult Students. Before the orientation programme the students were never aware of mindfulness meditation. This orientation programme helps to enhance the consciousness on Mindfulness Meditation.
- **Demonstration by the investigator** – The Mindfulness Meditation therapy and the practice of Mindfulness Meditation were demonstrated by the investigator. The adult students were allowed to practice during the training period.
- **Practice by the students' them-self** – After the orientation programme and demonstration about the Mindfulness Meditation Therapy, All the students who were selected in the



experimental group have practiced this meditation therapy for 56 days.

- **Post-Assessment** – Post-Assessment was conducted by the investigator after implementation of treatment or this therapy. During the post-assessment the same MAAS and DASS-21 measurement scale were used. After collection of post-assessment data, it was analyzed using appropriate techniques.

## Analysis of the data

**H<sub>01</sub>: There is no significant mean difference between pre and post test of Mindful Attention Awareness among the Secondary school students of students in Experimental group.**

*Table 2: showing the paired sample t-test based on H<sub>01</sub>*

Test	N	Mean	SD	T	Df	p-value	Remarks
Pre test	75	50.82	10.25	-8.205	59	0.00	S*
Post test	75	66.87	10.84				P<0.01

\*Significant

Paired sample t-test comparing the mean scores of Mindful Attention Awareness of the secondary school students in pre-test to be average scores of Students' Mindful Attention Awareness revealed a significant mean difference of the two different groups [ $t(59) = -8.205$ ,  $p < 0.01$ ]. The average score of Post-test ( $m=66.87$ ,  $SD=10.84$ ) was found significantly higher than Pre-test score ( $m=50.82$ ,  $SD=10.25$ ).

Therefore, the null hypothesis is rejected and as a result, the given difference in sample means being significant. From the above analysis, it can be concluded that there is a significant mean difference between pre and post test of Mindful Attention Awareness among the secondary school students in Treatment group.

**H<sub>02</sub>: There is no significant mean difference between pre and post test of Stress among the secondary school students in Experimental group.**

*Table 3: showing the paired sample t-test based on H<sub>02</sub>*

Test	N	Mean	SD	t	df	p-value	Remarks
Pre test	75	20.77	7.484	4.150	59	0.00	S*
Post test	75	15.17	8.472				P<0.01

\*Significant

Paired sample t-test comparing the mean scores of Stress of the secondary school students in pre-test to be mean scores of Students' Stress revealed a significant mean difference of the two different groups [ $t(59) = -4.150$ ,  $p < 0.01$ ]. The mean score of Post-test ( $m=15.17$ ,  $SD=8.472$ ) was found significantly lower than Pre-test score ( $m=20.77$ ,  $SD=7.484$ ).

Therefore, the null hypothesis is rejected and as a result, the given difference in sample means being significant. From the above analysis, it can be concluded that there is a significant mean difference between pre and post test of Stress among secondary school students in Treatment group.

**H<sub>03</sub>: There is no significant mean difference between pre and post test of Mindful Attention Awareness among secondary school students in control group.**

*Table 4: showing the paired sample t-test based on H<sub>03</sub>*

Test	N	Mean	SD	T	df	p-value	Remarks
Pre test	75	52.73	10.148	0.682	59	0.49	NS
Post test	75	52.37	9.755				P>0.05

Not Significant

It can be observed from the table 4 that the computed value of paired sample t-test comparing the mean scores of pre-test and post-test of Mindful Attention Awareness found no significant difference between two tests [ $t(59) = 0.682, p > 0.05$ ]. Mean score of pre-test ( $m=52.73$ ;  $SD=10.148$ ) found to be quietly higher than post-test ( $m=52.37$ ;  $SD=9.755$ ) among control group but it is not statistically significant.

Therefore, the null hypothesis is retained at 0.05 level and as a result, the given difference in the means being not significant can only be for some sampling fluctuation. As a result, it is reasonable to conclude that there is no significant pre-test and post-test difference in Mindful Attention Awareness among secondary school students in the control group.

**H<sub>04</sub>: There is no significant mean difference between pre and post test of Stress among secondary school students in control group.**

*Table 5: Showing the paired sample t-test based on H<sub>04</sub>*

Test	N	Mean	SD	t	Df	p-value	Remarks
Pre test	75	20.13	7.973	-0.433	59	0.66	NS
Post test	75	20.27	7.068				P>0.05

Not Significant

It can be observed from the table 4.14 that the computed value of paired sample t-test comparing the mean scores of pre-test and post-test of Stress found no significant difference between two tests [ $t(59) = -0.433, p > 0.05$ ]. Mean score of pre-test ( $m=20.13$ ;  $SD=7.973$ ) found to be quietly lower than post-test ( $m=20.27$ ;  $SD=7.068$ ) among control group but it is not statistically significant.

Therefore, the null hypothesis is retained at 0.05 levels and as a result, the given difference in the means being not significant can only be for some sampling fluctuation. As a result, it is possible to conclude that there is no significant pre-test and post-test difference in Stress among secondary school students in the control group.

## Findings

### 1. Mindful Attention Awareness (Experimental Group):

- The pre-test mean score for Mindful Attention Awareness was 50.82 (SD=10.25).
- The post-test mean score for Mindful Attention Awareness was 66.87 (SD=10.84).
- A paired sample t-test showed a significant mean difference between the pre-test and post-test scores ( $t(59) = -8.205, p < 0.01$ ).
- Therefore, the null hypothesis (H01) stating no significant mean difference is rejected.
- Conclusion: There is a significant mean difference between pre and post-test of Mindful Attention Awareness among the secondary school students in the experimental group.

### 2. Stress (Experimental Group):

- The pre-test mean score for Stress was 20.77 (SD=7.484).
- The post-test mean score for Stress was 15.17 (SD=8.472).
- A paired sample t-test showed a significant mean difference between the pre-test and post-test scores ( $t(59) = -4.150, p < 0.01$ ).
- Therefore, the null hypothesis (H02) stating no significant mean difference is rejected.
- Conclusion: There is a significant mean difference between pre and post-test of Stress among the secondary school students in the experimental group.

### 3. Mindful Attention Awareness (Control Group):

- The pre-test mean score for Mindful Attention Awareness was 52.73 (SD=10.148).
- The post-test mean score for Mindful Attention Awareness was 52.37 (SD=9.755).
- A paired sample t-test showed no significant mean difference between the pre-test and post-test scores ( $t(59) = 0.682, p > 0.05$ ).
- Therefore, the null hypothesis (H03) stating no significant mean difference is retained.
- Conclusion: There is no significant pre-test and post-test difference in Mindful Attention Awareness among secondary school students in the control group.

#### 4. Stress (Control Group):

- The pre-test mean score for Stress was 20.13 (SD=7.973).
- The post-test mean score for Stress was 20.27 (SD=7.068).
- A paired sample t-test showed no significant mean difference between the pre-test and post-test scores ( $t(59) = -0.433, p > 0.05$ ).
- Therefore, the null hypothesis ( $H_0$ ) stating no significant mean difference is retained.
- Conclusion: There is no significant pre-test and post-test difference in Stress among secondary school students in the control group.

#### Suggestions

1. **Develop a comprehensive mindfulness program:** Create a structured and comprehensive mindfulness program that includes a variety of techniques, such as breathing exercises, body scans, and guided meditations, to help students reduce stress and develop mindfulness skills.
2. **Provide regular mindfulness sessions:** Offer regular mindfulness sessions, such as weekly classes or daily 10-minute mindfulness exercises, to ensure that students have consistent opportunities to practice mindfulness.
3. **Train teachers and staff:** Provide training to teachers and staff on the benefits of mindfulness and how to implement mindfulness practices in the classroom. This will help ensure that mindfulness is integrated into the school culture and that students receive consistent support and reinforcement.
4. **Involve students in the development process:** Get input from students on what types of mindfulness practices they find most helpful and engaging. This will help ensure that the mindfulness program is tailored to their specific needs and preferences.
5. **Create a supportive environment:** Foster a supportive environment that encourages students to practice mindfulness and provides them with the resources they need to do so. This could include creating a designated mindfulness space or providing resources such as mindfulness apps or audio recordings.
6. **Monitor and evaluate the program:** Regularly monitor and evaluate the effectiveness of the mindfulness program, using measures such as self-report surveys, to assess the impact of the program on student stress levels and overall well-being. This will help identify areas for improvement and ensure that the program is meeting its goals.

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