
THE EFFECT OF MINDFUL BREATHING AND MINDFUL SITTING PRACTICES ON ACADEMIC STRESS OF NANYANG ZHI HUI HIGH SCHOOL STUDENTS IN MEDAN

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ABSTRACT

KEYWORDS

mindful breathing,
mindful sitting, academic
stress

The research objective was to determine the effect of mindful breathing and mindful sitting practices on the academic stress of Nanyang Zhi Hui High School students in Medan. The population in this study was 82 high school students who had known and participated in the practice of mindful breathing and mindful sitting for 5 years. Data collection methods are questionnaires and documentation as support. Methods of data analysis using inferential statistics with a quantitative approach and multiple linear regression. The data that has been collected is tested for validity and reliability, which is then analyzed using inferential statistical methods. The results showed that the practice of mindful breathing had an effect on the academic stress of Nanyang Zhi Hui Medan High School students by 6.6%, the practice of mindful sitting had an effect on the academic stress of Nanyang Zhi Hui Medan High School students by 5.8% and the practice of mindful breathing and mindful sitting together (simultaneously) had an effect on the academic stress of Nanyang Zhi Hui High School students by 13.6%, with the variable of mindful breathing practice providing an effective contribution of 7.17% while the variable of mindful sitting practice providing an effective contribution of 6.41%. Based on the results of the study, it can be concluded that the practice of mindful breathing and mindful sitting has a significant effect on the academic stress of Nanyang Zhi Hui High School students.

INTRODUCTION

Stress can be detrimental to health when it overwhelms a person. Human life faces stress from various sources, such as school, family, friends, interactions with strangers, and work. Daily demands, such as school, work, family, and ever-changing friends, are often the cause of stress. Stress can also last a long time, for example when experiencing the loss of a loved one or being forced to retire. The stress process involves assessing and responding to events that are perceived as challenging or threatening, and can be caused by biological, psychological, and sociocultural factors that influence how we respond to stress from various sources. Additionally, gender can influence how a person responds to stress, such as by fighting, running away, or seeking social support (Straub, 2019).

Stress has adverse effects on physical and emotional health. Research has shown that stress can increase the risk of cardiovascular disease, depression, stroke, anxiety, digestive problems, and chronic respiratory diseases such as asthma. Repeated stress responses cause wear and tear on the body, such as high blood pressure, which can have a negative impact on health. The response to stress can also affect a person's performance, thoughts, body and behavior, and produce negative emotions such as depression and anxiety if not controlled properly. The main structure of psychological stress includes a lack of emotional outlet, limited control, predictability, lack of social support, and the perception that things are getting worse (Benson et al., 2011:1-9).

A certain amount of stress is necessary for everyone to work efficiently, improving performance and well-being. Although you cannot avoid stress altogether, stress can be managed in a healthier way

to avoid certain health problems and prevent some diseases from worsening. Most excessive stress can lead to depression, boredom, poor health, and anxiety. One important key is the connection between mind and body, where a person can learn techniques to help avoid triggering stress responses (Benson et al., 2011:1-9).

The skill of recognizing stress in the body is very important. The body registers stress before the conscious mind does, and one way the body tells you about stress is through muscle tension. Body awareness is the first step to recognizing and reducing stress. A tense body can indicate emerging stress, and certain beliefs can influence how stress manifests in the body. In several Eastern philosophies such as Zen, Hatha Yoga, and Sufism, the importance of bodily condition and its influence on consciousness and stress has been explained (Davis et al., 2008:19-21).

The Buddha explained that if one can understand and see with right understanding and mindfulness, one can stop stress-causing dissatisfaction (*dukkha*). If you are not careful, new *dukkha* will arise and existing *dukkha* will increase. With proper attention, future *dukkha* can be avoided and existing *dukkha* can be eliminated. *Dukkha* can be eliminated with attention/vision (*dassana*). *Dukkha* can be eliminated through self-control (*saṃvara*). *Dukkha* can be eliminated through the use of (*patisevana*). Self-control (*adhivāsana*) can relieve suffering. *Dukkha* is eliminated by avoidance (*parivajjana*). *Dukkha* can be eliminated by extinction (*vinodana*). *Dukkha* can be eliminated through cultivation (*bhāvanā*) (M.I.7-11).

The COVID-19 pandemic has affected the implementation of teaching and learning in Indonesia. The Distance Learning Policy (PJJ) in March 2020 posed various challenges for teachers and students. According to a UNICEF survey in May 2020, as many as 66% of students from 34 provinces in Indonesia experienced stress and discomfort while studying at home (UNICEF, 2020). Students and parents are facing difficulties in learning due to the pandemic. Psychological effects such as regressive behavior, changes in appetite, and sleep disturbances occur in students. In addition, students experience difficulty concentrating, somatic complaints, mood swings, a tendency to use devices more, and unstable emotional states. These effects can affect students' learning and academic abilities (Mulyana et al., 2020:76-77).

Students can experience academic stress due to a lack of resources to cope with academic-related demands such as fear of not getting a university placement, exams, course workload, inadequate revision time, high self-expectations, lack of interest in certain subjects, and punishment. These factors can lead to increased academic stress and poor psychological well-being among students (Lin & Yusoff, 2013:672-676).

Academic stress has a negative impact on physical and mental health. This applies to all individuals, including students. The impact can cause low academic performance, poor health, depression, and sleep disorders. In addition, academic stress can also cause addiction, such as addiction to gadgets, and the intensive use of the internet by adolescents as a way to relieve stress is also influenced by academic stress (Chambel & Curral, 2005:135-147). Problems associated with academic stress include anxiety about academic assignments, competition, taking tests, and other specific tasks; depression due to excessive expectations of oneself; uncontrollable emotional response; use of illegal drugs or alcohol; academic dishonesty; loss of motivation; as well as poor health conditions. These problems contribute to low academic performance abilities, deteriorating health, depression, and sleep disturbances in students (Banu Scholar & Deb, 2015:5-7). Common and consistent triggers for student academic stress include exams, time demands, competition, and the classroom environment. Academic stress can pose a potential crisis point during the process of achieving independence and forming student identity, especially related to self-sufficiency and self-esteem (Aherne, 2012:176-187).

It is important to know the right method for dealing with academic stress because negative consequences will get worse if it is not handled immediately. Several methods that can be used to overcome students' academic stress conditions are planning, positive reframing, acceptance, humor, religion, emotional support, instrumental support, self-distraction, and emotional release (Aina & Hermilia Wijayati, 2019:212-223).

Students need to be educated on healthy stress management strategies to deal with short-term and long-term academic stress that can cause a variety of symptoms and have health consequences. It is recommended to provide counseling sessions and other support systems for students and create a learning environment that is less stressful and free from academic overload in the classroom. The goal is to reduce academic stress, improve academic performance, and minimize anxiety (Jeyasingh, 2022:7-11).

Nanyang Zhi Hui School in Medan City has been implementing mindfulness practices for almost 20 years. The school's vision and mission is to build noble student character and create academic excellence. Carefully designed learning programs, including mindfulness programs that include mindful breathing exercises and sitting meditation, are implemented at all levels of education from preschool through high school. Students are taught the practice of mindful breathing by focusing on the breath and the practice of mindful sitting by focusing on the body and candle light. The school also creates a learning atmosphere that is conducive to achieving its vision and mission.

Nanyang Zhi Hui School, which has implemented mindfulness practices since its inception, still faces academic stress. Some students experience academic stress related to high academic demands, social and family demands. These obstacles produce symptoms of academic stress such as increased levels of anxiety, difficulty in concentrating, decreased academic performance, and changes in behavior. To address this, Nanyang Zhi Hui School is continuously improving and developing its mindfulness program, including specific programs for students and teachers, as well as workshops for parents, and working with psychologists to help students manage their stress.

The school management claims that mindfulness practices such as mindful breathing and mindful sitting have helped overcome the academic stress of students at the Nanyang Zhi Hui School in Medan. However, the authors found that there were still many visible stress symptoms in students due to the greater pressure of academic programs compared to mindfulness practices. This study aims to analyze the effect of mindfulness practices on academic stress of high school students at Nanyang Zhi Hui School and determine its effectiveness in achieving academic excellence according to the school's mission.

It is important to understand the factors that influence the effectiveness and extent to which mindfulness practices can help students manage academic stress and improve their emotional well-being. This research can also help schools understand the effectiveness of the mindfulness practices that have been implemented. Thus, Nanyang Zhi Hui School can continue to improve and develop the mindfulness program that has been implemented so that it can provide more benefits for high school students in the future.

Each individual has a different academic stress coping strategy, influenced by ethnic, cultural, and socioeconomic characteristics. Poor management of academic stress can contribute to negative behavioral patterns, the development of psychosomatic symptoms, and decreased academic achievement. There are two methods of dealing with academic stress, namely an approach that focuses on problems and an approach that focuses on emotions. The problem-focused method tries to identify the problems that cause academic stress and outlines strategies for dealing with them. Meanwhile, methods that focus on emotions reduce student stress with various activities, such as confiding in friends, getting support from friends, or trying to calm down (Lazarus & Folkman, 1984:282-325).

The Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Student Training (MBST) methods are considered effective in reducing stress and managing stress techniques in various aspects of life, including stress at work and student stress in dealing with the demands of subjects and exams. Individuals' perceptions of stress and capacity to handle unhealthy stress vary. However, if the pressure is continuous or occurs frequently without proper recovery, the mental stress can become chronic and lead to physical and mental illnesses, such as immune system disorders. MBSR and MBST improve students' emotional regulation and self-regulation, especially during exams, thus having a positive effect on students by reducing academic stress (Voss et al., 2020:1-12).

Buddhist meditation techniques which include tranquillity meditation (*samatha*) and *vipassanā* meditation, which directs attention to deep observation and understanding of true reality (A.II.89-90) can help develop insight into the impermanence and nature of suffering in human experience, bring a deeper understanding of existence, and encourage liberation from the cycle of suffering. These two types of meditation complement each other and are used together in Buddhist meditation practice to develop concentration, calm, and deep understanding. *Vipassanā* meditation allows one to be more mindful, act deliberately, and be precise in dealing with emotions and behavior. As a result, one can live in peace (Tu & Thien, 2019:413-425). Meditation on a regular basis can help a person become calm in dealing with problems, and clear the mind of negative things. Meditation also helps one to live in the moment without getting hung up on the past or worrying about the future that hasn't happened yet. Apart from being a religious activity, meditation is also used as a healing tool for various diseases. Meditation helps focus the mind and avoid restlessness, thereby providing peace of mind (Rahmani & Busro, 2023:1-16). The practice of mindfulness and meditation have proven valuable tools for exploring one's own mind for thousands of years. Neuroscientists researched this topic and found that mindfulness and meditation can relax the mind and body and change brain function. There is a growing interest in mindfulness and meditation in society, so mindfulness and meditation have been applied in educational centers, yoga centers, therapy centers, clinics, prisons and companies. Programs of mindfulness and meditation can promote and cultivate self-awareness and help develop the mind to act beyond a healthy state of mind. Many people are reaping the benefits of mindfulness learning, including reduced stress and anxiety levels, increased focus, self-regulation, improved academic performance, and sleep (de Bruin, 2021:15-21).

Mindfulness practices include breathing and sitting meditation. Breathing that is closely related to survival and emotional well-being can lead to shallow and rapid chest breathing when stressed, affecting rational thinking and emotional control. In meditation, letting go is fostered by letting the breath, sensations, and objects of attention be as they are without clinging to different desires. Letting go of resistance to everything, including unrealistic expectations and misinterpretations, can reduce stress. In meditation, pressing the pause button helps reduce feelings of insecurity and increases connection with yourself (Marotta, 2013:23-72).

Based on the explanation above, the objectives of this research can be determined as follows:

1. To analyze the effect of mindful breathing practices on academic stress of high school students at Nanyang Zhi Hui School.
2. To analyze the effect of mindful sitting practices on the academic stress of high school students at Nanyang Zhi Hui School.
3. To analyze the effect of mindful breathing and mindful sitting practices on academic stress of high school students at Nanyang Zhi Hui School.

RESEARCH METHOD

Research design

The research carried out by the researcher is inferential research with a quantitative approach. In inferential research, the data collected, processed and analyzed is quantitative data in the form of numbers or scores. The data comes from at least two different variables, and the study involves a sizeable number of subjects that are representative of the population.

Population and Sample

The population in this study were all of Nanyang Zhi Hui High School students in the 2022-2023 Academic Year, totaling 82 people. In taking or determining the sample size, the researcher used a saturated sample technique, namely taking a total of 82 students (saturated sample) because the population was less than 100 people (Suharsimi, A., 2019:104).

Data Collection Instrument

Research instruments are essentially tools used by researchers to collect data in research, measure observed natural and social phenomena so that research can be carried out more easily, accurately and more systematically to process. In conducting research, research instruments are important aspects that need attention to ensure good data collection in the field (Sugiyono, 2018:148). The author uses several types of research instruments, such as questionnaire guidelines, checklist guidelines, interviews, observations, and documentation. Questionnaire guidelines were used to obtain answers to questions that had to be answered by respondents, namely high school students at the Nanyang Zhi Hui School in Medan.

Data analysis technique

In analyzing the data that has been collected, researchers use two types of analysis, namely:

Descriptive statistics

namely statistics used as a tool to analyze data with the aim of describing or illustrating the data that has been collected objectively, without the intention of making generalizations of research results. Descriptive statistical data analysis includes presenting data through tables, graphs, diagrams, and the like.

Inferential data analysis techniques

Inferential statistics, also known as probability statistics, is an analytical method used to generalize sample data and apply it to a wider population. In inferential statistics, there are two categories of statistics that are commonly used, namely parametric and non-parametric statistics (Sugiyono, 2018:148). In this research, researchers used parametric statistics because the data analyzed was on an interval scale. The data obtained must also be analyzed whether it is normally distributed or not, as the main requirement for then tested for normality and linearity before being used to test the hypothesis. In testing the data that has been collected, the author uses the Statistical Program for Social Science (SPSS) 25 for Windows program to get results in prerequisite analysis test techniques and analysis test techniques.

Statistical Hypothesis

The statistical hypothesis in this research is:

If $p < 0.05$ then H_0 is rejected and H_1 is accepted

If $p > 0.05$ then H_0 is accepted and H_1 is rejected

Information:

H_0 = There is no significant influence between the practice of mindful breathing and mindful sitting on the academic stress of Nanyang Zhi Hui High School students in Medan.

H_1 = There is a significant influence between the practice of mindful breathing and mindful sitting on the academic stress of Nanyang Zhi Hui High School students in Medan.

RESULTS AND DISCUSSION

Data Description

The research data are presented in the form of data descriptions for all variables which include Mindful Breathing Practices (X_1), Mindful Sitting Practices (X_2), and Academic Stress of Nanyang Zhi Hui High School Students in Medan (Y). Research data obtained from 82 respondents for all research variables can be described as follows.

Table 1. Variable Description Statistics

Source	Practice Mindful Breathing	Practice Mindful Sitting	Academic Stress
Mean	135.85	129.06	132.83
Median	136	129	133
Mode	136	129	133
Std. Deviation	3.29	1.63	3.26
Variances	10.81	2.64	10.65
Range	16	8	16
Minimum	128	125	125
Maximum	144	133	141
Sum	11140	10583	10892

Source: Attachment data, processed with Microsoft Excel

Classic assumption test

Normality test

The normality test is carried out to determine whether the data sample was taken from a normally distributed population or not. The advantage of the results of this test is that it is simple and does not cause differences in perception between one observer and another observer. The normality test method that can be used to test residual normality is Kolmogorov-Smirnov. Basis for making decisions based on significance:

- 1) If the significance value is > 0.05 then the population is normally distributed.
- 2) If the significance value is ≤ 0.05 , the population is not normally distributed (Olofsson & Andersson, 2012:369-375)

The results of the normality test on the mindful breathing practice variable (X_1), the mindful sitting practice variable (X_2), and the academic stress variable (Y) are presented in table 2.

Table 2. Kolmogorov-Smirnova Variable Normality Test Results X_1 , X_2 , and Y

Variable	Kolmogorov-Smirnov ^a		
	Statistics	df	Significance
Practice Mindful Breathing (X_1)	0.117	82	0.08
Practice Mindful Sitting (X_2)	0.119	82	0.06
Academic Stress (Y)	0.118	82	0.06

Source: Attachment data, processed using the SPSS 25 for Windows program

From the output table of the Kolmogorov-Smirnov normality test using the SPSS 25 for Windows program above, it was found that the significance value was greater than 0.05. Thus, the normality assumptions or requirements in the regression model have been met.

Linearity Test

The research data linearity test was carried out using the SPSS 25 for Windows program with the following criteria:

- 1) If the significant value is > 0.05 , then the variables X and Y are linear.
- 2) If the significant value is < 0.05 , then the variables X and Y are not linear.

Table 3. Linearity Test Results with F Test at Significance Level $\alpha = 0.05$

Variable Pair		Linearity		Deviation from Linearity	Information
Free	Bound	F Count	F Table	Sig.	
X ₁	Y	1.547	2.138	0.165	linear
X ₂	Y	1.636	2.138	0.139	linear

Source: Attachment data, processed using the SPSS 25 for Windows program

From the table of linearity test results using the SPSS 25 for Windows program, it shows that F is a deviation from linearity with significance > 0.05 . Thus it can be concluded that the correlation between the independent variables (X₁ and X₂) and the dependent variable (Y) has a linear relationship.

Multicollinearity Test

The multicollinearity test aims to test whether the regression model finds a correlation between the independent variables. A good regression model should have no correlation between independent variables. To determine the presence of multicollinearity in the regression model, it can be seen from the Tolerance and Variance Inflation Factor (VIF) values. The multicollinearity test of the research data was carried out using the SPSS 25 for windows program with the following criteria:

- 1) Based on the Tolerance value:
Tolerance > 0.10 there is no multicollinearity.
Tolerance < 0.10 occurs multicollinearity.
- 2) Based on the Variance Inflation Factor (VIF) value:
VIF value < 10 does not occur multicollinearity.
VIF value > 10 occurs multicollinearity.

Table 4. Multicollinearity Test Results for Variables X1, X2 and Variable Y

Model	Collinearity Statistics		
	tolerance	VIF	
<i>(Constant)</i>			
1	Practice Mindful Breathing	0.993	1.007
	Practice Mindful Sitting	0.993	1.007

Source: Attachment data, processed using the SPSS 25 for Windows program

From the table of multicollinearity test results using the SPSS 25 for windows program, it can be seen that the overall Tolerance value is > 0.10 and the VIF value is < 10 . In the SPSS multicollinearity results table there are no multicollinearity problems based on several indicators, especially VIF and Tolerance, so it is concluded that there is no multicollinearity problem. multicollinearity occurs in the data.

Heteroscedasticity Test

The method used to test heteroscedasticity in this study is the Linear Regression from the SPSS 25 program for windows with the Scatterplot graphical method and the Glejser method. The Scatterplot graph is generated by entering the Studentized Residual (SRESID) variable on the Y axis and the Standardized Predicted Value (ZPRED) variable on the X axis. The basis for making decisions with the Scatterplot graph is as follows:

- 1) If a regular pattern is seen in the distribution of the dots, such as a wave pattern with varying widths, it indicates the occurrence of heteroscedasticity.
- 2) If there is no clearly visible pattern or the points are scattered above and below the zero value on the y axis, then it can be concluded that there is no heteroscedasticity.

For the Glejser Method, the basis for decision making is as follows:

- 1) If the significance value is > 0.05 then heteroscedasticity does not occur.
- 2) If the significance value is < 0.05 then heteroscedasticity occurs.

Based on the tests that have been carried out, a significance value is obtained as shown in table 5 and figure 1.

Table 5. Test Results Heteroscedasticity of Variables X1 and X2 (Glejser Method)

Variable	Sig.
Practice Mindful Breathing (X_1)	0.125
Practice Mindful Sitting (X_2)	0.734

From the test results table heteroscedasticity by using the SPSS 25 for Windows program, it can be seen that the overall significance value is > 0.05 . In the test results table heteroscedasticity SPSS can conclude that this did not happen heteroscedasticity in that data.

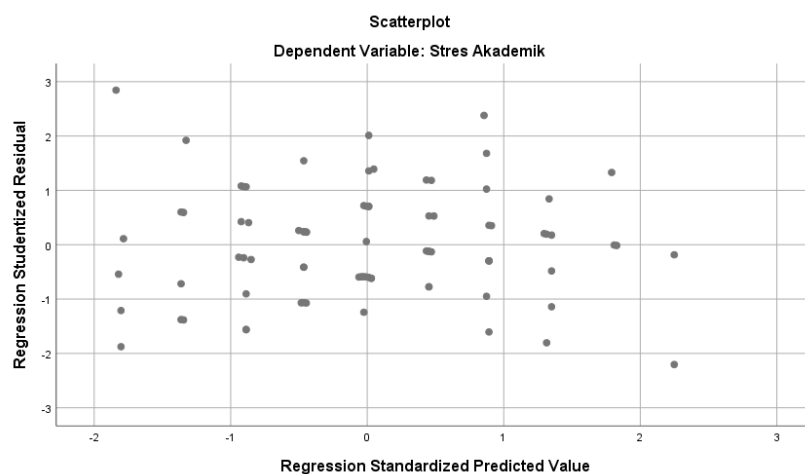


Figure 1. Test Results Variable heteroscedasticity X1 and X2 (Scatterplot method)

From the graphic image, it can be seen that the dots spread randomly, do not form a clear pattern and spread out. This means that there is a constant variance and there is no heteroscedasticity.

Autocorrelation Test

Autocorrelation test in this study using the Durbin Watson value. The criteria in the Durbin Watson test are:

- 1) If $0 < d < dL$, it means there is positive autocorrelation.

- 2) If $4-dL < d < 4$, it means that there is a negative autocorrelation.
- 3) If $2 < d < 4-dU$ or $dU < d < 2$, it means that there is no positive or negative autocorrelation.
- 4) If $dL \leq d \leq dU$ or $4-dU \leq d \leq 4-dL$, the test is inconclusive.
- 5) If the value of $dU < d < 4-dU$ then there is no autocorrelation.

The results of the autocorrelation test using the SPSS 25 for windows program that has been carried out can be seen in table 6 as follows:

Table 6. Test Results Autocorrelation Variable X_1 , X_2 and Y

d	dL	dU	4-dL	4-dU
2,266	1.5915	1.6913	2.4085	2.3087

Source: Attachment data, processed using the SPSS 25 for Windows program

From the Durbin Watson autocorrelation test results table above, it can be seen that $dU < d < 4-dU$ with a value of $1.6913 < 2.266 < 2.3087$, so it can be concluded that this does not happen autocorrelation.

Test Analysis

Hypothesis Testing of Mindful Breathing Practices Has a Significant Effect on the Academic Stress of Nanyang Zhi Hui High School Students in Medan

The first hypothesis states that the practice of mindful breathing has a significant influence on the academic stress of Nanyang Zhi Hui Senior High School students. This hypothesis testing was carried out using simple correlation and linear regression techniques. Testing the significance and linearity of the relationship between mindful breathing practice (X_1) and academic stress (Y), can be seen in Table 7.

Table 7. Significance and Linearity Test Results of Academic Stress Regression on the Practice of Mindful Breathing

Source of Variation	JK	dk	RJK	F-count	F-table $\alpha = 0.05$	Information
Regression	57.657	1	57.657	5.653	3.96	Significant
residual	815.953	80	10.199			
Total	873.610	81				

Source: Attachment data, processed using the SPSS 25 for Windows program

Information:

dk = degrees of freedom

JK = sum of squares

RJK = average sum of squares

Based on table 7 above, it can be concluded that $\hat{Y} = 167.481 - 0.255X_1$ with $F\text{-reg} = 5.653$, an effect of 6.6% is significant and linear. Because $F\text{-reg} > F\text{-table}$. Based on the correlation analysis between mindful breathing practice (X_1) and academic stress (Y), $r\text{-count} = 0.257$. This means that $r\text{-count} = 0.257$ is significant at $\alpha = 0.05$ ($r\text{-table} = 0.2146$). Thus the null hypothesis (H_0) which states "there is no significant influence between practice of mindful breathing on academic stress at Nanyang Zhi Hui High School students in Medan" rejected. This means the research hypothesis (H_1) filed is "there is a significant effect between practice of mindful breathing on academic stress at Nanyang Zhi Hui High School students in Medan" accepted.

Hypothesis Testing Mindful Sitting Practices Have a Significant Influence on the Academic Stress of Nanyang Zhi Hui High School Students in Medan

The second hypothesis states that the practice of mindful sitting has a significant influence on the academic stress of Nanyang Zhi Hui Medan High School students. This hypothesis testing was carried out using simple correlation and linear regression techniques. Testing the significance and linearity of the relationship between mindful sitting practice (X_2) and academic stress (Y), can be seen in Table 8.

Table 8. Significance and Linearity Test Results of Academic Stress Regression on Mindful Sitting Practices

Source of Variation	JK	dk	RJK	F-count	F-table $\alpha = 0.05$	Information
Regression	51.020	1	51.020	4.062	3.96	Significant
residual	822.590	80	10.282			
Total	873.610	81				

Source: Attachment data, processed using the SPSS 25 for Windows program

Information:

dk = degrees of freedom

JK = sum of squares

RJK = average sum of squares

Based on table 8 above, it can be concluded that $\hat{Y} = 195.453 - 0.485X_2$ with $F_{reg} = 4.962$ an effect of 5.8% is significant and linear. Because $F_{reg} > F_{table}$. Based on the correlation analysis between the practice of mindful sitting (X_2) and academic stress (Y) obtained $r_{count} = 0.427$. This means that $r_{count} = 0.242$ is significant at $\alpha = 0.05$ ($r_{table} = 0.2146$). Thus the null hypothesis (H_0) which states "there is no significant effect between practice of mindful sitting on academic stress of Nanyang Zhi Hui Senior High students in Medan" rejected. This means the research hypothesis (H_1) filed is "there is a significant effect between practice of mindful sitting on academic stress of Nanyang Zhi Hui Senior High students in Medan" accepted.

Hypothesis Testing The Practice of Mindful Breathing and Mindful Sitting Together Have a Significant Influence on the Academic Stress of Nanyang Zhi Hui High School Students in Medan

The third hypothesis states that the practice of mindful breathing and mindful sitting together has a significant influence on the academic stress of Nanyang Zhi Hui High School students in Medan. Testing this hypothesis was carried out using multiple linear regression techniques and partial correlation. The test results are as follows:

1) Multiple Linear Regression Analysis

Testing the significance of the multiple linear regression equation is presented in Table 9

Table 9. Results of the Significance and Linearity Test of Multiple Regression of Academic Stress on the practice of Mindful Breathing and Mindful Sitting

Source of Variation	JK	dk	RJK	F-count	F-table $\alpha = 0.05$	Information
Regression	118.761	2	59.380	6.215	3.11	Significant
residual	754.849	79	9.555			

Total 873.610 81

Source: Attachment data, processed using the SPSS 25 for Windows program

Information:

dk = degrees of freedom

JK = sum of squares

RJK = average sum of squares

Based on table 9 above, it can be concluded that $\hat{Y} = 195.453 - 0.277X_1 - 0.533X_2$ with $F\text{-reg} = 6.215$ ($p < 0.05$) is significant with an effect (R square x 100) of 13.6%. Thus the null hypothesis (H_0) which states "Together, there is no significant effect of the practice of mindful breathing and mindful sitting on the academic stress of Nanyang Zhi Hui High School students in Medan" is rejected. This means that the proposed research hypothesis (H_1), namely "Together, there is a significant effect of the practice of mindful breathing and mindful sitting on the academic stress of Nanyang Zhi Hui High School students in Medan" is accepted. To find out a summary of the regression analysis and multiple regression of the dependent variable on the independent variables, see Table 10.

Table 10. Summary of Multiple Regression and Regression Analysis of Dependent Variables Against Independent Variables

Variable	Regression Equations	Ry	Fcount	Ry2	SE(%)	Note
$X_1 - Y$	$\hat{Y} = 167.481 - 0.255 X_1$	0.257	5.653	0.066	7.1703	Sig
$X_2 - Y$	$\hat{Y} = 195.453 - 0.485 X_2$	0.242	4.962	0.058	6.413	Sig
$X_1 X_2 - Y$	$\hat{Y} = 195.453 - 0.277 X_1 - 0.533 X_2$	0.369	6.215	0.136	-	Sig

Source: Attachment data, processed using the SPSS 25 for Windows program

2) Partial Correlation

The partial correlation technique used is the second level correlation. This is intended to determine the relationship between the independent variable and the dependent variable, by controlling the other independent variables. Based on analysis using SPSS 25 for Windows program, the results obtained are as in table 11.

Table 11. Results of Partial Coefficient Significance Test for Mindful Breathing Practice and Mindful Sitting Practices with Academic Stress

Partial Correlation	r count	r table	Information
r_{1y-2}	0.287	0.2185	Significant
r_{2y-1}	0.274	0.2185	Significant

Source: Attachment data, processed using the SPSS 25 for Windows program

Information:

r_{1y-2} = correlation between the mindful breathing practice variable on academic stress controlled by the mindful sitting practice variable.

r_{2y-1} = correlation between the mindful sitting practice variable on academic stress controlled by the mindful breathing practice variable.

Based on table 11 above, it can be concluded that the partial correlation between the practice of mindful breathing variable and the practice of mindful sitting variable on academic stress has a value of $r\text{-count} > r\text{-table}$, so that a relationship is obtained between the practice of mindful breathing variable on academic stress and the presence of the control variable of mindful sitting practice, and the

relationship between the practice of mindful sitting variable on academic stress and the presence of the control variable of mindful breathing practice is significant.

DISCUSSION

The Effect of Mindful Breathing Practices on Academic Stress

The results of partial data analysis show that the mindful breathing practice variable has a significant effect on the academic stress variable. This is indicated by the significance probability of 0.020 which is much smaller than 0.05. In line with research conducted by Hyunju Cho, et al. revealed that daily mindful breathing exercises and cognitive assessment practices can effectively reduce anxiety(Cho et al., 2016:1-10). Further research conducted by Maria Komariah, et al. revealed that breathing meditation can be applied to students to improve psychosocial well-being and concentration(Komaria et al., 2023:1-13). The regression coefficient for the mindful breathing practice variable with the academic stress variable is -0.255 . This figure shows that there is a negative relationship or an inverse relationship between the mindful breathing practice variable and the academic stress variable, with a weak relationship category. In other words, if the other independent variables are constant then every increase in the mindful breathing practice variable (X_1), will result in a decrease in the academic stress variable for Nanyang Zhi Hui Medan High School students (Y), and vice versa. The correlation value (R) between the mindful breathing practice variable and the academic stress variable is 0.257, with a coefficient of determination (R square) value of 0.066, meaning that the influence of the mindful breathing practice variable on the academic stress variable is 6.6%. It can be concluded that the practice of mindful breathing affects the academic stress of Nanyang Zhi Hui High School students.

The Effect of Mindful Sitting Practices on Academic Stress

The results of partial data analysis show that the variable of mindful sitting practice has a significant effect on the academic stress variable. This is indicated by the significance probability of 0.029 which is much smaller than 0.05. In line with research conducted by John E. Lothes, et al. revealed that the practice of online mindful sitting over a 5-week period showed a significant reduction in student test anxiety(Lothes et al., 2022:1-9). Further research conducted by James Carmody and Ruth A. Baer revealed that formal meditation practice at home (body scanning, yoga, sitting meditation) is associated with increased aspects of attention and several indicators of well-being, as well as increased psychological functioning, which can reduce stress symptoms in the individual who does it(Carmody & Baer, 2008:23-33). The regression coefficient for the mindful sitting practice variable with the academic stress variable is -0.485 . This figure indicates that there is a negative or inverse relationship between the practice of mindful sitting and the academic stress variable, with a fairly strong relationship category. In other words, if the other independent variables are constant, then every increase in the variable of mindful sitting practice (X_2), will result in a decrease in the academic stress variable for Nanyang Zhi Hui Medan High School students (Y), and vice versa. The correlation value (R) between the mindful sitting practice variable and the academic stress variable is 0.242, with a coefficient of determination (R square) value of 0.058, implying that the influence of the mindful sitting practice variable on the academic stress variable is 5.8%. It can be concluded that the practice of mindful sitting influences the academic stress of Nanyang Zhi Hui High School students.

The effect of Mindful Breathing Practice and Mindful Sitting Practice on Academic Stress

Based on the test results of the third hypothesis, it shows that the practice of mindful breathing and the practice of mindful sitting together (simultaneously) has an effect on the academic stress of Nanyang Zhi Hui High School students by 13.6%, with the variable mindful breathing practice providing an effective contribution of 7.17% while the variable mindful sitting practice provides an effective contribution of 6.41%.

CONCLUSION

Based on the data that has been collected and the tests that have been carried out using the multiple linear regression method, the following conclusions can be drawn; (1) there is a significant effect between the practice of mindful sitting on the academic stress of Nanyang Zhi Hui High School students in Medan, with an effect of 6.6%, (2) there is a significant effect between the practice of mindful sitting on the academic stress of Nanyang Zhi Hui High School students in Medan, with the effect 5.8%, and (3) together, there is a significant influence between the practice of mindful breathing and the practice of mindful sitting on the academic stress of Nanyang Zhi Hui High School students in Medan, with an effect of 13.6%.

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