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Efficacy of Twin Heart Meditation in Enhancing Psychological Well-Being among Students of Secondary School Level in Pokhara, Nepal

Laxmi Gurung[1], Rocky Maharjan[2], Binita Khadka[3], Anju Lama[4], Anju Rayamajhi[5], Indira Acharya[1], Sapana Gurung[5], Rajendra Lakhe[6], & Sarita KC[7]

[1] Associate Professor, Nepalese Army Institute of Health Sciences (NAIHS)
[2] Lecturer, Mangal Multiple Campus
[3] Lecturer, Patan Multiple Campus
[4] Instructor, Pranic Light Healing Centre
[5] Lecturer, Nepalese Army Institute of Health Sciences (NAIHS)
[6] Principal, Sainik Awasiya Mahavidhyalaya, Pokhara
[7] Professor, Nepalese Army Institute of Health Sciences (NAIHS)
Corresponding Author: Rocky Maharjan, rockymaharjan222@gmail.com

Abstract

Twin Heart Meditation (THM) is a popularly used meditative practice which focuses on activating the heart and crown chakras. It is known for its potential to cultivate loving-kindness, compassion, and spiritual connection, thereby enhancing psychological well-being. This study evaluates the efficacy of THM in reducing psychological distress a secondary-level school students in Pokhara, Nepal. Employing a quasi-experimental single-group pretest-posttest design, the study involved 182 students from Sainik Awashiya Mahavidhyalaya, selected through convenience sampling procedure. The Depression Anxiety Stress Scale (DASS-21) and Ryff's Psychological Well-Being Scale (RPWBS) were administered to assess psychological well-being before and after a four-week THM intervention. Results demonstrated significant reductions in stress, anxiety, and depression, along with positive changes in select dimensions of psychological well-being. The results were organized into four main themes: stress and THM, anxiety and THM, depression and THM, and psychological well-being and THM. These findings suggest that integrating THM into educational settings could effectively promote mental health and ease psychological distress among students.

Keywords: Anxiety, depression, mindfulness, psychological well-being, stress, Twin Heart Meditation

Introduction

Meditation plays a crucial role in promoting psychological well-being, which is essential for students' academic success, personal growth, and overall happiness. The focus on psychological well-being is growing among students, particularly those who are dealing

with academic stress and personal challenges. Psychological well-being is a multidimensional concept and more than the absence of a mental disorder; it involves the presence of positive features like life satisfaction, personal growth, and quality relationships with others (Keyes, 2002). Ryff's psychological well-being concept includes autonomy, environmental mastery, personal growth, relationships with others, a sense of purpose in life, and self-acceptance (Ryff, 1989). These elements assist individuals in managing stress, fostering relationships, and handling academic pressures, social integration, and career uncertainties (Suldo et al., 2011).

Psychological well-being is crucial in educational settings as it influences students' motivation and academic performance. Suldo et al. (2011) found that students with higher psychological well-being demonstrate better academic success, healthier relationships, and increased motivation. Conversely, individuals experiencing distress often exhibit poor performance, high dropout rates, anxiety, depression, and burnout. Therefore, enhancing psychological well-being is essential for holistic development.

Twin Heart Meditation (THM), developed by Master Choa Kok Sui, is based on the activation of two major *Chakras*: the heart *Chakra* and the crown *Chakra*, to induce feelings of love, compassion, and spiritual union with higher power (Sui, 1990). This form of meditation, known as Loving-Kindness Compassion Meditation, encompasses aspects of mindfulness and compassion, promoting emotional regulation and alleviating stress (Karunamuni & Weerasekera, 2019). The distinctive emphasis of THM on enhancing both individual and communal well-being, highlighted by its focus on cultivating loving-kindness towards oneself as well as others, sets it apart from alternative medicine practice (Zeng et al., 2015). Meditation has been documented in several studies to be important for improving mental health. A meta-analysis by Sedlmeier et al. (2012) shows that meditation practices, including mindfulness and Transcendental Meditation, significantly reduce symptoms of anxiety and depression, alleviate stress, and promote positive feelings and thoughts. Without meditation and concentration, only workloads and social problems negatively impact individuals' mental health. Academic pressure, career apprehensions, and social circle pressures heighten stress and anxiety (Pascoe et al., 2020). Stress-reduction and emotion capacity-building strategies, such as THM, can help enhance psychological well-being in school contexts by cultivating positive feelings and spiritual connections.

Meditation offers several benefits in educational settings, including improved job satisfaction, enhanced performance, and greater concentration. Studies show that incorporating mindfulness meditation practices like THM into academic routines can improve stress management and overall mental health (Sedlmeier et al., 2012). These findings indicate that the integration of meditation practice, such as THM into the academic routine may provide skills for better stress management and improve the general mental health of students.

Research on the effects of Twin Heart Meditation (THM) in stressful environments like military schools is limited. This shows a need for interventions that can improve mental toughness and emotional resilience (Pascoe, 2020). Traditional approaches have mostly focused on reactive strategies, but there is a growing demand for proactive initiatives to enhance students' psychological well-being and resilience.

Research on the specific effects of THM in highly stressful settings like military schools is limited, highlighting the need for interventions that positively impact mental toughness and emotional resilience (Pascoe, 2020). Traditional approaches have primarily focused on reactive strategies, but a growing call for proactive initiatives is being made to build psychological well-being and resilience among students.

This study addresses the gap by evaluating the efficacy of Twin Heart Meditation (THM) on the psychological well-being of students. The objectives of the study are to assess the effectiveness of regular Twin Heart Meditation (THM) practice in reducing symptoms of stress, anxiety, and depression, as well as to examine its effectiveness in enhancing the psychological well-being of students.

Methods

Research Design

This study uses a quasi-experimental design with a single group and a pretest-posttest approach to evaluate how effective Twin Heart Meditation is in improving the psychological well-being of secondary school students. The students' psychological well-being was measured before and after they participated in regular Twin Heart Meditation sessions.

Population and Sampling

The study focused on secondary school students at Sainik Awashiya Mahavidhyalaya in Pokhara, Nepal. Participants were selected using a convenience sampling procedure, targeting those who were willing and available to join the study.

Sample Size

A total of 182 students were included in the study based on specific inclusion and exclusion criteria. Only students aged 16 years and older who provided informed consent were selected. Participants were excluded if they had previously engaged in meditative practices other than Twin Heart Meditation (THM) or if they had significant health issues, such as chronic heart disease, glaucoma, or high blood pressure. Additionally, those who did not attend THM sessions consistently for four weeks were removed from the study.

Assessment Tools and Data Analysis

To assess the participants' psychological states, the study used the Depression Anxiety Stress Scale-21 (DASS-21), developed by Lovibond and Lovibond (as cited in Choulagai et al., 2022), to measure stress, anxiety, and depression levels. The Ryff's Psychological Well-Being Scale (RPWBS), which has Cronbach alpha was 0.88 (Lee, 2019), was also administered to evaluate participants' psychological well-being before and after the four-week THM sessions.

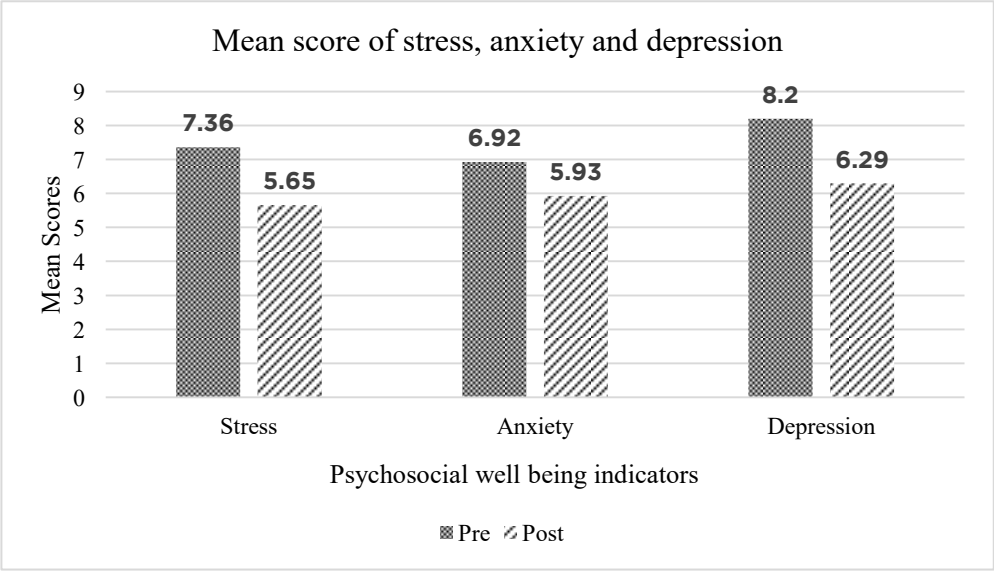
The collected data were analyzed using a paired sample t-test to identify significant changes in stress, anxiety, depression, and psychological well-being levels pre- and post-THM intervention. The results were then organized into four main themes: stress and THM, anxiety and THM, depression and THM, and psychological well-being and THM.

Results and Discussion

Meditation has long been recognized for its benefits in reducing stress and improving mental well-being. Building on this understanding, this study examined the effectiveness of Twin Heart Meditation (THM) on psychological well-being. The study sought THM's efficacy in reducing stress, anxiety, and depression. The results demonstrated that THM effectively lowered levels of stress, anxiety, and depression, leading to improved psychological well-being among the participants.

Figure 1

Mean Score of Stress, Anxiety, and Depression



The mean scores on stress, anxiety, and depression have shown a decreasing trend after the intervention of a 4-week-long THM practice among the respondents. The pre-test and post-test mean scores indicate the effectiveness of THM practice for psychosocial well-being. The pre-test means scores after the intervention of THM have decreased from 7.36 to 5.65 (stress), 6.92 to 5.93 (anxiety), and 8.2 to 6.29 (depression). This study is categorized into different themes for further analysis of the findings: stress and THM, anxiety and THM, depression and THM, and psychological well-being and THM.

Stress and THM

The effects of THM on stress are discussed in this section. The mean score of stress level was 7.36 before intervention and reduced to 5.65 after intervention (see figure 1). The table below shows the frequency of stress levels before and after the intervention THM.

Table 1

Frequency of Stress Level

	Pre-Stress Level		Post-Stress Level	
	Frequency	Percent	Frequency	Percent
Normal	169	92.9	177	97.3
Mild	13	7.1	3	1.6
Moderate	0	0	2	1.1
Total	182	100.0	182	100.0

The data presented shows a considerable improvement in the stress, anxiety, and depression levels of secondary school-level students after a 4-week-long intervention of THM. Before the intervention, most students, 169 out of 182 (92.9%), reported normal stress levels, with just a tiny minority, 13 students (7.1%) feeling mild stress. Following the intervention, the number of students reporting normal stress levels increased to 177 (97.3%), showing that the cohort's overall stress levels had improved. This implies that Twin Heart Meditation has a significant (See Table 2) impact on lowering stress among students. Notably, the number of students with mild stress reduced to just 3 (1.6%), and while there was a modest appearance of moderate stress in two students (1.1%), severe stress levels stayed at zero both pre and post-intervention. The drop in mild stress levels from 7.1% to 1.6% emphasizes the favorable effect of increasing normal stress from 92.9% to 97.3% demonstrating the effectiveness of meditation practice in stress reduction.

Paired Sample t-test of Stress, Anxiety and Depression

The paired t-test is given in Table 4 below to infer the efficacy of THM in the reduction of stress, anxiety, and depression scores of participants.

Table 2

Paired Samples T-test of Stress, Anxiety and Depression

					95% Confidence Interval of the Difference				
		Mean	SD	SEM	Lower	Upper	T	Df	Sig. (2-tailed)
Pair 1	Pre-Stress–Post-Stress	1.709	5.012	.372	.976	2.442	4.599	181	.000
Pair 2	Pre-Anxiety–Post-Anxiety	.995	4.800	.356	.292	1.697	2.795	181	.006
Pair 3	Pre-Depression–Post-Depression	1.912	5.702	.423	1.078	2.746	4.524	181	.000

The paired t-test to compare the stress scores before and after intervention of THM showed a significant difference in the scores of pre-stress (M=7.36, SD=4.297) and post-stress (M=5.65, SD=4.065) intervention; t(181)= 4.599, p=.000. The mean stress score showed a reduction of 1.71 points post-intervention, indicating that the students experienced a significant decrease in stress levels as a result of the meditation practice.

A significant reduction in stress levels observed in this study aligns with a substantial body of research highlighting the benefits of meditation and mindfulness practices in educational settings. The presence of moderate stress in 1.1% of students after the intervention may indicate individual differences in reaction to the meditation or environmental factors not accounted for in the study. Overall, the statistics show that Twin Heart Meditation is a viable method for stress management in secondary-school level students, hence improving their psychological well-being. The studies by Osama et al. (2023), and Komariah et al. (2023) have demonstrated that school-based meditation programs can effectively reduce stress and improve emotional regulation among adolescents. Similarly, a meta-analysis by Zoogman et al. (2015) highlighted that mindfulness and meditation interventions effectively reduce stress and improve psychological outcomes among youth. The results of this study support the previous findings and demonstrate a significant increase in the number of students that report normal stress levels after the THM intervention.

Anxiety and THM

The effects of THM on anxiety are discussed under this theme. The mean score of anxiety level was 6.92 before intervention and reduced to 5.93 after intervention (see figure 1). The table below shows the frequency of anxiety levels before and after intervention.

Table 3

Frequency of Anxiety Level

	Pre-Anxiety Level		Post Anxiety Level	
	Frequency	Percent	Frequency	Percent
Normal	109	59.9	121	66.5
Mild	22	12.1	19	10.4
Moderate	42	23.1	36	19.8
Severe	9	4.9	5	2.7
Extremely Severe	-	-	1	.5
Total	182	100.0	182	100.0

The overall anxiety levels after the intervention of THM have shown a decreased pattern with the drop-down percentage on anxiety levels i.e. 1% to 0.5% (extremely severe), 4.9% to 2.7% (severe), 23.1% to 19.8% (moderate) and 23.1% to 19.8% (mild) with increasing the normal anxiety level from 59.9% to 66.5% after the THM intervention.

The paired sample t-test (see Table 2) indicated a significant difference in the scores of pre-anxiety (M=6.92, SD=4.270) and post-anxiety (M=5.93, SD=4.521) intervention; t(181)= 2.795, p=.006.The mean anxiety score showed a reduction of 0.99 points post-intervention indicating moderate improvement in anxiety levels, although the reduction is less pronounced compared to stress and overall psychological distress.

The improvement in anxiety levels above corresponds with previous research by Osama et al. (2023), Komariah et al. (2023), and Zoogman et al. (2015), which found that mindfulness and meditation interventions significantly reduce anxiety and improve coping skills among youth. The reduction in severe anxiety levels from 4.9% to 2.7% post-intervention in this study is particularly noteworthy. This finding supports the potential of the THM intervention to reduce intense anxiety symptoms in students. Similarly, Biegel et al. (2009) demonstrated improvement after mindfulness-based cognitive therapy (MBCT). The result also aligns with the findings of Harris et al. (2016), who reported that mindfulness-based stress reduction (MBSR) programs in schools significantly decreased stress and anxiety among educators. However, the emergence of very severe anxiety in one student post-intervention suggests that while THM is generally effective, it may not be suitable for all students. This corresponds with findings by Burke (2012) that individual differences can influence the effectiveness of mindfulness and meditation practices, necessitating a more personalized approach for some individuals.

Depression and THM

The effects of THM on depression are discussed below. The mean score of depression level was 8.2 before intervention and reduced to 6.29 after intervention (see figure 1). The table below shows the frequency of depression levels before and after intervention.

Table 4

Frequency of depression level

	Pre-Depression Level		Post Depression Level	
	Frequency	Percent	Frequency	Percent
Normal	118	64.8	135	74.2
Mild	40	22.0	29	15.9
Moderate	20	11.0	16	8.8
Severe	4	2.2	2	1.1
Extremely Severe	-	-	-	-
Total	182	100.0	182	100.0

After the intervention, the number of students who reported normal depression levels increased from 118 (64.8%) to 135 (74.2%). This considerable rise (by roughly 9.4 percentage points) indicates that Twin Heart Meditation helped the students' mental health by lowering their depressive symptoms. The proportion of students with mild depression decreased from 22.0% (40 students) to 15.9% (29 students). Similarly, the percentage of students with moderate depression fell from 11.0% (20 students) to 8.8% (16 students). Severe depression levels also decreased, with the number of students dropping from 4 (2.2%) to 2 (1.1%). These reductions show that the meditation practice was effective in helping students progress from mild and moderate depression to normal levels. It also reduced the overall severity of depressive symptoms in those who did not fully return to normal.

The result further showed a significant difference (see Table 2) in the scores of pre-depression (M=8.20, SD=4.966) and post-depression (M=6.29, SD=5.191) intervention; t(181)= 4.524, p=.000. The mean depression score decreased by 1.91 points after the intervention, indicating a significant reduction in depressive symptoms. This reflects the effectiveness of the meditation practice in helping students with depression.

The findings on depression are consistent with previous research showing the efficacy of meditation in reducing depressive symptoms. Studies by Fu et al. (2024) have reported that meditation and mindfulness practices significantly lower psychological distress and improve mood among students. The reduction in severe depression levels from 2.2% to 1.1% is significant and aligns with the findings by Kuyken et al. (2013) and Biegel et al. (2009) who studied mindfulness-based interventions. The finding is supported by the work of Schonert-Reichl and Lawlor (2010), who found that mindfulness practices in schools significantly improved emotional regulation and reduced depressive symptoms in students.

The study found that THM effectively reduces stress by promoting positive and refined emotions. Regular mindfulness meditation lowers cortisol levels, which is a key physiological marker of stress (Pascoe, 2017). THM activates the heart Chakra which is

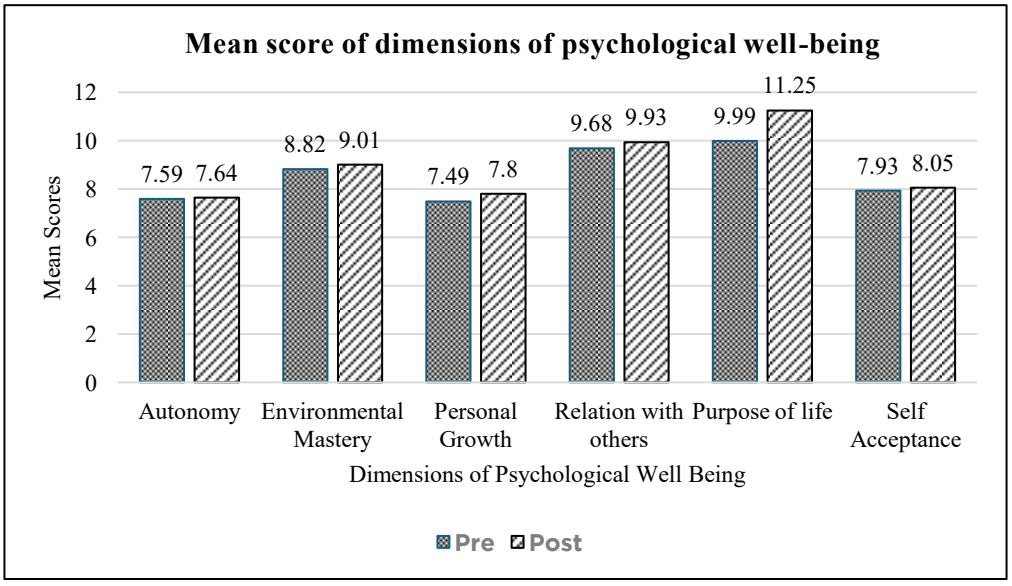
related to positive refined emotions like love, peace, and compassion (Sui, 1990) and triggers the parasympathetic nervous system, which counteracts the physiological effects of anxiety. THM also helps reduce symptoms of depression by building emotional strength and improving self-esteem. By focusing on positive feelings like love and kindness, THM encourages positive thinking (Sui, 1990).

Psychological Well Being (PWB)

This study found slight increase in all the dimensions of psychological well-being before and after the intervention of THM but no significant difference in the scores of overall PWB (p=0.412). There was also no significant difference in the scores of the pre-and post-test on psychological well-being dimensions like autonomy (p=0.867), environment mastery (p=0.478), personal growth (p=0.225), positive relations with others (p=0.393), and self-acceptance (p=0.582). The significant difference was found only in the sub dimension purpose in life (p=0.000).

Figure 2

Mean Score of Dimensions of Psychological Well-being



The figure displays the mean score of dimensions of psychological well-being which shows slight increases in all six dimensions before and after intervention.

Paired Sample t-Test of Psychological Well-being

The paired t-test is given in Table 5 below to infer the efficacy of THM in the psychological well-being of participants.

Table 5

Paired Samples Test of Psychological Well-being

					95% Confidence Interval of the Difference				
		Mean	SD	SEM	Lower	Upper	T	Df	Sig. (2-tailed)
Pair 1	Pre-Autonomy–Post-Autonomy	-.049	3.971	.294	-.630	.531	-.168	181	.867
Pair 2	Pre-Mastery – Post-Mastery	-.187	3.541	.262	-.705	.331	-.712	181	.478
Pair 3	Pre-Growth – Post-Growth	-.313	3.471	.257	-.821	.195	-1.217	181	.225
Pair 4	Pre-Relation – Post-Relation	-.253	3.981	.295	-.835	.329	-.857	181	.393
Pair 5	Pre-Purpose – Post-Purpose	-1.253	4.288	.318	-1.880	-.626	-3.941	181	.000
Pair 6	Pre-Self Acceptance – Post-Self Acceptance	-.126	3.090	.229	-.578	.326	-.552	181	.582

This table presents the paired samples test results for differences in psychological well-being and its subdimensions before and after the intervention. The mean difference is small and not statistically significant (p=.412). The intervention had a statistically significant effect only on the purpose of life subdimension of psychological well-being. Other dimensions, including autonomy, environmental mastery, personal growth, positive relationship with others and self-acceptance did not show significant changes.

Autonomy

There was no significant difference in the scores of pre-autonomy (M=7.59, SD=3.187) and post-autonomy (M=7.64, SD=3.395) intervention; t(181)=-.168, p=.867. There is a slight increase in the mean score for autonomy, suggesting a minor improvement in the students' sense of self-governance post-intervention. The small change in the mean score indicates that the Twin Heart Meditation had a limited impact on this dimension of psychological well-being.

Environmental Mastery

There was no significant difference in the scores of pre-environment mastery (M=8.82, SD=3.137) and post-environment mastery (M=9.01, SD=2.671) intervention; t(181)=-.712, p=.478.The mean score for environmental mastery shows a modest increase, indicating an improvement in the student's ability to manage and control their

environment. This suggests that meditation may have enhanced their competence in handling life's demands.

Personal Growth

There was no significant difference in the scores of pre-personal growth (M=7.49, SD=2.613) and post-personal growth (M=7.80, SD=3.058) intervention; t(181)=-1.217, p=.225. There is a slight increase in the mean score for personal growth, reflecting a positive change in the students' sense of continuous development and realization of their potential. This indicates a beneficial effect of the meditation practice on this aspect of well-being.

Positive Relations with Others

There was no significant difference in the scores of pre-relation with others (M=9.68, SD=3.505) and post-relation with others (M=9.93, SD=3.711) intervention; t(181)=-.857, p=.393. The slight increase in the mean score for positive relations with others suggests a minor improvement in the quality of the students' relationships. This may imply that the meditation practice helped to enhance their interpersonal connections.

Purpose in Life

There was a significant difference in the scores of pre-purpose in life (M=9.99, SD=3.527) and post-purpose in life (M=11.25, SD=3.326) intervention; t(181)=-3.941, p=.000. The increase in the mean score for purpose in life indicates an enhanced sense of meaning and direction among the students post-intervention. Loving-Kindness Meditation like THM reduced negative emotions by fostering inner peace, compassion, and mental clarity which help individuals reflect on their values and life goals (Wasowicz et al., 2021). This suggests that meditation practice contributed positively to their overall sense of purpose in life.

Self-Acceptance

There was no significant difference in the scores of pre-purpose in life (M=7.93, SD=2.821) and post-purpose in life (M=8.05, SD=2.874) intervention; t(181)=-.552, p=.582.The mean score for self-acceptance shows a small increase, reflecting a slight improvement in the students' positive attitudes toward themselves. This suggests that the meditation practice had a beneficial effect on their self-regard.

Psychological Well-Being and THM

Interestingly, the intervention did not lead to a significant change in most of the dimensions of psychological well-being (PWB) scores which could be due to only four weeks long THM intervention. As the study of Noor et al. (2024) mentioned the

significant improvements in overall well-being often require longer or more intensive mindfulness practice. Deci and Ryan's Self-Determination Theory (Deci & Ryan, 2000) mentioned that autonomy and environmental mastery may be influenced by broader contextual factors beyond individual interventions which could be the reason for insignificant differences between these two studied parameters. Further, Garland et al. (2015) reported that mindfulness practices can enhance individuals' perceived control over their environment, although substantial changes might require longer practice periods

The research findings from Shapiro et al. (2008) mentioned that meditation practices can foster personal growth and self-realization over time. The intervention led to non-significant improvement in the quality of students' relationships complied with the finding from Ciarrochi et al. (2011) that mindfulness practices can improve social relationships, although these improvements may not always be statistically significant in the short term.

Steger et al. (2008) noted that mindfulness and meditation interventions significantly enhance individuals' sense of purpose and life satisfaction. Additionally, Neff and Germer (2013) suggested that meditation can improve self-acceptance, but noticeable changes may require sustained practice.

The findings of insignificant changes in purpose of life and self-acceptance may be due to the short-term nature of the interventions. These outcomes could improve with longer-term practice of the THM intervention.

Stress, anxiety, and depression are negatively associated with psychological well-being (Rahimnia et al. 2013). This study found that high levels of these factors lead to diminished psychological well-being before THM intervention. The significant reduction in stress, anxiety, and depression levels after four-weeks of THM intervention among students highlights the potential of THM as an effective tool for managing psychological well-being in educational settings. Integrating such practices into school curricula could foster a supportive environment for emotional and psychological well-being, addressing mental health challenges proactively.

Conclusion and Recommendations

The findings of this study highlight the significant benefits of Twin Heart Meditation (THM) that enhances psychological well-being among secondary-school level students. The intervention demonstrated a considerable reduction in stress, anxiety, and depression levels, therefore, underscoring its efficacy as a mental health management tool. While the overall psychological well-being scores did not show significant changes, the increase in a sense of purpose suggests that THM can help students cultivate a stronger sense of

direction, which is essential in academic and personal growth. These results advocate for the integration of meditation practices like THM into school curricula to promote emotional stability and mental health.

The findings of this study suggest the need for future research that examines the sustained impact of THM on mental health across diverse student demographics. Such studies can provide insights into how consistent meditation practices influence well-being over time and across different contexts.

Additionally, combining THM with other mental health interventions, such as counseling or peer support systems, may offer a more comprehensive approach to mental health care. Future research should explore the impact of such integrated interventions on students' mental health outcomes and their ability to develop coping skills.

Individual differences, including personality traits and cultural factors, also merit further exploration. Understanding these variations can help refine THM practices to meet the unique needs of diverse student groups. Schools and researchers should also assess the feasibility of implementing THM interventions in varied educational settings, particularly in resource-constrained environments. Identifying practical challenges and potential adaptations can facilitate the broader adoption of meditation practices in schools.

By addressing these areas, future research can deepen our understanding of THM's potential and offer practical strategies for enhancing mental health and psychological well-being among students.

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