

Mindfulness meditation reduces perception of stress among undergraduate students

II. Keywords: Mindfulness Meditation, Stress, Stress Management, Self-Efficacy, General Self-Efficacy Scale

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ii

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The authors have none to declare.

VII. *Conflict of Interest Statement (for all authors)*

The authors have no conflict of interest to declare.

VIII. *Data Accessibility statement*

This research project subscribes to the ethical principles of the conduct of research involving human subjects mandated by the Philippine Health Research Ethics Board and relevant national and international organizations. This project was also screened and approved by the Internal Ethical Review Board the College of Rehabilitative Sciences at Southwestern University-PHINMA

Objective. To determine the effect of six weeks of yoga and meditation on medical students' levels of perceived stress and sense of wellbeing prior to taking their exams. Methods. We conducted a prospective case-control study of first-through-third-year medical students at our academic institution, measuring levels of perceived stress and sense of wellbeing before and after a six-week yoga and meditation intervention. Questionnaires used for evaluation included

Mindfulness reduces stress among undergraduates

the perceived stress scale (PSS) and self-assessment surveys (SAS). The postintervention surveys were completed on the day of the students' written exams. Results. A total of thirteen women and fourteen men participated. Median age was 28 (24 yrs–32 yrs). 48.1% were Caucasian, 7.4% Black, 11.1% Hispanic, 11.1% Asian, and 22.2% other. Paired -tests showed a statistically significant reduction in perceived stress (18.44 versus 14.52;) after the six-week yoga and meditation program. After the yoga intervention, self-assessment survey results showed a significant improvement in feelings of peace, focus, and endurance. Improvements in happiness, positivity, personal satisfaction, and self-confidence were also seen. An improvement in unsubstantiated parameters such as patience and fatigue was observed. Conclusion. Yoga and meditation may be effective in reducing stress levels and improving aspects of personal wellbeing in medical students.

Keywords: Mindfulness Meditation, Stress, Stress Management, Self-Efficacy, General Self-Efficacy Scale

Subject classification codes: include these here if the journal requires them

Abstract

Mindfulness meditation can improve self-efficacy in college students. However, long term practice will provide more benefits such as promoting better emotional health with students having difficulty in coping with stress. The goal of this research is to recognize consistent improvements over time following mindfulness meditation as stress management and effectiveness for college students.

Introduction

Stress is an important and necessary aspect of everyday life, because without it, there is no stress. Stress is inevitable and it has to do with some adverse incident that could be satisfying or dangerous. A person's response to stress relays whether an incident is considered a challenge or a threat. Challenging situations can lead to positive effects, such as encouragement and increased work success while threatening or traumatic, which can lead to anxiety, depression, social instability, and even suicidal intent. Stress is constantly experienced as a psychological phenomenon that encompasses the interpretation and reaction of a person to some intimidating occurrence. It is important to remember that stress can have both positive and negative effects on individuals. This means that tension can be a positive, adaptive response to an incident viewed as a threat. Its job is to wake up and brace individuals to take defensive actions.(Saleh Baqutayan, 2015)

Mindfulness reduces stress among undergraduates

Due to the negative effect of stress on wellbeing, people have diverse coping styles to cope with stressors. Coping, thus, is characterized as a range of conscious behaviors and mental attempts to cope with a traumatic occurrence or circumstance with the intention of mitigating its negative consequences. Coping requires a specific cognitive appraisal of whether a person feels that he or she is capable of coping with a traumatic situation. Coping can take various types, such as emotional-focused coping, in which people concentrate on mitigating adverse emotional responses, and problem-focused coping, which focuses on finding realistic solutions to overcome difficult conditions or approach and avoidance stress coping styles. (Affleck et al., 1984)

Students can theoretically encounter various forms of stress that can impact their mental and emotional wellbeing and academic achievement. Students of this stage may face academic stressors such as exams, assignments, tasks and other college requirements. The failure to meet these expectations, as well as the deficiencies, leaves students to feel stressed. The physical environment, including location, buildings with teaching and learning facilities, transportation access and other services provided to students on campus, can intensify the stress of students. Social well-being is also a deciding factor for successful learning. The social environment and its complexity: a vast number of individuals, peer dynamics and the essence of human social relationships, the intolerable misbehavior of others and sexual relations have an effect on the social well-being of learners. Stress impacts students' social and physical health. For example, students with high levels of stress appear to feel less healthy, poor self-esteem, and are more likely to follow such health risk behaviors. (Bamuhair et al., 2015)

In response to a variety of occupational stimuli, stress is encountered by medical students. This includes the loss of time spent with loved ones, the accumulation of substantial financial debt, and sexual assault or professional violence. It can be profoundly difficult to deal with human suffering and mortality challenges. Finally, in short, time spans, working to learn increasing the volume of learning may lead to academic tension. Investigators also stated that the most difficult conditions that students faced in medical school is the need to do well on tests and preparing for and taking exams. Medical students have been known to have a high rate of degradation of the quality of life-related to working hours and risky habits of work-related activity. Approximately % of medical

Mindfulness reduces stress among undergraduates

students experience burnout in the United States, 25% have depression, and many suffer from persistent anxiety. The capacity of students to develop good patient relationships have been undermined, resulting in feelings of inadequacy. This has been related to frustration that persists in the internship and possibly clinical practice.

Coping has been used as a stabilizing mechanism that even during stressful events can assist a participant in psychosocial adaptation. Effective time management, peer support, positive reassessment and commitment to leisure activity include the means of coping frequently used by students to relieve stress. Emotional coping also requires taking responsibility and self-denial, and this kind of coping in the first year of medical school is helpful, although the trend has changed in later years.(Yikealo & Tareke, 2018)

Literature Review

Mindfulness meditation is also an advancement in mental health activity and can include intervention techniques and reform ideas. Meditation is also one of the psychological methods to be used to successfully relieve stress and to treat depression, anxiety and other bodily dysfunctions caused by stress. (Lynch et al., 2011) They considered mindfulness meditation methods to enhance concentration, well-being and stress reduction. The key aim of mindfulness meditation is to put your consciousness into the current moment, without being distracted by insignificant thoughts. When our minds are interrupted or diverted, we do not know that we are detached from the moment, contributing to workplace implications. When we find ourselves concentrated on the current moment, our outlook is generally strengthened. (Bamuhair et al., 2015)

A short history of cognitive-behavioral frames of reference, cognitive-behavioral therapy (CBT) has existed on the basis of both behavioral and cognitive human behavior, combined as a target and intervention targeting strategy. CBT has incorporated the idea of reduction and habituation. Then incorporate cognitive therapy with social learning through cognitive theory. The strong center of CBT was to learn about self-talk and problem-solving, contributing to control of cognitive and emotional processes. The goal of CBT is to eradicate ill-adapted behavior that creates harmful thinking that alter the cognitive function. Irrational thinking and cognitive disorders are the main causes of CBT, particularly those who frequently take part in ill-adapted behavior, who have depressed moods due to upsetting or irrational thoughts. The purpose of therapy is to change and maintain the primary thinking of the individual. (Benjamin et al., 2011)

Research of mindfulness meditation for stress control may be a learning paradigm among college students who are academically stressed or may be outside the academic field. This will further increase students' concentration and knowledge of their own drive and self-efficiency in their everyday lives. The research aim is to help college students grow in their learning area and to be successful enough to combat stressors with rising workloads.

With this research, it could be beneficial to improve the number of students with an established emphasis in their studies and to plan for potential stressors. It is meant to encourage occupational therapy in order to recognize and enhance adaptation in the conditions of the students in which we live.

Materials and Methods

Study Design and Settings

The research is a quantitative / cohort design that assesses the effectiveness of mindfulness meditation as self-efficacy, enhancing meditation as part of everyday stress control occupations of college students.

Research Respondents

The participants of this study were undergraduate college students having stress management concerns. This is to benefit for enhancement of academic focus leading to the success of the individuals in coping with stress despite elevated and the demands of academic load.

Power Analysis and Sample Size Determination

Convenient sampling was used to determine the sample size. The power analysis that was calculated using G power and the effect size was determined by similar studies. Total sample size obtained was 21 and the total achieved power was 0.8172279. However, only 19 respondents were able to participate in the intervention since they were the only students that have met the inclusion criteria.

Sampling Design

This study is a convenience sampling due to time constraint and resource.

Mindfulness reduces stress among undergraduates

Data Collection Instrument

A letter of approval was sent to college students a week before the intervention was performed. After a week of intervention starts, students will respond to the GSE, a brief summary, purpose and orientation of the intervention. The researcher would perform the actual meditation intervention with the respondents. After the intervention, the class group responded to the individual stressors and their input on the intervention. Students were advised to write a diary for the next three weeks to see personal self-efficacy while performing mindfulness meditation on a regular basis.

The researcher used the General Self-Efficacy Scale (GSE) as a test tool. It consists of 10 items and is a self-reported measure of self-efficacy. The GSE is determined by finding the number of all items and the overall score is between 10 and 40, with a higher score suggesting more self-efficacy.

Statistical Analysis

The data was analyzed in IBM SPSS Ver. 22. Participants were scaled up using the General Self-Efficacy Scale between the first week and the last week of the experiment. During the last week of the whole 6-week intervention, the researcher collected evidence before and after the scale findings that would act as a basis for the success of mindfulness therapy as a stress relief practice. The statistical approach used was a paired sample test to assess its meaningful difference before and after intervention.

Ethical Considerations

This research project subscribes to the ethical principles of the conduct of research involving human subjects mandated by the Philippine Health Research Ethics Board and relevant national and international organizations. This project was also screened and approved by the Internal Ethical Review Board of the College of Rehabilitative Sciences in Southwestern University PHINMA

Results

Based on the related information gathered using the General Self-Efficacy Scale, the results were tabulated and evaluated and interpreted in order to achieve the aims of the research, which is to assess progress over time, before and after the implementation of mindfulness meditation in the everyday life of college students with a demanding

workload. In terms of self-efficacy, the respondents reported improvements (positive) in terms of stress control and self-efficacy before and after intervention in the form of mindfulness meditation.

Hypothesis testing for the changes of self-efficacy before and after intervention:

The pair samples test was used to test the efficacy of mindfulness meditation, before and after the scale scores were assessed by the General Self-Efficacy Scale. The p-value was used to see a meaningful shift using 0.05 levels of meaning. IBM SPSS ver. Was used to assess the effects of the paired samples.

Mindfulness meditation increases productivity and lowers tension levels when maintained. It has been acquired that there is an improvement in measures in the use of the General Self-Efficacy Scale for college students. The findings have been found to prove its assertion that mindfulness therapy has an effect on students' stress control.

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Mindfulness reduces stress among undergraduates

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Tables

| resp# | BEFORE | | | | | | | | | | AFTER | | | | | | | | | | | |
|-------|--------|----|----|----|----|----|----|----|----|-----|-------|----|----|----|----|----|----|----|----|----|-----|-------|
| | q1 | q2 | q3 | q4 | q5 | q6 | q7 | q8 | q9 | q10 | total | q1 | q2 | q3 | q4 | q5 | q6 | q7 | q8 | q9 | q10 | total |
| 1 | 2 | 3 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 16 | 4 | 3 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 37 |
| 2 | 3 | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 19 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 39 |
| 3 | 2 | 2 | 3 | 3 | 4 | 3 | 2 | 2 | 2 | 2 | 25 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | 3 | 4 | 4 | 35 |
| 4 | 4 | 3 | 2 | 3 | 2 | 4 | 1 | 2 | 2 | 2 | 25 | 3 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 35 |
| 5 | 3 | 3 | 2 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 26 | 4 | 3 | 4 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 38 |
| 6 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 3 | 25 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 39 |
| 7 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | 2 | 24 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 35 |
| 8 | 3 | 2 | 2 | 2 | 3 | 3 | 1 | 3 | 3 | 1 | 23 | 4 | 3 | 4 | 4 | 4 | 4 | 3 | 4 | 3 | 1 | 34 |
| 9 | 3 | 3 | 4 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 29 | 3 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 1 | 4 | 33 |
| 10 | 4 | 1 | 3 | 4 | 3 | 3 | 4 | 4 | 3 | 4 | 33 | 4 | 4 | 4 | 4 | 3 | 4 | 3 | 4 | 4 | 4 | 38 |
| 11 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 25 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 4 | 3 | 2 | 36 |
| 12 | 3 | 1 | 2 | 2 | 3 | 4 | 4 | 3 | 3 | 3 | 28 | 4 | 1 | 4 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 36 |
| 13 | 4 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 4 | 3 | 34 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 4 | 4 | 4 | 38 |
| 14 | 4 | 4 | 3 | 3 | 2 | 4 | 2 | 3 | 3 | 3 | 31 | 4 | 4 | 3 | 4 | 3 | 3 | 4 | 4 | 3 | 4 | 36 |
| 15 | 3 | 3 | 3 | 4 | 3 | 4 | 4 | 3 | 2 | 2 | 31 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 37 |
| 16 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 38 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 39 |
| 17 | 3 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 31 | 4 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 39 |
| 18 | 4 | 4 | 4 | 3 | 4 | 3 | 3 | 3 | 4 | 4 | 36 | 3 | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 36 |
| 19 | 3 | 3 | 2 | 2 | 3 | 2 | 3 | 3 | 3 | 3 | 27 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 38 |

| Paired Samples Statistics | | | | |
|---------------------------|--------|-------|----|----------------|
| | | Mean | N | Std. Deviation |
| Pair 1 | BEFORE | 27.68 | 19 | 5.568 |
| | AFTER | 36.74 | 19 | 1.821 |

| Paired Samples Test | | | | |
|---------------------|----------------|--------|----|---------|
| | | t | df | p-value |
| Pair 1 | BEFORE - AFTER | -7.107 | 18 | .000 |

Appendices

Appendix A: Research Instruments

General Self-Efficacy Scale (GSE)

About: This scale is a self-report measure of self-efficacy.

Items: 10

Reliability:

Internal reliability for GSE = Cronbach's alphas between .76 and .90

Validity:

The General Self-Efficacy Scale is correlated to emotion, optimism, work satisfaction. Negative coefficients were found for depression, stress, health complaints, burnout, and anxiety.

Scoring:

| | Not at all true | Hardly true | Moderately true | Exactly true |
|---------------|-----------------|-------------|-----------------|--------------|
| All questions | 1 | 2 | 3 | 4 |

The total score is calculated by finding the sum of the all items. For the GSE, the total score ranges between 10 and 40, with a higher score indicating more self-efficacy.

References:

Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). Windsor, UK: NFER-NELSON.

Appendix B: Communication and Certifications



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Permission granted

to use the General Self-Efficacy Scale for non-commercial research and development purposes. The scale may be shortened and/or modified to meet the particular requirements of the research context.

<http://userpage.fu-berlin.de/~health/selfscal.htm>

You may print an unlimited number of copies on paper for distribution to research participants. Or the scale may be used in online survey research if the user group is limited to certified users who enter the website with a password.

There is no permission to publish the scale in the Internet, or to print it in publications (except 1 sample item).

The source needs to be cited, the URL mentioned above as well as the book publication:

Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp.35-37). Windsor, UK: NFER-NELSON.

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Appendix C: Informed Consent Form

TITLE OF STUDY

Mindfulness meditation reduces perception of stress among undergraduate students.

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PURPOSE OF STUDY

You are encouraged to take part in the research study. Before you confirm to participate and engage with the study, it is important to understand the purpose, the process and how is it done. Please read the information carefully. If you need to clarify something about the research study information, please ask the researcher. The purpose of this research study is to promote the role of stress management and its efficacy to college students. For the college students to deal with high academic stressors. This will provide the college students a better opportunity to experience and to learn what is mindfulness meditation in their academics, thus it will lead a developing awareness towards self, focus and to enhance the success of clinical practice of meditation.

STUDY PROCEDURES

First year undergraduate students, ages 17 years old and above, will be included in the student. Subjects will be evaluated through General Self-Efficacy Scale (GSE) and mindfulness meditation improvements. Participants will practice mindfulness meditation on the first week and will apply on the succeeding 3 weeks, a total of 6 weeks. They will be answering the GSE before and after one month, to look over improvements on self-management. 44 RISKS Participants of the research study have no improvement in coping stress is always a risk for mental issues due to decreased coping mechanisms.

BENEFITS

Benefits are given if you participate in this study, one of which is the free treatment sessions given for free to the participants. Improvements in stress management may also increase the coping mechanisms when the academic workload is demanding.

CONFIDENTIALITY

If you desire to keep your identity private when participating in the research, results shall be kept between the participant and investigator. I have read and understood the provided information regarding the study, or it has been read to me clearly. I can ask questions about the research study and is satisfied with the benefits. My participation is voluntary and I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this research study.

Student's Name: _____ Date: _____

Student's Signature: _____ Mindfulness reduces stress among undergraduates