Fall 4-23-2024

Stepping into Mindfulness: Enhancing Mental Health for Nursing Student Athletes

Amanda A. Marek
University of Texas at Tyler, amarek@patriots.uttyler.edu

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Amanda Marek

The University of Texas at Tyler, School of Nursing

For NURS 5382: Capstone

Dr. J. Michelle Nelson

April 23, 2024

Contents

Acknowledgments

I would like to express my deepest appreciation to my professors Dr. J. Michelle Nelson, Dr. Danice B. Greer, and Dr. Gloria Duke for their amazing support. Their guidance and commitment to academic excellence have been instrumental in my success as an MSN student. The valuable feedback they provided significantly contributed to the development of this project, and I am truly thankful for their mentorship and the knowledge they have imparted to me. I would also like to give a special thanks to Esmeralda Rodgers for her dedicated assistance in navigating through databases and teaching me the necessary skills to search through literature. Furthermore, I would like to extend my appreciation to my family and friends, especially my parents and best friend, for their constant support and encouragement as I continue my education. Their boundless love, guidance, and belief in my abilities have been the driving force behind my academic pursuits and goals.

Executive Summary

This capstone project explores the impact of mindfulness practice on nursing student athletes, aiming to understand how mindfulness techniques can enhance their psychological well-being. The project investigates the intersection of mindfulness and addresses the unique challenges and stressors face by nursing student athletes. The project proposals a research study that focuses on how mindfulness can impact nursing student athletes. There is literature that shows how mindfulness can improve stress and mental disorders for nursing students and student athletes separately, but there is a lack of knowledge on how this may affect nursing students who are also student athletes.

Mindfulness based interventions have been shown to improve psychological well-being in both nursing students and student athletes. Nursing students have reported significant reduction in levels of stress, anxiety, and depression after practicing mindfulness (Holden & O'Connell., 2023). Moreover, student athletes have reported the same outcomes on psychological well-being (Shannon et al., 2019). Therefore, the same effects should apply to individuals who are considered nursing student athletes.

The literature review of 12 research studies reveals consistent findings across both nursing students and student athletes. Because mindfulness practices show positive outcomes on mental health issues, the proposed research project outlines steps for conducting an eight modified mindfulness-based stress reduction program (MBSR) involving 20 nursing student athletes across multiple universities. Volunteer instructors will be recruited and trained to deliver consistent mindfulness sessions, while participants will engage in the sessions supplemented by daily mindfulness exercises. A control group will not receive interventions, expected outcomes for the intervention group include improved stress, anxiety, and depression.

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Mindfulness has been identified as a promising method for improving the psychological well-being of various populations. The proposed research study will focus on nursing student athletes, a group that has been overlooked. Despite existing evidence, there is a lack of research specifically examining the effects of mindfulness interventions tailored to meet the unique needs of nursing student athletes. This research project aims to fill this gap in literature by studying the impact of mindfulness on this particular group. By analyzing existing knowledge and insights from relevant studies, the project aims to highlight the possible benefits of mindfulness practices in improving the well-being and performance of nursing student athletes. This information will be valuable in developing future interventions and support systems within the educational curriculum.

Rationale for the Project

The prevalence of mental health issues among college students has seen a significant increase since 2013 (Lipson et al., 2022). Poor mental health in nursing students and student athletes can have a negative impact on their academic performance and overall satisfaction with life. A study by the American College Health Association in 2019 found that 38% of students reported higher-than-average levels of stress, 23% experienced overwhelming anxiety in the past year, and 8% stated that depression affected their academic performance. Furthermore, 49% of students reported not receiving any information from their college or university on stress reduction strategies. Specifically for nursing students, Maharshi et al. (2021) noted that nursing students often experience high levels of stress due to demanding assignments, exams, and workloads during their education.

According to Grandner et al. (2019) in the International Olympic Committee consensus statement, mental health disorders affect 5% to 35% of athletes, and 7.3% of deaths among collegiate athletes are attributed to suicide, often stemming from untreated mental illnesses. The NCAA conducted a survey in 2021 which revealed that mental health disorders among student-athletes remain 1.5 to 2 times higher since the onset of the COVID-19 pandemic. A randomized controlled trial is proposed to address these issues with nursing student athletes. The PICOT question that it used for the proposed research study will be as follows: In nursing student athletes with low psychological well-being (P), how does mindfulness training (I) compared to no mindfulness-based interventions (C) affect mental health (O) within the first semester of nursing school (T)?

Literature Synthesis

Mindfulness shows potential as a valuable tool for enhancing the psychological well-being of student athletes and nursing students. Mindfulness based interventions (MBIs) have been associated with improvements in self-awareness, reductions in stress, depression, and anxiety in nursing students (Chen et al., 2021; Henrich & O'Connell, 2024; Holden et al., 2023, Lu et al., 2023; Okafor et al., 2023; Spadaro et al., 2021) and student athletes (Ajilchi et al., 2021; Cote et al., 2019; Gross et al., 2018; Minkler et al 2021; Myall et al., 2022; Shannon et al., 2019). While there is limited research on mindfulness specifically for nursing student athletes, this review will delve into the impact of mindfulness on these two distinct populations.

A comprehensive literature search was conducted to gather insights into existing knowledge, theories, and findings related to Mindfulness-Based Interventions (MBIs). A total of 12 research studies were identified from various reputable search engines including Google Scholar, PubMed, EBSCO, SPORTDiscus, and the Robert R. Muntz database, and were

subsequently included in the literature review. The search was guided by key terms such as "mindfulness," "college athletes," and "nursing students." Specifically, articles focusing on the impact of mindfulness on either nursing students or student athletes were selected for inclusion in the review, with six studies specific to student athletes and the remaining six specific to nursing students.

Of the six studies that demonstrate the effects of mindfulness on student athletes, four of them show that practicing mindfulness has positive effects in reducing stress levels (Cote et al., 2019; Gross et al., 2018; Myall et al., 2022; Shannon et al., 2019). The results are significant as high levels of stress can negatively affect various aspects of well-being, including mental health, cognitive functioning, emotional stability, physical health, and overall quality of life (Shannon et al., 2019; Heinrich & O'Connell, 2023). Mindfulness techniques such as deep breathing exercises promote relaxation and help student athletes cultivate a sense of calmness and equanimity even in the face of stressors (Cote et al., 2019; Myall et al., 2022; Shannon et al., 2019). By cultivating present-moment awareness and acceptance, student athletes demonstrate strong mental fortitude and improve their ability to manage stress by enhancing their composure and resilience, which reduces the tendency to react impulsively or catastrophically (Ajilchi et al., 2021; Gross et al., 2018). Meanwhile, research has shown the same effects on nursing students. All six articles that included nursing students in their sample showed a negative correlation between mindfulness interventions and stress (Chen et al., 202; Henrich & O'Connell, 2024; Holden et al., 2023; Lu et al., 2023; Okafor et al., 2023). Chen et al. (2021) emphasized the importance of stress management for nursing students to prevent burnout. The nursing profession in the United States is currently experiencing a shortage, and failure to address stress among

nursing students can lead to a significant attrition rate in undergraduate programs and therefore worsening the nursing shortage (Okafor et al., 2023).

Two recent qualitative studies have demonstrated that both student athletes and nursing students have noticed improvements in how they handle academic and personal stressors when they prioritize focusing on the task at hand (Cote et al., 2019; Spadaro & Hunker, 2021). Cote et al. (2019) found that the primary skill that student athletes received from mindfulness included obtaining greater awareness of distraction and normalizing negative internal experience such as thoughts and sensations. Spadaro & Hunker (2021) had similar findings that showed mindfulness helps nursing students concentrate and identify when they are feeling tense. Developing skills such as awareness of distractions, concentration, and emotion regulation through MBIs can be valuable in managing stress both academically and in daily life.

Reduced anxiety has also been found to be linked to mindfulness practices. Research from 8 out of the 12 studies included in the literature review indicates that mindfulness training has shown to be beneficial when reducing anxiety in student athletes (Cote et al., 2019; Gross et al., 2018; Minkler et al., 2021; Myall et al., 2022) and nursing students (Chen et al., 2021; Henrich & O'Connell, 2024; Holden et al., 2023; Spadaro & Hunker, 2021). These groups often experience high-pressure situations that can lead to heightened emotions and anxiety. By practicing mindfulness, individuals have greater control over their emotions, enabling them to respond positively (Chen et al., 2021; Cote et al., 2019; Gross et al., 2018; Spadaro & Hunker 2021). Developing the ability to regulate emotions, including anxiety, through mindfulness is a valuable skill that can benefit individuals in various contexts. Research conducted by Gross et al. (2018) and Minkler et al. (2021) has demonstrated that mindfulness training can provide student athletes with the tools needed to effectively manage their emotions. While there is limited

research specifically focusing on the impact of mindfulness on emotion regulation in nursing students, a study by Spadaro and Hunker (2021) found that nursing students were able to utilize mindful breathing techniques to help them relax and regain control in moments of tension.

Lastly, depression is a significant factor impacting psychological well-being for nursing students and student athletes. Three out of the 12 studies reviewed have shown promise in demonstrating N Among these studies, Chen et al. (2021) specifically highlighted a significant reduction in depression symptoms among nursing students. However, the studies conducted by Holden et al. (2023) and Myall et al. (2022) did not show statistically significant results for either nursing students or student athletes. While the impact of mindfulness on depression may not be as robust as its effects on stress and anxiety, the evidence suggests that mindfulness interventions may still be beneficial in alleviating depressive symptoms. By promoting stress reduction, enhancing emotional regulation, and improving overall mental well-being, mindfulness interventions serve as a valuable tool in managing depression within environments that are overwhelming. (Chen et al., 2021; Holden et al., 2023; Myall et al., 2022).

Project Stakeholders

The key stakeholders involved in the proposed research study include nursing student athletes, nursing faculty members, coaches, academic advisors, and university administrators. It is essential to gain a deep understanding of the challenges and requirements of nursing student athletes to ensure the success of this project. Collaboration across disciplines among stakeholders is crucial in promoting the mental well-being of nursing student athletes. The primary stakeholders are the nursing student athletes, as they will be directly impacted by the findings and recommendations of this research. Additionally, nursing faculty members play a significant role in shaping the educational environment and curriculum for nursing student athletes, making

their perspectives and insights invaluable. Nursing faculty members and coaches act as mentors and guides for nursing student athletes, contributing to their overall growth and well-being. Their involvement is crucial in implementing strategies that support a healthy balance between academic demands and athletic responsibilities. Coaches can provide valuable support as they spend significant time with nursing student athletes during practices, games, and days of traveling. In addition, stakeholders from related fields, such as academic advisors and university administrators, can offer insights and assistance throughout the study. All stakeholders can assist with the upholding of ethical principles of informed consent, data privacy, participant well-being, and autonomy.

Implementation Plan

The first step of this proposed study is to identify suitable locations for implementation. The research will be carried out across various universities to ensure a sufficient number of participants (n=22). The sample size was determined by referencing the literature review, which indicated an average of 22 participants. However, I only included articles that had 30 or below participants in the calculations. Due to the limited availability of nursing-student athletes, it is necessary to involve multiple universities in the intervention. Following the selection of universities, the next step will be to obtain Institutional Review Board approval from each university and recruit volunteers to serve as instructors for the mindfulness sessions. These volunteers will be sourced from the faculty and coaching staff at the chosen universities. Information about the study will be communicated via email to solicit volunteers. Once volunteers have been recruited, they will be provided with a training session video and a guide to ensure consistency in the delivery of the mindfulness intervention across all participating universities.

Thirdly, 20 nursing-student athletes above the age of 18 will be recruited for the study through email invitations containing a link to provide electronic consent to participate. Prior to participating in the mindfulness program, online questionnaire data will be collected to gather information on participant demographics such as age, gender, race/ethnicity, sport involvement, university enrollment, and program progression. To participate in the study, the students are required to be enrolled in nursing school and a member of a collegiate sports team at their university. Following the selection and training of volunteers, the intervention will commence once a minimum of 22 nursing student-athletes have agreed to take part in the study.

Finally, it is important to note that the control group will not receive any interventions, while the experimental group will be participating in an 8-week modified Mindfulness-Based Stress Reduction (MBSR) program as outlined in the study conducted by Lin et al. (2018). Participants will be randomly assigned to either group by using a computer-generated random numbers system. This program will involve weekly 1-hour mindfulness sessions and exercises led by volunteers, along with daily 10-minute mindfulness meditation exercises to be completed at home using the university learning management system.

Timetable/Flowchart

Timeline for research study:

- Week 1 – Seek approval of the Institutional Review Board of each university
- Week 2 - Gather volunteers to teach the sessions and obtain participants for the study.
- Week 3 – Obtain consent forms and demographic data.
- Week 4 – Train volunteers to follow the MSBR program and gather pre-test scores of the participants.

- Week 5-12 – Implement the MBSR program and teach participants how to complete the daily 10-minute mindfulness meditation videos.
- Week 13 – Gather post-test scores and conduct interviews to evaluate the intervention. All quantitative and qualitative data will be completed by this point in the study.

Data Collection Methods

After conducting a randomized controlled trial, quantitative data will be gathered using the DASS-21 (see appendix C), a shorter version of the Depression Anxiety Stress Scale. This 21-item self-report scale, based on the original instrument developed by Lovibond and Lovibond in 1995, will be utilized in the research study. As a Likert-type scale that is publicly available, no formal permission is required for its use. The DASS-21 will be administered both at the beginning and conclusion of the 8-week Mindfulness-Based Stress Reduction (MBSR) program. SPSS will be utilized to conduct a mixed analysis of variance to determine any potential interactions between group assignment and time points (pretest and posttest). Following the program, individual interview sessions will be arranged to assess participants' feedback and experiences (see Appendix D). During the 8-week sessions, volunteers will track participant attendance in the intervention group to effectively manage attrition and monitor program participation. If a participant is absent more than three times, they will be deemed a dropout from the intervention and will not be included in the data analysis.

Evaluation

To assess the impact of mindfulness on the psychological well-being of nursing student athletes, a combination of descriptive and inferential statistics will be utilized. Descriptive statistics, including mean and standard deviation, will be calculated using independent and paired t tests to analyze pretest and posttest scores of both the control and experimental groups. An

analysis of variance (ANOVA) will be conducted to compare stress levels, anxiety, depression, and overall psychological well-being between the control and intervention groups. Additionally, post-intervention interviews with participants in the intervention group will be analyzed using Interpretive Phenomenological Analysis (IPA) to gain insight into their personal experiences and reflections on the mindfulness program.

Cost/Benefit Analysis

The cost for this study is considered to be low. Individuals who volunteer, such as teachers and coaches, will be given a $100 gift card, while participants will receive a $25 gift card upon completion of the study. Additional expenses include a maximum of $50 per week for providing water and snacks during the 1-hour mindfulness sessions conducted in person. The cost of the training video and guide for the volunteers who will be leading the sessions is estimated to be around $500. This research study is budget friendly as it requires minimal equipment. A total budget of $3,000 will be allocated to cover all mentioned expenses and any unforeseen costs that may arise during the study.

Discussion of Results

It is anticipated that the results will demonstrate the potential of a mindfulness-based program in enhancing psychological well-being by reducing symptoms of stress, anxiety, and depression. By the end of the project, nursing student athletes should report feelings that reflect a healthy state of mind and an increase in psychological well-being. Nursing student athletes are expected to incorporate mindfulness practice into their routine to better manage the challenge of being both a nursing student and a student athlete.

The benefit of this study includes students having a way to cope with their stressors of being a college student who is enrolled in nursing school and participating in sprots. Nursing

student athletes, like healthcare professionals, can be at risk of experiencing burnout due to the demanding nature of their studies and future careers. Mindfulness may improve the retention of nursing students as they learn how to adapt to their responsibilities. Furthermore, this research will contribute to the existing scientific literature on mindfulness interventions, providing valuable insights into the mechanisms through which mindfulness can positively impact different populations, including nursing student athletes.

Conclusions/Recommendations

In summary, this research proposal sets the stage for future investigations into the impact of mindfulness on the mental health and well-being of nursing student athletes. Although the study was not able to be carried out as part of this capstone project, the proposed research underscores the potential benefits of incorporating mindfulness interventions to address the unique challenges faced by this group. Through prioritizing collaboration, stakeholders can join forces to enhance the understanding of mindfulness and its relevance in nursing education and athletic development.

Based on the findings and insights from this research proposal, several recommendations emerge for further exploration of the effects of mindfulness on the mental health of nursing student athletes. It is suggested that a pilot study be conducted to assess the feasibility and effectiveness of the proposed mindfulness intervention on a smaller scale. This would enable refinement of study protocols, assessment tools, and intervention components before progressing to a larger study. Additionally, incorporating longitudinal elements into the study design to evaluate the long-term impact of mindfulness interventions is recommended. Tracking participants over an extended period would yield valuable insights into the durability and enduring effects of mindfulness practice.

Advocating for the integration of mindfulness training into nursing education curricula and athletic training programs for nursing student athletes is essential. By collaborating with academic institutions and sports organizations to include mindfulness practices in holistic wellness initiatives, nursing student athletes can gain coping mechanism for their stressors. Ultimately, by embracing mindfulness as a means of self-care and promoting mental health awareness, nursing student athletes can feel empowered to excel both academically and athletically, laying a foundation for lifelong well-being and success.

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Appendix A: Evidence Table

Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
1. Ajilchi, B et. al. (2021). Effect of a mindfulness programme training on mental toughness and psychological well-being of female athletes	NA	RCT	N = 45 Sample: female Sas Attrition = 7%	IV: MAC program DV1: mindfulness DV2: MT DV3: PWB	MIS: Author = Thienot et al. α = 83 SMTQ: Author = Sheard et al. α = 81 PWB: Author = Kashani et al. α = 88	Mixed ANOVA ES	**ANOVA for mindfulness:** F(1, 140) = 12.16, p=0.001, n2 = .0.233) **ES for mindfulness** = 1.09 **ANOVA for MT:** F(1, 140) = 8.55, p=.0.006, n2 = 0.176) **ES for MT** = 0.92 **ANOVA for PWB:**	Level II Strengths • Reasons for three participants dropping out • Control group appropriate • Instruments are valid and reliable • Important outcomes measure • Included 2-month follow-up • Intervention delivered by trained therapists Limitations • Restricted to female SA

Legend: AAQ-II=acceptance and action questionnaire; CCAPS-62=counselling centre assessment of psychological symptoms-62; DERS-SF=difficulties in emotion regulation scale-short form; ESs=standardized effect sized; FAME=flow, anxiety, mindfulness, emotion regulation; IPA =interpretive phenomenological analysis; MAC=mindfulness-acceptance-commitment; MASS=mindfulness attention awareness scale; MAT=monitor and acceptance theory; MBIs=mindfulness-based interventions; MBPs=mindfulness-based programmes; MBSR = mindfulness-based stress reduction program; MIS=mindfulness inventory for sport; MM=mixed-methods; MSPE=mindful sport performance enhancement; MT=mental toughness; NA=not applicable; NRCT=non-randomized controlled trial; NSs=nursing students; PCS=perceived competence scale; PEQ=program evaluation questionnaire; PHLMS=Philadelphia mindfulness scale; PWB= psychological well-being; PRISMA=preferred reporting items for systematic reviews; PSS=perceived stress scale; OUAL = qualitative; QUASI=quasi experimental; RCT=randomized controlled trial SA(s)=student athlete(s); SDT=self-determination theory; SMTQ=sports mental toughness questionnaire; WEMWBS=warwick-edinburgh mental well-being scale

Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
							F(1, 140) = 4.53, p=.04, n2 = 0.102) ES for PWB = 0.67	• Lack of monitoring of intervention • Generalizability may have been affected • Participants were not blind • Possible bias Feasible • Appropriate to replicate into practice. No harm was presented
2. Chen, X. et. al. (2021). The effects of mindfulness-based interventions on	PRISMA	Meta-analysis	N = 10 Inclusions criteria = sample with nursing	IV: MBIs DV1: depression DV2: anxiety	RevMan 5.3	SMD	**Decrease depression:** (SMD = -0.42, 95% CI: 0.56 to 0.28, P < 0.001) **Decrease anxiety:** (SMD = -0.32, 95% CI:	Level 1 Strengths • Only contained RCTs • Studies were relevant • Detailed description of the search

Legend: AAQ-II=acceptance and action questionnaire; CCAPS-62=counselling centre assessment of psychological symptoms-62; DERS-SF=difficulties in emotion regulation scale-short form; ESs=standardized effect sized; FAME=flow, anxiety, mindfulness, emotion regulation; IPA =interpretive phenomenological analysis; MAC=mindfulness-acceptance-commitment; MASS=mindfulness attention awareness scale; MAT=monitor and acceptance theory; MBIs=mindfulness-based interventions; MBPs=mindfulness-based programmes; MBSR = mindfulness-based stress reduction program; MIS=mindfulness inventory for sport; MM=mixed-methods; MSPE=mindful sport performance enhancement; MT=mental toughness; NA=not applicable; NRCT=non-randomized controlled trial; NSs=nursing students; PCS=perceived competence scale; PEQ=program evaluation questionnaire; PHLMS=Philadelphia mindfulness scale; PWB= psychological well-being; PRISMA=preferred reporting items for systematic reviews; PSS=perceived stress scale; OUAL = qualitative; QUASI=quasi experimental; RCT=randomized controlled trial SA(s)=student athlete(s); SDT=self-determination theory; SMTQ=sports mental toughness questionnaire; WEMWBS=warwick-edinburgh mental well-being scale

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nursing students: a meta-analysis			students, MBIs, RCTs, published in Chinese or English Exclusion Criteria = non-nursing students, duplication, data incomplete	D3: stress DV4: mindfulness			0.47 to 0.17, P < 0.001) **Decrease stress:** (SMD = -0.50, 95% CI: 0.65 to 0.35, P < 0.001) **Increase mindfulness:** (SMD = 0.54, 95% CI:0.33–0.75, P < 0.001)	• Described how studies were compared Limitations • Inconsistent measurement tool for the same outcomes • Multiple types of mindfulness intervention protocols were used • Selection bias may have occurred Feasible • Results can be used for practice in some extent No harm was presented

Legend: AAQ-II=acceptance and action questionnaire; CCAPS-62=counselling centre assessment of psychological symptoms-62; DERS-SF=difficulties in emotion regulation scale-short form; ESs=standardized effect sized; FAME=flow, anxiety, mindfulness, emotion regulation; IPA =interpretive phenomenological analysis; MAC=mindfulness-acceptance-commitment; MASS=mindfulness attention awareness scale; MAT=monitor and acceptance theory; MBIs=mindfulness-based interventions; MBPs=mindfulness-based programmes; MBSR = mindfulness-based stress reduction program; MIS=mindfulness inventory for sport; MM=mixed-methods; MSPE=mindful sport performance enhancement; MT=mental toughness; NA=not applicable; NRCT=non-randomized controlled trial; NSs=nursing students; PCS=perceived competence scale; PEQ=program evaluation questionnaire; PHLMS=Philadelphia mindfulness scale; PWB= psychological well-being; PRISMA=preferred reporting items for systematic reviews; PSS=perceived stress scale; OUAL = qualitative; QUASI=quasi experimental; RCT=randomized controlled trial SA(s)=student athlete(s); SDT=self-determination theory; SMTQ=sports mental toughness questionnaire; WEMWBS=warwick-edinburgh mental well-being scale

Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
3. Cote, T. et. al. (2019). A qualitative exploration of division 1 tennis players completing the mindfulness meditation training for sport 2.0 program	Interpretive phenomenological	QUAL	N = 23 Sample = SAs Completed post intervention interview: N = 9 Characteristics M age = 21.3 years	The experience of a MMTS 2.0 protocol is the phenomena being explored	Post program interviews	IPA	**Theme 1**: reprieve from daily stress **Theme 2**: observing and normalizing difficult thoughts and emotions **Theme 3**: use of breath **Theme 4**: improved focus **Theme 5**: help in calming down	Level VI Strengths • Discussed reason for sample size • Results are plausible and believable • Data collection methods are appropriate • Data management processes described • Findings are easy to follow and relevant • Quotes fit the illustrated themes Limitations • Experienced adherence problems during study

Legend: AAQ-II=acceptance and action questionnaire; CCAPS-62=counselling centre assessment of psychological symptoms-62; DERS-SF=difficulties in emotion regulation scale-short form; ESs=standardized effect sized; FAME=flow, anxiety, mindfulness, emotion regulation; IPA =interpretive phenomenological analysis; MAC=mindfulness-acceptance-commitment; MASS=mindfulness attention awareness scale; MAT=monitor and acceptance theory; MBIs=mindfulness-based interventions; MBPs=mindfulness-based programmes; MBSR = mindfulness-based stress reduction program; MIS=mindfulness inventory for sport; MM=mixed-methods; MSPE=mindful sport performance enhancement; MT=mental toughness; NA=not applicable; NRCT=non-randomized controlled trial; NSs=nursing students; PCS=perceived competence scale; PEQ=program evaluation questionnaire; PHLMS=Philadelphia mindfulness scale; PWB= psychological well-being; PRISMA=preferred reporting items for systematic reviews; PSS=perceived stress scale; OUAL = qualitative; QUASI=quasi experimental; RCT=randomized controlled trial SA(s)=student athlete(s); SDT=self-determination theory; SMTQ=sports mental toughness questionnaire; WEMWBS=warwick-edinburgh mental well-being scale

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			Demographics = White, Hispanic, Black, and Asian Setting: northeast region of the U.S.				**Theme 6**: increased confidence **Theme 7**: improved coping with non-sport stressors **Theme 8**: personal growth	• Challenges with environment occurred • Short interviews Feasible • Intervention procedures are adequate for replication and methods can be used to evaluate patient experience of intervention No harm was recorded, some participants felt more stressed at the beginning of intervention
4. Gross, M. et. al. (2018). An empirical examination comparing the	MAC theory	RCT	N = 22	IV1: MAC DV1:	CCAPS-62: Author=Locke et al.	ANOVAS	**Generalized anxiety**: Within-group effect (F (2,26) = 5.50, p = .01, = .30)	Level II Strengths • Addresses gaps in previous literature

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mindfulness-acceptance-commitment approach and psychological skills training for the mental health and sport performance of female student athletes			Sample = female SAs Excluded participant: N = 4 Female athletes included for first analysis: N = 18 Female athletes excluded	Distress Index DV2: Generalized anxiety DV3: Hostility DV4: Emotion regulation	α = 0.82 to 0.92 r = 0.78 to 0.93 AAQ-II: Author=Bond et al., Cronbach's α = 0.84 r = 0.81 and 0.79		**Distress Index:** Within-group effect (F (2, 26) = 3.57, p = .04, =.20) **Hostility:** Within-group effect (F (2, 26) = 3.17, p = .04, = .20 **Significant decreases from post-intervention to one-month follow-up:** Generalized anxiety: p = .00 Distress Index: p = 0.1	• Random assignment concealed • Follow-up assessments were conducted • Reliable and valid instruments • Intervention can be replicated • Data presented clearly Limitations • Small sample size • Low diversity among the sample • Author led one of the MAC groups Feasible • Can be realistically conducted

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Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
			after impression management: N = 15 Female athletes included in final analysis (N=15) Demographics: African-American,		DERS: Author=Gratz and Roemer Test-retest reliability = 0.88		Hostility: p = 0.1 **Emotion Regulation:** ($F(3, 32) = 4.32$, $p = 0.2$, $\eta p^2 = .21$)	No harm was presented

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			Caucasian, Hispanic, Setting: northeastern U.S.					
5. Henrich, S., & O'Connell, K. (2024). The effects of mindfulness meditation on nursing students' stress and anxiety levels	Peplau's interpersonal relations theory	RCT	N=195 Sample = NSs Females = 135 Males = 8 Nonbinary or	IV1: MBSR DV1: stress DV2: anxiety	PSS: Author = Cohen et al. Cronbach's alpha = .752 and .759 GAD-7: Author = Spitzer et al.	ANOVA t-tests	**Stress:** ANOVA $F(1,143) = 13.83$, $p<.001$, $\eta p^2 = .09$ t-test control ($t(62) = 2.31$, $p = .024$, $d = 0.29$)	Level II Strengths • Appropriate sample size • Findings are consistent • Instruments are valid and reliable • Similar demographic between the two groups Limitations • Short follow-up

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			preferred not to say = 2 M age range = 31.8 Attrition = 26% Setting: online		α = .884 and α = .904		Experimental (t (81) = 6.94, p<.001, d=0.77) **Anxiety:** ANOVA F(1,143) = 8.67, p<.004, ηp² = .06 t-test Control (t(62)=4.93, p<.001, d = 0.62) Experimental t(81)=9.56, p<.001, d=1.06	• Sampling bias • High attrition Feasible • Online intervention allows flexibility of practice time No harm was presented

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6. Holden, S. et. al. (2023). Using meditation to reduce stress, anxiety, and depression in nursing students	MAT	RCT	N = 195 Sample: NSs Female = 180 Male = 12 Nonbinary = 1 Not to report sex = 2 Attrition = 26%	IV: mindfulness meditation DV1: stress DV2: anxiety DV3: depression	DASS-21: Author = Page et al. Cronbach's alpha = 0.97	ANOVAs t tests Cohen's d	**Stress:** ANOVA (F(1, 143) = 6.276, p=.013, n2 = .042) Independent t tests Pretest (t(143) = .605, p=.546) posttest (t(143) = 4.155, p< .001). Paired t tests control (t(62) = 2.430, p=.018)	Level II Strengths • Randomly assign to groups • Power analysis was done • Instruments are valid and reliable • Experiment group showed greater effect • All important outcomes are measured Limitations • High attrition rate • More females than males in sample • Participants were aware of study • Lack of long term follow-up

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			Setting: Columbia University				experimental groups (t(81) = 8.427, p< .001) Cohen's d Experimental (d=.931) Control (d=.306) **Anxiety:** ANOVA (F(1, 143) = 4.129, p=.044, n2 = .028). Independent t tests	Feasibility • Can be easily implemented in nursing courses No harm was presented

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							pretest (t(143) = .811, p=.418) posttest (t(143) = 3.092, p=.002). Paired t tests Control (t(62) = 1.888, p=.064) Experimental (t(81) = 5.346, p< .001). **Depression:** ANOVA	

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							(F(1, 143) = 1.899, p=.170, n2 = .013). Independent t tests pretest (t(143) = .235, p=.814) posttest (t(105.45) = 2.409, p=.018). Paired t tests control (t(62) = 3.069, p=.003) experimental (t(81) = 6.440, p< .001)	

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							Cohen's d Experimental (d = .711) Control (d = .387)	
7. Lu et. al. (2023). The effect of mindfulness-based interventions on reducing stress in future health professionals: a systematic review and meta-analysis of	PRISMA	Systematic review and meta-analysis	N = 11 for systematic review N = 10 for meta-analysis	IV: MBIs DV: Stress	Rstudio	SMD	**SMD for Reduced Stress =** 0.60 (95% CI [0.27, 0.94], $p < 0.01$)	Level I Strengths • Only included RCTs • Search was narrowed • Findings support the goal of the research proposal Limitations • low number of studies • high-risk for bias due to self-reported instruments

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randomized controlled trials								• Loss to follow-up Feasible • Findings can be implemented in practice No harm was presented
8. Minkler, T. et. al (2021). Mindfulness training for a college team: feasibility, acceptability, and effectiveness from within an	Flow, anxiety, mindfulness, and emotion regulation model	QUASI	N = 30 Sample: Women's Division III NCAA lacrosse team	IV: MSPE DV1: FAME profile	PHLMS: Author = Cardaciotto et al. α = 0.85 and 0.87 MIS: Author = Thenot et al..	MANOVAs ANOVAs	**MANOVAs of FAME:** Sport anxiety: F(6, 112) = 3.52, p = .003, ηp^2 = 0.16 Mindfulness: F(10,108) = 1.98, p = .043, ηp^2 = 0.16	Level II Strengths • Measurements were reliable • Provides the evaluation of the program • Results are reliable and valid • Shows significance of outcomes • Shows the effectiveness of MSPE

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athletic department			M age = 19.63 years Demographics: African-American, Hispanic/Latina, Caucasian Attrition rate = 0%		α = 0.77 DERS-SF: Author = Kaufman et al. α = 0.91		Emotion Regulation: $F(12,106) = 2.35$, $p = .01$, $\eta p^2 = 0.21$ **ANOVAS of FAME:** Somatic anxiety: $F(2,29) = 7.95$, $p = .001$, $\eta p^2 = 0.22$ Worry: $F(2,29) = 9.43$, $p = .001$, $\eta p^2 = 0.25$	Limitations • Some bias may have occurred • No random assignment • Small sample size that only included female athletes Feasible • Can be successfully implemented by a trained coach • Showed generalizability No harm was presented in the study
9. Myall, K. et. al. (2022). Effect of mindfulness-	NA	Systematic revie	N = 12	IV: MBPs	PRISMA	ESs	**Overall mental health:**	Level I Strengths

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based programmes on elite athlete mental health: a systematic review and meta-analysis		w and meta-analysis	Inclusion criteria = RCT design, included current/former elite athletes, compared MBP to a control Exclusion criteria = not RCT, quasi, non-elite	DV1: anxiety DV2: depression DV3: psychological distress DV4: stress DV5: psychological well being		Heterogeneity	ES (g=−0.75, number of studies (k)=9, p<0.001, 95% CI –1.06 to -0.45 Heterogeneity (I^2=81, p<0.001, 95% CI 78 to 94, r^2=0.33) **MBPs reducing anxiety:** ES (g=−0.87, k=6, p=0.017, 95% CI −0.16 to −1.59) Heterogeneity (I^2=90, p.001, 95 CI 81 to 99, r^2=0.68)	• Only contained RCTs • Includes a detailed description of search • Intervention is precise • Limitations • Small number of RCTS with small sample sizes • Inconsistent follow-up data • Moderate risk for bias • Significant heterogeneity, but stated why • Some results cannot be used Feasible • Findings can be implemented No harm was presented

Legend: AAQ-II=acceptance and action questionnaire; CCAPS-62=counselling centre assessment of psychological symptoms-62; DERS-SF=difficulties in emotion regulation scale-short form; ESs=standardized effect sized; FAME=flow, anxiety, mindfulness, emotion regulation; IPA =interpretive phenomenological analysis; MAC=mindfulness-acceptance-commitment; MASS=mindfulness attention awareness scale; MAT=monitor and acceptance theory; MBIs=mindfulness-based interventions; MBPs=mindfulness-based programmes; MBSR = mindfulness-based stress reduction program; MIS=mindfulness inventory for sport; MM=mixed-methods; MSPE=mindful sport performance enhancement; MT=mental toughness; NA=not applicable; NRCT=non-randomized controlled trial; NSs=nursing students; PCS=perceived competence scale; PEQ=program evaluation questionnaire; PHLMS=Philadelphia mindfulness scale; PWB= psychological well-being; PRISMA=preferred reporting items for systematic reviews; PSS=perceived stress scale; OUAL = qualitative; QUASI=quasi experimental; RCT=randomized controlled trial SA(s)=student athlete(s); SDT=self-determination theory; SMTQ=sports mental toughness questionnaire; WEMWBS=warwick-edinburgh mental well-being scale

Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
			athletes, brief MBP (<4weeks)	DV6: Mindfulness			**MBPs reducing depression:** ES (g=−0.90, k=3, p=0.13, 95% CI −2.05 to 0.25) Heterogeneity (I^2=90, p<0.001, 95% CI 56 to 100, r^2=1.49) **MBPs reducing psychological distress:** ES (g=−40, k=4, p<0.001, 95% CI -0.61 to -0.18)	

Legend: AAQ-II=acceptance and action questionnaire; CCAPS-62=counselling centre assessment of psychological symptoms-62; DERS-SF=difficulties in emotion regulation scale-short form; ESs=standardized effect sized; FAME=flow, anxiety, mindfulness, emotion regulation; IPA =interpretive phenomenological analysis; MAC=mindfulness-acceptance-commitment; MASS=mindfulness attention awareness scale; MAT=monitor and acceptance theory; MBIs=mindfulness-based interventions; MBPs=mindfulness-based programmes; MBSR = mindfulness-based stress reduction program; MIS=mindfulness inventory for sport; MM=mixed-methods; MSPE=mindful sport performance enhancement; MT=mental toughness; NA=not applicable; NRCT=non-randomized controlled trial; NSs=nursing students; PCS=perceived competence scale; PEQ=program evaluation questionnaire; PHLMS=Philadelphia mindfulness scale; PWB= psychological well-being; PRISMA=preferred reporting items for systematic reviews; PSS=perceived stress scale; OUAL = qualitative; QUASI=quasi experimental; RCT=randomized controlled trial SA(s)=student athlete(s); SDT=self-determination theory; SMTQ=sports mental toughness questionnaire; WEMWBS=warwick-edinburgh mental well-being scale

Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
							Heterogeneity (I^2=), p=0.820, 95% CI) to 93, r^2=0 **MBPs reducing stress:** ES (g=−0.91, k=5, p=0.012, 95% CI −0.20 to −1.61) Heterogeneity ((I^2=74, p<0.001, 95% CI 0 to 93, r^2=0.47) **MBPs increasing psychological well-being:**	

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Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
							ES (g=0.96, k=5, p=0.039, 95% CI 0.05 to 1.86) Heterogeneity (I^2=89%, p<0.001, 95% CI 72 to 99, r^2=0.93) **MBPs increasing mindfulness:** ES (g=0.62, k=10, p=0.003, 95% CI 0.22 to 1.03) Heterogeneity (I^2=73, p<0.001, 95% CI 29 to 92, r^2=0.28)	

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Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
10. Okafor, O. et. al. (2023). Reducing first-year nursing students' perceived stress levels using mindfulness meditation	NA	QUASI	N=20 Males = 10% Females = 90% Inclusion criteria = associate of Science in Nursing degree Exclusion Criteria =	IV1: Mindfulness meditation DV1: perceived stress levels	PSS-10: Author = Cohen et al. Cronbach's alpha = 0.78 and 0.91	t-test Before and after intervention	**Perceived stress level** t(19) = 7.914, p < .001 Effect size, *d* = 2.29	Level II Strengths • Results are consistent with other studies • Statistical analysis was appropriately gathered • Participants are similar to my population of interest • Results are useful for PICOT question Limitations • Small sample size • Low supervision of the study • Fewer male participants than female • Time constraints

Legend: AAQ-II=acceptance and action questionnaire; CCAPS-62=counselling centre assessment of psychological symptoms-62; DERS-SF=difficulties in emotion regulation scale-short form; ESs=standardized effect sized; FAME=flow, anxiety, mindfulness, emotion regulation; IPA =interpretive phenomenological analysis; MAC=mindfulness-acceptance-commitment; MASS=mindfulness attention awareness scale; MAT=monitor and acceptance theory; MBIs=mindfulness-based interventions; MBPs=mindfulness-based programmes; MBSR = mindfulness-based stress reduction program; MIS=mindfulness inventory for sport; MM=mixed-methods; MSPE=mindful sport performance enhancement; MT=mental toughness; NA=not applicable; NRCT=non-randomized controlled trial; NSs=nursing students; PCS=perceived competence scale; PEQ=program evaluation questionnaire; PHLMS=Philadelphia mindfulness scale; PWB= psychological well-being; PRISMA=preferred reporting items for systematic reviews; PSS=perceived stress scale; OUAL = qualitative; QUASI=quasi experimental; RCT=randomized controlled trial SA(s)=student athlete(s); SDT=self-determination theory; SMTQ=sports mental toughness questionnaire; WEMWBS=warwick-edinburgh mental well-being scale

Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
			registered nurse, < 18 years old, not enrolled in the fundamentals of nursing course, unable to read and write in English Attrition rate = 0%					Feasible • Feasible due to easy implementation that requires low resources No harm was presented in the study

Legend: AAQ-II=acceptance and action questionnaire; CCAPS-62=counselling centre assessment of psychological symptoms-62; DERS-SF=difficulties in emotion regulation scale-short form; ESs=standardized effect sized; FAME=flow, anxiety, mindfulness, emotion regulation; IPA =interpretive phenomenological analysis; MAC=mindfulness-acceptance-commitment; MASS=mindfulness attention awareness scale; MAT=monitor and acceptance theory; MBIs=mindfulness-based interventions; MBPs=mindfulness-based programmes; MBSR = mindfulness-based stress reduction program; MIS=mindfulness inventory for sport; MM=mixed-methods; MSPE=mindful sport performance enhancement; MT=mental toughness; NA=not applicable; NRCT=non-randomized controlled trial; NSs=nursing students; PCS=perceived competence scale; PEQ=program evaluation questionnaire; PHLMS=Philadelphia mindfulness scale; PWB= psychological well-being; PRISMA=preferred reporting items for systematic reviews; PSS=perceived stress scale; OUAL = qualitative; QUASI=quasi experimental; RCT=randomized controlled trial SA(s)=student athlete(s); SDT=self-determination theory; SMTQ=sports mental toughness questionnaire; WEMWBS=warwick-edinburgh mental well-being scale

Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
			Setting: Southwest Georgia					
11. Shannon, S. et al. (2019). Effects of a mental health intervention in athletes: applying self-determination theory	SDT	NRCT	N=238 Sample = SAs Inclusion Criteria = responding “yes” to the survey Exclusion = non-athletes	IV1 = mindfulness program DV1=mindfulness DV2=competence DV3=stress DV4=well-being	MAAS: Author=Brown and Ryan Cronbach’s alpha=0.88 PCS: Author=Williams and Deci Cronbach’s alpha=0.94	Beta (β) coefficient Values	**Mindfulness awareness (**β = 0.07, p < 0.05) **Competence** (β = 0.39, p < 0.05) **Stress** (β = -0.06, p < 0.05) **Well-being** (β = 0.05, p <0.05)	Level III Strengths • Instruments are reliable. • Control group was appropriate for PICOT question • Followed the SDT • Results answers the PICOT question • Intervention was precise • Results are consistent throughout other studies

Legend: AAQ-II=acceptance and action questionnaire; CCAPS-62=counselling centre assessment of psychological symptoms-62; DERS-SF=difficulties in emotion regulation scale-short form; ESs=standardized effect sized; FAME=flow, anxiety, mindfulness, emotion regulation; IPA =interpretive phenomenological analysis; MAC=mindfulness-acceptance-commitment; MASS=mindfulness attention awareness scale; MAT=monitor and acceptance theory; MBIs=mindfulness-based interventions; MBPs=mindfulness-based programmes; MBSR = mindfulness-based stress reduction program; MIS=mindfulness inventory for sport; MM=mixed-methods; MSPE=mindful sport performance enhancement; MT=mental toughness; NA=not applicable; NRCT=non-randomized controlled trial; NSs=nursing students; PCS=perceived competence scale; PEQ=program evaluation questionnaire; PHLMS=Philadelphia mindfulness scale; PWB= psychological well-being; PRISMA=preferred reporting items for systematic reviews; PSS=perceived stress scale; OUAL = qualitative; QUASI=quasi experimental; RCT=randomized controlled trial SA(s)=student athlete(s); SDT=self-determination theory; SMTQ=sports mental toughness questionnaire; WEMWBS=warwick-edinburgh mental well-being scale

Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
			Male = 57.6% Female = 42.4% Engagement rates: One session = 21.90% Two sessions = 12.38%		PSS: Author=Cohen et al. Cronbach's alpha=0.83 WEMWBS: Author=Tennant et al. Cronbach's alpha=0.9			• All clinically important outcomes are measured Limitations • Small effect size • Random assignment was not used • Lack of follow-up • Small level of adherence to program Feasible • Intervention can be carried out for other research studies. No harm is associated with intervention

Legend: AAQ-II=acceptance and action questionnaire; CCAPS-62=counselling centre assessment of psychological symptoms-62; DERS-SF=difficulties in emotion regulation scale-short form; ESs=standardized effect sized; FAME=flow, anxiety, mindfulness, emotion regulation; IPA =interpretive phenomenological analysis; MAC=mindfulness-acceptance-commitment; MASS=mindfulness attention awareness scale; MAT=monitor and acceptance theory; MBIs=mindfulness-based interventions; MBPs=mindfulness-based programmes; MBSR = mindfulness-based stress reduction program; MIS=mindfulness inventory for sport; MM=mixed-methods; MSPE=mindful sport performance enhancement; MT=mental toughness; NA=not applicable; NRCT=non-randomized controlled trial; NSs=nursing students; PCS=perceived competence scale; PEQ=program evaluation questionnaire; PHLMS=Philadelphia mindfulness scale; PWB= psychological well-being; PRISMA=preferred reporting items for systematic reviews; PSS=perceived stress scale; OUAL = qualitative; QUASI=quasi experimental; RCT=randomized controlled trial SA(s)=student athlete(s); SDT=self-determination theory; SMTQ=sports mental toughness questionnaire; WEMWBS=warwick-edinburgh mental well-being scale

Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
			Three sessions = 11.43% All 14 sessions = < 2%					
12. Spadaro, K., & Hunker, D. (2021). Experience of an 8-week online mindfulness intervention for nursing students	NA	QUAL	N = 26 Sample: NSs Attrition for baseline postintervention	The experience of an online 8-week mindfulness intervention is the phenomen	Open-ended questions	Interpretive description	**Theme 1**: purposeful time commitment **Theme 2:** increased awareness **Theme 3**: ability to focus and concentrate.	Level VI Strengths • Implications stated • Results are plausible and believable • Concepts consistent with approach • Analysis appropriate

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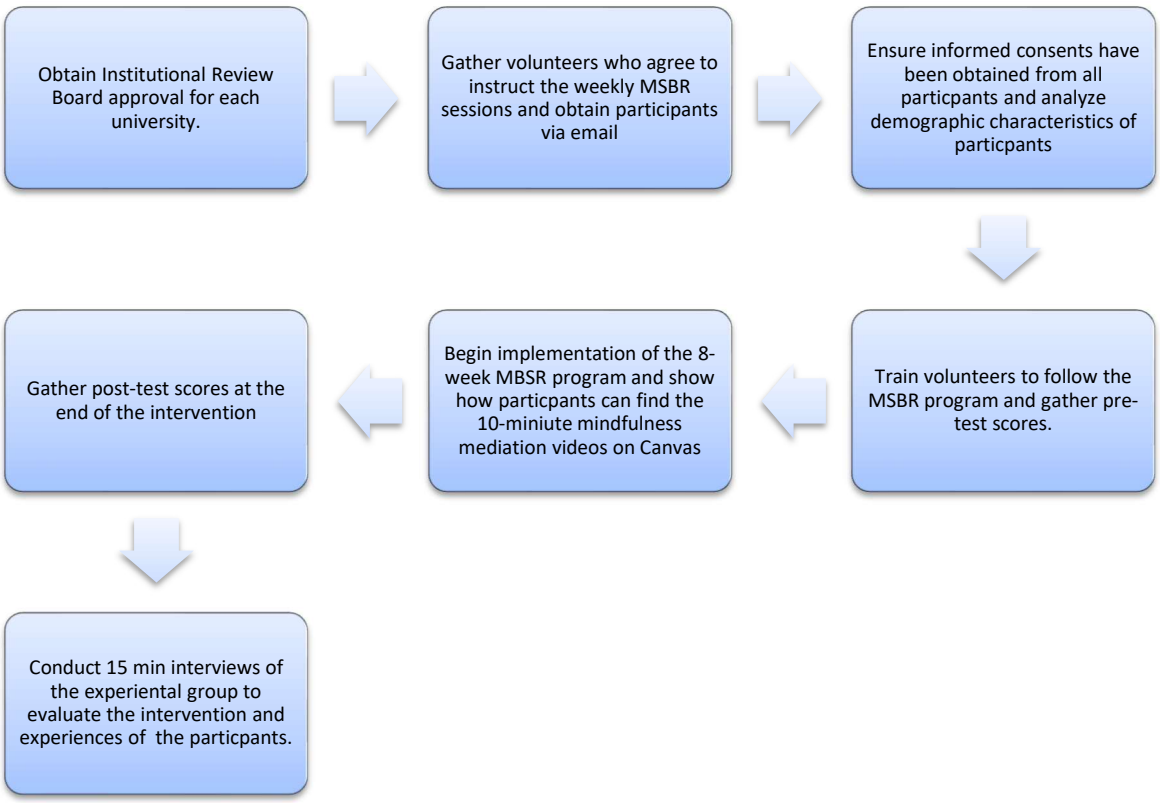
Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
			and surveys = 0% Attrition for half of the interventi on = 15%	on being explored			**Theme 4**: enhanced ability to cope	• Literature review supports the need for study • Findings are easy to follow Limitations • Participants were recruited form 1 midsized private university • Lack of extended follow-ups Feasible • Had 100% retention No harm was presented

Legend: AAQ-II=acceptance and action questionnaire; CCAPS-62=counselling centre assessment of psychological symptoms-62; DERS-SF=difficulties in emotion regulation scale-short form; ESs=standardized effect sized; FAME=flow, anxiety, mindfulness, emotion regulation; IPA =interpretive phenomenological analysis; MAC=mindfulness-acceptance-commitment; MASS=mindfulness attention awareness scale; MAT=monitor and acceptance theory; MBIs=mindfulness-based interventions; MBPs=mindfulness-based programmes; MBSR = mindfulness-based stress reduction program; MIS=mindfulness inventory for sport; MM=mixed-methods; MSPE=mindful sport performance enhancement; MT=mental toughness; NA=not applicable; NRCT=non-randomized controlled trial; NSs=nursing students; PCS=perceived competence scale; PEQ=program evaluation questionnaire; PHLMS=Philadelphia mindfulness scale; PWB= psychological well-being; PRISMA=preferred reporting items for systematic reviews; PSS=perceived stress scale; OUAL = qualitative; QUASI=quasi experimental; RCT=randomized controlled trial SA(s)=student athlete(s); SDT=self-determination theory; SMTQ=sports mental toughness questionnaire; WEMWBS=warwick-edinburgh mental well-being scale

Appendix B: Flowchart



Appendix C: Instrument

DASS21

Name: Date:

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you **over the past week**. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree or a good part of time
3 Applied to me very much or most of the time

1 (s)	I found it hard to wind down	0	1	2	3
2 (a)	I was aware of dryness of my mouth	0	1	2	3
3 (d)	I couldn't seem to experience any positive feeling at all	0	1	2	3
4 (a)	I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5 (d)	I found it difficult to work up the initiative to do things	0	1	2	3
6 (s)	I tended to over-react to situations	0	1	2	3
7 (a)	I experienced trembling (e.g. in the hands)	0	1	2	3
8 (s)	I felt that I was using a lot of nervous energy	0	1	2	3
9 (a)	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10 (d)	I felt that I had nothing to look forward to	0	1	2	3
11 (s)	I found myself getting agitated	0	1	2	3
12 (s)	I found it difficult to relax	0	1	2	3
13 (d)	I felt down-hearted and blue	0	1	2	3
14 (s)	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15 (a)	I felt I was close to panic	0	1	2	3
16 (d)	I was unable to become enthusiastic about anything	0	1	2	3
17 (d)	I felt I wasn't worth much as a person	0	1	2	3
18 (s)	I felt that I was rather touchy	0	1	2	3
19 (a)	I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)	0	1	2	3
20 (a)	I felt scared without any good reason	0	1	2	3
21 (d)	I felt that life was meaningless	0	1	2	3

DASS-21 Scoring Instructions

The DASS-21 should not be used to replace a face to face clinical interview. If you are experiencing significant emotional difficulties you should contact your GP for a referral to a qualified professional.

Depression, Anxiety and Stress Scale - 21 Items (DASS-21)

The Depression, Anxiety and Stress Scale - 21 Items (DASS-21) is a set of three self-report scales designed to measure the emotional states of depression, anxiety and stress.

Each of the three DASS-21 scales contains 7 items, divided into subscales with similar content. The depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest / involvement, anhedonia and inertia. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The stress scale is sensitive to levels of chronic non-specific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset / agitated, irritable / over-reactive and impatient. Scores for depression, anxiety and stress are calculated by summing the scores for the relevant items.

The DASS-21 is based on a dimensional rather than a categorical conception of psychological disorder. The assumption on which the DASS-21 development was based (and which was confirmed by the research data) is that the differences between the depression, anxiety and the stress experienced by normal subjects and clinical populations are essentially differences of degree. The DASS-21 therefore has no direct implications for the allocation of patients to discrete diagnostic categories postulated in classificatory systems such as the DSM and ICD.

Recommended cut-off scores for conventional severity labels (normal, moderate, severe) are as follows:

NB Scores on the DASS-21 will need to be multiplied by 2 to calculate the final score.

	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	28+	20+	34+

Lovibond, S.H. & Lovibond, P.F. (1995). Manual for the Depression Anxiety & Stress Scales. (2nd Ed.)Sydney: Psychology Foundation.

Appendix D: Interview Questions

1. How was your overall experience with the Mindfulness-Based-Stress Reduction program?
2. What were your expectations before participating in the program, and were they met?
3. Which aspects of the program did you find most beneficial?
4. How did the mindfulness exercises and techniques taught in the program impact your daily life and stress levels?
5. If you could have changed one thing from the program, what would it be, and why**?**