Introduction and Literature Review

In recent years, mindfulness-based interventions (MBIs) have garnered attention for their potential to enhance mental health and well-being among student populations across various academic disciplines. Mindfulness, as originally defined by Kabat-Zinn, refers to “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (as cited in Shapiro, Schwartz, & Bonner, 1998). The practice encompasses techniques such as body scans, breath-focused meditation, and self-compassion practices, and has been implemented in higher education settings to mitigate the negative effects of academic stress (Creswell, 2017).

In one of the earliest applications of MBIs to student populations, Shapiro et al. (1998) conducted an eight-week MBSR program with medical and premedical students, demonstrating significant reductions in state and trait anxiety, psychological distress, and depression. Notably, students also reported increases in empathy and spiritual well-being, highlighting the potential for MBIs to foster holistic development in demanding academic environments.

Building upon these foundations, researchers have explored the relevance of MBIs in broader university contexts. Chen et al. (2019) reported that Taiwanese university students who participated in an eight-week mindfulness program showed measurable improvements in subjective well-being. This pilot study underscored how mindfulness can enhance general life satisfaction in young adults navigating higher education.

The effectiveness of brief mindfulness interventions has also been demonstrated in undergraduate populations. For instance, Zeidan et al. (2010) found that just four sessions of brief mindfulness meditation led to improved attention and decreased fatigue, even in individuals new to mindfulness practice. Similarly, O’Hare and Gemelli (2023) compared two forms of mindfulness training, focused-attention (FA) and self-compassion (SC), in a

classroom setting. The SC group showed greater improvements in emotional regulation and performed better on classroom tests, emphasizing that different mindfulness components may yield different cognitive and emotional benefits.

Several studies have also addressed the relationship between mindfulness and academic performance. For example, a randomized controlled trial by Ramler et al. (2023) found that students who underwent MBSR training not only experienced greater academic resilience but also outperformed control groups in GPA. These results were echoed by Cheese et al. (2025), who compared virtual and in-person mindfulness courses during the COVID-19 pandemic. Both groups saw improvements in mindfulness, resilience, and life satisfaction, with the in-person group reporting the most robust benefits. This reinforces the feasibility and accessibility of mindfulness delivery, even in crisis conditions.

In addition to cognitive outcomes, MBIs have also been shown to reduce teacher burnout and stress. Roeser et al. (2013) implemented a mindfulness program for K-12 educators and found significant improvements in psychological functioning. Though this study focused on teachers rather than students, it is particularly relevant to Master's of Education students preparing to enter the teaching profession, who face comparable stressors and emotional labor.

Despite this growing evidence base, few studies have isolated the effects of specific mindfulness practices, such as the body scan, in graduate student populations, particularly among those in education-focused programs. Furthermore, most existing interventions combine multiple mindfulness techniques, making it difficult to determine which components are most effective.

Research Gap and Aim

“Given the intense academic, emotional, and professional demands placed on Master’s of Education (M.Ed.) students, including student teaching responsibilities, licensure requirements, and academic pressures, this population is particularly vulnerable to stress and burnout” (Roeser et al., 2013; Shapiro et al., 1998). There is a pressing need for targeted and accessible mental health interventions. While the broader effectiveness of mindfulness-based interventions (MBIs) is well-established, few studies have examined the independent effect of the body scan practice, a focused, guided mindfulness technique, on psychological well-being in this unique and underserved population. The body scan was selected for this study because it is a foundational practice in MBSR protocols and can be practiced independently without prior meditation experience. Compared to other mindfulness exercises, the body scan has shown promise in reducing somatic tension and increasing interoceptive awareness (Shapiro et al., 1998; Ramler et al., 2023). It also requires minimal guidance or equipment, making it especially feasible for graduate students with time constraints.

This proposal aims to investigate the effects of the body scan as a standalone intervention to enhance trait and state mindfulness in M.Ed. students. The body scan is operationally defined for this study as a 10-minute guided mindfulness practice, delivered via a publicly available YouTube recording based on MBSR protocol, in which participants are instructed to bring nonjudgmental awareness to bodily sensations from head to toe. Trait mindfulness is operationally defined as the general tendency to be aware of and attentive to present-moment experiences in a nonjudgmental manner, measured and operationalised using the Cognitive and Affective Mindfulness Scale – Revised (CAMS-R). State mindfulness is defined as the immediate, moment-to-moment awareness of internal experiences (including thoughts, emotions, and bodily sensations) during or immediately following a mindfulness activity, and will be assessed using the State Mindfulness Scale for

Physical Activity (SMS-PA). Together, these measures will allow for an evaluation of both the short-term impact of the body scan and its potential to produce longer-term improvements in mindfulness.

Hypotheses

1. M.Ed. students who participate in the body scan intervention will show a **significant increase in trait mindfulness**, as measured by the CAMS-R, from pre- to post-intervention.
2. Participants will report **moderate to high levels of state mindfulness** immediately after each body scan session, as measured by the SMS-PA.
3. *The **frequency of participation** in body scan sessions will be **positively associated with post-intervention CAMS-R scores**, indicating a dose-response effect. (Exploratory).*

Study Design and Justification

This study will use a pretest–posttest within-subjects design to evaluate the effects of a standardized mindfulness-based body scan intervention on trait and state mindfulness among Master's of Education (M.Ed.) students. A within-subjects design is appropriate because it allows each participant to serve as their own control, improving internal validity by reducing error due to individual differences (Morling, 2026, Ch. 10).

The independent variable is exposure to the body scan intervention, operationally defined as a 10-minute guided mindfulness practice delivered via a standardized YouTube video from the Veterans Health Administration (https://www.youtube.com/watch?v=-IK0RDAz7Sk). The video follows the traditional Mindfulness-Based Stress Reduction (MBSR) protocol developed by Jon Kabat-Zinn, and participants will be asked to complete the body scan at least three times per week for four weeks.

The dependent variables are:

- Trait mindfulness will be measured using the Cognitive and Affective Mindfulness Scale–Revised (CAMS-R). The CAMS-R is a 10-item scale that measures attention, present focus, awareness, and acceptance (Feldman et al., 2007). Items are rated on a 4-point Likert scale from 1 (Rarely/Not at all) to 4 (Almost Always). The CAMS-R has demonstrated good internal consistency (Cronbach's $\alpha \approx .77–.81$) and strong construct validity, including positive associations with self-compassion and emotion regulation and negative associations with psychological distress (Feldman et al., 2007; Cox et al., 2016). It has been used in multiple university-based mindfulness studies, including O'Hare & Gemelli (2023) and Ramler et al. (2023), supporting its appropriateness for academic populations.
- State mindfulness will be measured using the State Mindfulness Scale for Physical Activity (SMS-PA). This 12-item scale assesses moment-to-moment awareness of physical and mental experiences during embodied practices like meditation (Cox et al., 2016). Items are rated on a 5-point scale from 0 (Not at all) to 4 (Very much), with two subscales: Mind (items 1–6) and Body (items 7–12). The SMS-PA has shown strong internal reliability (Cronbach's $\alpha > .90$) and evidence of construct and convergent validity, including sensitivity to change after mindfulness interventions. It was designed to capture state-level fluctuations and has been applied in student meditation contexts similar to the present study (e.g., Cox et al., 2016; O'Hare & Gemelli, 2023).

This design is appropriate because it captures both short-term effects (via state mindfulness scores after each session) and longer-term changes (via trait mindfulness pre/post scores), while minimizing logistical and ethical challenges. It allows for repeated assessment without deception or high participant burden, increasing construct validity through consistent operationalization (Morling, 2026, Ch. 5). Additionally, using a publicly available, structured

body scan intervention ensures standardization, enhances replicability, and supports future scalability of the program in educational settings.

Method

Participants

Participants will be graduate students enrolled in a Master's of Education (M.Ed.) program at a private university in California. A total of 20 to 30 students will be recruited using convenience sampling through departmental mailing lists, in-class announcements, and flyers posted on campus. Participation will be entirely voluntary, and all participants must be at least 18 years of age, fluent in English, and willing to engage in a four-week mindfulness practice. There will be no formal exclusion criteria. However, data on prior mindfulness or meditation experience will be collected during the demographic survey and may be considered in exploratory analysis. Participants with prior or ongoing mental health concerns (e.g., insomnia, substance use) will not be excluded unless they self-report that the mindfulness practice causes discomfort. This approach is consistent with non-clinical MBI research (e.g., Ramler et al., 2023; O'Hare & Gemelli, 2023).

Materials and Measures

Mindfulness Intervention (Independent Variable)

The intervention will consist of a 10-minute guided body scan mindfulness practice, delivered through a publicly accessible YouTube video developed by the Veterans Health Administration (https://www.youtube.com/watch?v=-IK0RDAz7Sk). The body scan follows the traditional Mindfulness-Based Stress Reduction (MBSR) protocol developed by Jon Kabat-Zinn and guides participants through focused, nonjudgmental awareness of different regions of the body. Participants will be instructed to complete the practice at least three times per week for four consecutive weeks.

Measures (Dependent Variables)

1. **Trait Mindfulness**

   Trait mindfulness will be assessed using the Cognitive and Affective Mindfulness Scale – Revised (CAMS-R). This 10-item self-report measure captures core components of mindfulness: attention, present focus, awareness, and acceptance. Each item is rated on a 4-point Likert scale ranging from 1 (Rarely/Not at all) to 4 (Almost Always). The CAMS-R will be administered before the intervention begins (Week 0) and after the final week (Week 4) to assess changes in trait mindfulness. The questionnaire will be distributed using either Google Forms or SurveyMonkey, and responses will be collected electronically.

2. **State Mindfulness**

   State mindfulness will be measured using the State Mindfulness Scale for Physical Activity (SMS-PA), a 12-item questionnaire designed to assess moment-to-moment awareness of mental and physical states during physical or embodied activity. Items are rated on a 5-point scale ranging from 0 (Not at all) to 4 (Very much). This scale will be completed immediately after each body scan session, using either Google Forms or SurveyMonkey. Responses will be automatically recorded and stored in the survey platform's secure database.

The two instruments used in this study, the Cognitive and Affective Mindfulness Scale–Revised (CAMS-R) and the State Mindfulness Scale for Physical Activity (SMS-PA), are not proprietary and are freely available for use in academic research. Both scales were published in peer-reviewed journals with full items provided in their respective articles. Therefore, no additional permission is required to use or reproduce these measures. Full citations and source information are provided in the References and Appendix sections.

Procedure

After providing informed consent, participants will complete the CAMS-R online to assess baseline trait mindfulness. They will then be given the YouTube link to the body scan video and instructed to complete the guided practice at least three times per week for four weeks. After each session, they will complete the SMS-PA using the same online survey platform to record their state mindfulness experience. At the end of the fourth week, they will complete the CAMS-R again to assess changes in trait mindfulness. All survey responses will be collected digitally via Google Forms or SurveyMonkey and exported for data analysis.

Measures Used & Psychometric Properties

This study employs two validated self-report instruments to assess mindfulness: the Cognitive and Affective Mindfulness Scale–Revised (CAMS-R) and the State Mindfulness Scale for Physical Activity (SMS-PA). These measures were selected based on their theoretical alignment with the constructs of interest, ease of administration, and relevance in educational and mindfulness research.

Cognitive and Affective Mindfulness Scale – Revised (CAMS-R)

The CAMS-R is a 10-item scale designed to assess trait mindfulness across four components: attention, present focus, awareness, and acceptance. Participants respond using a 4-point Likert scale, ranging from 1 (Rarely/Not at all) to 4 (Almost Always). Example items include “I can accept things I cannot change” and “I am able to pay attention to one thing at a time.”

The CAMS-R was referenced in research examining brief mindfulness interventions in university settings, where it has been used to assess shifts in general mindfulness over time (O’Hare & Gemelli, 2023). Its use in academic contexts supports its content and face validity for this population.

State Mindfulness Scale for Physical Activity (SMS-PA)

The SMS-PA is a 12-item scale designed to measure state mindfulness immediately following a physical or embodied practice, such as a body scan. It includes two subscales: Mind (items 1–6) and Body (items 7–12). Responses are recorded on a 5-point scale ranging from 0 (Not at all) to 4 (Very much). Items assess immediate awareness of thoughts, emotions, and bodily sensations (e.g., “I paid close attention to how my body felt”). The structure of the scale and its successful application in research involving moment-to-moment mindfulness support its appropriateness for this study.

Together, these scales allow for an evaluation of both short-term state mindfulness (SMS-PA) and longer-term changes in trait mindfulness (CAMS-R) resulting from a guided body scan practice.

Data Collection

All data will be collected electronically using either Google Forms, depending on platform access at the time of the study. Participants will complete the CAMS-R twice [once at baseline (Week 0) and once after the final week of the intervention (Week 4)] to measure changes in trait mindfulness. The SMS-PA will be administered immediately before and after each body scan session, allowing the researcher to assess state mindfulness in real time across the four weeks.

Survey links will be distributed via email at the start of the study and again each week to prompt timely participation. All responses will be anonymous and stored securely via the survey platform. A coding system* will be used to match pre- and post-intervention responses without collecting identifiable information.

Data Analysis

Data will be exported into Microsoft Excel or SPSS for cleaning and analysis. Descriptive statistics will be used to summarize sample characteristics and overall response trends.

To test the main hypothesis (H1) that CAMS-R scores will improve after the intervention, a paired-samples t-test will be conducted comparing pre- and post-intervention trait mindfulness scores. Assumptions of normality will be assessed before running the test. If data are not normally distributed, a non-parametric Wilcoxon signed-rank test may be used instead.

To examine state mindfulness (H2), weekly SMS-PA scores will be aggregated across all body scan sessions for each participant. Descriptive statistics (means, standard deviations) will be reported. Depending on the consistency of participation, exploratory analyses such as linear regression or correlation may be conducted to assess the relationship between the number of completed body scan sessions and changes in CAMS-R scores (H3).

Internal and External Validity

Internal Validity

Internal validity refers to the degree to which the observed changes in the dependent variable (mindfulness) can be attributed to the intervention, rather than to confounding variables (Morling, 2026, Ch. 3 & 9). This study employs a within-subjects pretest–posttest design, which increases control by having each participant serve as their own comparison. This minimizes error due to individual differences and increases statistical power (Morling, 2026, Ch. 10).

However, the lack of a control group limits the ability to rule out alternative explanations, such as maturation, history effects, or regression to the mean (Ch. 9). Additionally,

self-report measures (CAMS-R and SMS-PA) may be vulnerable to demand characteristics or social desirability bias (Ch. 5). To reduce this risk, surveys will be anonymous, and participants will be reminded there are no right or wrong answers.

Consistency of the mindfulness intervention (same 10-minute YouTube video) further enhances internal validity by standardizing the treatment across participants.

External Validity

External validity concerns the extent to which the findings can be generalized to other populations, settings, or times (Morling, 2026, Ch. 3–4). The sample, Master's of Education (M.Ed.) students at one private university, is specific and may not represent all graduate students or broader educational populations. This limits population generalizability.

However, the use of a publicly available intervention, a non-clinical student population, and minimal exclusion criteria improves ecological validity, making the study relevant for real-world educational settings. Participants complete the intervention on their own time using a brief video and digital surveys, reflecting typical self-directed wellness programs.

Ethical Considerations

Informed Consent

All participants will provide informed consent electronically before participating in the study. The consent form will describe the purpose of the research, the voluntary nature of participation, the estimated time commitment (approximately 10–15 minutes per week), and the use of anonymous survey data. Participants will be informed that they may withdraw at any time without penalty and that there are no right or wrong answers.

Anonymity and Confidentiality

All participant responses will remain completely anonymous. At no point will names, email addresses, student IDs, or other identifying information be collected. Instead, participants will be asked to create a self-generated ID code to help match their responses across timepoints without revealing their identity. This code will be used consistently across all forms (CAMS-R and SMS-PA).

Survey data will be collected via secure platforms (Google Forms or SurveyMonkey) and will be accessible only to the principal investigator. All data will be exported and stored in a password-protected folder on a secure personal device.

In accordance with institutional policy, all collected data will be retained securely for a minimum of seven (7) years after the conclusion of the study. After this period, data will be permanently deleted.

Minimal Risk and Debriefing

The study presents minimal risk to participants. The body scan intervention involves sitting or lying quietly while attending to physical sensations and is unlikely to cause harm. Nonetheless, participants will be advised to stop at any time if they experience discomfort. Upon completion of the study, participants will be provided with a brief written debriefing, which will summarize the study's goals and provide optional mindfulness resources for continued use.

Data Management and IRB Compliance

All data will be exported and stored without identifiers on a password-protected device. Results will be reported in aggregate form to protect individual privacy. The study will not involve deception or sensitive personal questions.

Appendix

1. **Informed Consent Form + Participant Demographics**

   https://forms.gle/r4kwqvPVoZwY5yxy9

2. **CAMS-R Questionnaire (10 items)**

   https://forms.gle/5okX9QXqVtwM9iik9

3. **SMS-PA Questionnaire (12 items: Mind + Body subscales)**

   https://forms.gle/iWgFvPKeH4pBrpUD7

4. **Debriefing Statement**

Thank you for participating in this study on mindfulness and well-being in graduate students. The purpose of this research was to explore how a short, guided mindfulness practice, specifically, the body scan, may influence both moment-to-moment mindfulness (state mindfulness) and overall awareness and acceptance (trait mindfulness).

We hope to better understand whether practices like the body scan can serve as accessible tools for managing academic stress and improving attention in students pursuing high-demand graduate programs.

Your responses will be analyzed anonymously and used to evaluate the potential benefits of mindfulness interventions in educational settings. If the findings are promising, this work may inform future wellness programming tailored to graduate student needs.

If you experienced any discomfort during the practice or surveys, or have questions about the study, please feel free to reach out to the researcher using the contact information provided in the original invitation. You are also welcome to withdraw your responses at any time before the study is complete.

Below are optional resources you may find useful if you'd like to continue exploring mindfulness:

Headspace – Free Guided Meditations

UCLA Mindful Awareness Research Center

Thank you again for your time and contribution!

5. **Recruitment Email or Announcement Text**

Subject Line: Participate in a 4-Week Mindfulness Study for Grad Students

Email Body:

Helloo,

Are you a Master's of Education (M.Ed.) student interested in mindfulness or stress management?

You're invited to participate in a research study exploring how a short, guided mindfulness practice — the body scan — may impact attention and overall well-being in graduate students. The study is being conducted as part of a research project in the Research Methods course at Notre Dame De Namur University, Belmont.

What it involves:

- A brief 10-minute mindfulness audio at least three times per week for four weeks
- Completing short online surveys before and after the study
- Total time: ~30 - 40 minutes per week
- Entirely anonymous and voluntary

If you're interested, click the link below to begin with the consent form and initial survey:

Please feel free to reach out if you have any questions about the study. Thank you for considering participation. Your time and insight are greatly appreciated!

Warm regards,

Shuchi Saurabh Dani

MSCP MFT/LPCC Student

Notre Dame De Namur University

650-394-9646 | sdani@student.ndnu.edu | dani.shuchi@gmail.com

6. **Self-Code Instructions (ID generation)**

To protect your identity while allowing us to match your responses across time, please create a unique 5-digit code using the following:

- First 2 letters of your mother's first name
- Day of your birth (2 digits)
- First letter of your favorite color.

Example: **"AL15B."** If your mom's name is Alicia, you were born on the 15th, and your favorite color is blue.

They'll enter this same code on both CAMS-R forms as well as all the SMS-PA forms, and you use this code as the matching key.

7. **Weekly Reminder Email Template**

Subject Line: Reminder for Body Scan + Quick Check-In – Mindfulness Study

Email Body:

Hellooo,

Thank you again for participating in the mindfulness study for M.Ed. students! This is your **reminder** to complete your **10-minute body scan practice**, followed by a quick reflection survey. You can use the same guided audio from last time: **Body Scan Audio (10 min)**.

Before and after completing the body scan, please fill out the short **SMS-PA survey** (2–3 minutes). Please remember to enter your **self-generated code** to help us track responses anonymously.

Let me know if you have any trouble accessing the form or if anything comes up during your participation. You're doing great, thank you for staying with it!

Warm regards,

Shuchi Saurabh Dani

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