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RESEARCH ARTICLE



## Integrating mindfulness into the academic curriculum: A qualitative study

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### ABSTRACT

**Objective:** Most undergraduate students experience high stress levels, necessitating university support. Meditation-based programs can encourage student wellbeing. This research examined the feasibility of a for-credit undergraduate mindfulness course, its effectiveness in helping students develop a mindfulness practice, and its potential impact on healthy development. **Participants:** Twenty-nine undergraduates participated from Fall 2021 to Spring 2023. **Methods:** Data were collected through focused group and individual interviews, and student reflection essays, and analyzed using grounded theory and phenomenological analysis. **Results:** Six themes emerged: learning to practice, self-awareness, self-acceptance, self-regulation, applying practices, and quality of life. The course structure effectively integrated mindfulness practice into a didactic curriculum, supporting students in cultivating a practice in a guided setting, and seemed to enhance wellbeing and stress management for participants in the study. **Conclusion:** Our findings suggest that embedded contemplative education can enhance whole student learning so that the college experience is both less stressful and more meaningful.

### ARTICLE HISTORY

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### Introduction

It is well known that university students report elevated psychological stress levels compared to the general population: in 2023, 49.9% reported moderate stress, and an additional 29.0% reported high stress.<sup>1</sup> The main source of this stress comes from the academic workload, coupled with the costs of education.<sup>2,3</sup> As higher education grapples with meeting the mental health needs of students, there is a growing interest in the potential for mindfulness to help support student wellbeing. A large and growing body of evidence demonstrates that mindfulness is an effective way to promote health and address mental health challenges such as depression and anxiety among university students.<sup>4–7</sup> However, because many students report being overscheduled, participating in extra-curricular wellness activities can be challenging.<sup>5</sup> Making mindfulness and other contemplative practices more accessible to overscheduled college students by meeting them where they are – in the classroom – and integrating them into the academic curriculum could be one important way to promote student wellbeing. It may also help circumvent the stigma some students associate with seeking support from mental health counseling services.<sup>8</sup> Moreover, contemplative education may serve a broader role in addressing the trend toward “careerism” in higher education, fostering meaningful educational experiences that support whole student development, including values, purpose, and ethics.<sup>9</sup>

Mindfulness can be defined as the awareness that emerges through purposefully directed, non-judgmental attention on

the unfolding of present experience moment-by-moment.<sup>10(p145)</sup> Mindfulness-based interventions (MBIs) help individuals cultivate self-awareness, emotional non-reactivity, and relaxed presence in the face of challenges. A well-known MBI, Mindfulness-Based Stress Reduction (MBSR), was developed by Jon Kabat-Zinn and colleagues in 1979 at the University of Massachusetts Memorial Medical Center. Since then, MBSR has become widely used and has been adapted for specific populations, including college students.<sup>11</sup>

Given the unique developmental challenges of emerging adulthood, a specialized mindfulness program was created to address the needs of this population. Koru Mindfulness (KM) is an MBI specifically designed for emerging adults developed at Duke University to support students. In January 2024, after data for this study was collected, the curriculum name was changed to “Intro to Mindfulness” by the Mindfulness Institute for Emerging Adults (MIEA); this paper will refer to the curriculum as KM. Arnett<sup>12</sup> defines “emerging adults” as persons between 18 and 29 years old, which describes most college students. According to Arnett<sup>13</sup> emerging adulthood is primarily about identity exploration, instability, feeling in-between, self-focus, and optimism. Although this stage has many positive aspects, the instability and exploration students experience can incur stress, time pressures, and future-oriented anxieties.<sup>14</sup> KM was designed to help students navigate these stressors, offering structured instruction in mindfulness practices.<sup>14</sup> Its original format consists of small classes that meet for 75 min once a week over four weeks. Participants practice meditation for ten

additional minutes daily and record their experiences in a mindfulness log.

Although KM has been evaluated in five quantitative studies, none have explored the lived experience of students who participate in the program, particularly when embedded in a for-credit academic course.<sup>11,15–19</sup> The lack of qualitative research leaves a gap in understanding how students experience mindfulness and apply it in their daily lives. This study addresses that gap by exploring student experiences of KM when embedded within a conventional, semester-long, for-credit elective rather than offered as a free-standing extracurricular activity.

The main objective for this study was to explore the lived experience of students who elected to take a for-credit course to learn mindfulness practices. In addition, we sought to ascertain the potential for integrating meditation practice into coursework. Lastly, we wanted to generate hypotheses regarding the potential impact of learning mindfulness on healthy development for emerging adults in a university setting.

### Literature review

There have been five quantitative studies of KM/MIEA published to date. Greeson et al<sup>15</sup> conducted the only randomized controlled trial of KM, delivering the program to undergraduate and graduate students ( $N=90$ ) as an extracurricular activity. Pre- and post-intervention surveys of the KM group indicated a medium effect size for decreased perceived stress and self-reported improvements in sleep quality, a large effect size for increased mindful awareness, and a medium-to-large effect size for increased self-compassion.<sup>15</sup> The authors concluded that KM is a viable intervention for supporting student wellness, especially given institutional resource constraints.

Two studies have evaluated KM when embedded into academic courses. Weis et al<sup>11</sup> integrated KM into undergraduate psychology courses using a parallel cohort design ( $N=32$ ). One course received KM, while the other served as a control. Compared to the control group, students in the KM course reported decreased stress ( $p<.001$ ), increased mindfulness ( $p<.001$ ), and increased self-compassion ( $p<.001$ ).<sup>11</sup> Similarly, Smit and Stavroulaki<sup>16</sup> evaluated KM when embedded in a for-credit undergraduate business course ( $N=34$ ); the control group ( $N=35$ ) took the same course without KM. They found a significant main effect for state mindfulness ( $p=.051$ ) and a significant reduction in COVID-19-related worry ( $p<.05$ ) in the KM group, along with decreased stress. The KM group also showed time-based improvements in sleep compared to baseline, though no direct main effect was observed.<sup>16</sup>

In a waitlist-controlled design, Mirabito & Verhaeghen<sup>17</sup> delivered KM remotely during COVID-19, offering the program as an extracurricular activity. The treatment group received the traditional KM program, while the control group remained waitlisted. Online pre- and post-surveys showed significant improvements in mindfulness, rumination, worry, mood, stress, anxiety, and overall well-being.<sup>17</sup>

Dolbier et al<sup>18</sup> conducted a feasibility study of KM offered as a free-standing extracurricular program. Although completion rates were low (23.6%), students who completed the four-week program reported significant improvements in well-being. Key factors that contributed to these improvements included peer sharing, instructor involvement, and daily meditation practice. Finally, Christou<sup>19</sup> collected qualitative data for a dissertation from certified KM teachers to explore how they experienced being mindfulness instructors.

Apart from KM, numerous studies have demonstrated the mental health and well-being benefits of mindfulness interventions for college students, including at least two meta-analyses.<sup>7,20,21</sup> Some research suggests that mindfulness and contemplative practices can also enrich the educational experience.<sup>22,23</sup> For example, Shapiro et al<sup>24</sup> argue that integrating mindfulness into higher education can enrich the educational experience by supporting whole student learning.

## Materials and methods

### The course

“Mindfulness and Human Development” is a for-credit undergraduate seminar course taught as an elective at a large mid-Atlantic university. The course introduces students to the fundamental principles of mindfulness, the scientific literature on mindfulness, and the integration of mindfulness into educational settings to support student well-being.

Within this 14-week course, four consecutive weeks are dedicated to experiential mindfulness learning using the MIEA curriculum. The instructor, certified to teach mindfulness by MIEA since 2016, follows the four-week curriculum as designed, using *The Mindful Twenty-Something* as the student handbook.<sup>25</sup> Practices include aware breathing, body scans, walking meditation, eating meditation, labeling thoughts, labeling emotions, and guided imagery.

Each class throughout the semester begins with a five-minute guided breathing practice. The instructor dedicates at least 75 min on KM practices and concepts during the experiential portion of the course. Students are required to practice the skills, enumerated above, independently for 10 min daily and keep a mindfulness log. At the conclusion of the experiential component, students are prompted to complete a reflection essay on their experience learning and practicing the KM skills. The academic portion of the course consists of studying and discussing mindfulness research and completing a topic-related academic paper. Students are graded only on the didactic portions of the course, not their meditation practice.

### Participants

Twenty-nine undergraduates from Fall 2021, Spring 2022, and Spring 2023 participated in this study. Participants were drawn from a convenience sample of students who voluntarily took the course and consented to participate. Some had prior experience with mindfulness, while others were novices. Participants represented a variety of majors,

including Urban Studies, Psychology, and Nursing, and ranged in age from 19 to 23 years old. No detailed demographic data were collected, as this was a convenience sample designed to explore students' lived experiences rather than demographic differences. All students who volunteered to participate received three extra credit points toward their final term paper. This study received a QI/QA IRB exemption.

### Data collection

Student data was collected from two main sources across three semesters: individual and focused group interviews ( $N=15$ ), and reflection essays ( $N=25$ ) (see Table 1). A trained graduate student unaffiliated with the course facilitated all focus groups and interviews, supporting richer discussions among students and minimizing interviewer influence. The three individual interviews were offered to students who were unable to attend the focus group in the Spring 2022 term. Interviews were not collected during the Spring 2023 term due to logistical constraints. Data collection occurred at the end of the semester in which students took the course.

These three data collection methods (focused group interviews, individual interviews, and reflection essays) were selected

to capture a fuller range of student experiences and expressions. Focus groups encouraged students to build on one another's insights in real time. Individual interviews provided space for deeper, more personal narratives, especially from those less comfortable sharing in a group setting. Reflection essays, completed independently, offered a more introspective and synthesized view of students' mindfulness journeys. The diversity of methods supported a richer and more nuanced understanding of the phenomena, though it may also have introduced variation in how experiences were articulated.

All focus group and interview sessions were conducted virtually, recorded, transcribed, and de-identified before coding. Discussions invited students to reflect on their mindfulness experiences, favorite practices, real-life applications, and plans to continue practicing. Volunteers provided written consent to allow the use of their de-identified reflection essays. These essays were completed after the four-week Koru program concluded. As part of the for-credit course, essays were graded complete/incomplete before being anonymized for analysis. There was a total of 15 students who participated in individual or focused group interviews and 25 who volunteered to have their essays included in the study; there was overlap between these groups in the Spring 2022 class.

**Table 1.** Distribution of participants.

Semester	Focus group	Individual interview	Student essays
Fall 2021	$N=5$		
Spring 2022	$N=7$	$N=3$	$N=11$
Spring 2023			$N=14$

### Coding process

This qualitative study used grounded theory, phenomenological, and iterative approaches to analyze the data. Three

**Table 2.** Major themes from coded transcripts and essays.

#### Major Theme: Learning to Practice

Definition: Through repeated practice, surpassing the aversion to/ avoidance of "non-doing."

"I think at first, I was super skeptical with the whole course in general, just with the effects that mindfulness could have so [sic]. I like had not [sic] established practice whatsoever..." (Focus Group participant [FG], Fall 2021)

"[It] was definitely more difficult at the beginning just not quite knowing what to do or what you're supposed to be doing while you were sitting in silence. As we picked up more skills and different practices that we could tailor to our own meditation experience, it definitely got easier. When we did have that one lengthier meditation, it honestly really just flew by. It didn't feel like a drag at all which was surprising, considering at the beginning, you were definitely more aware of time, and just like sitting there in silence. It definitely got easier." (Student Interview [SI], Spring 2022)

#### Major Theme: Self-Awareness

Definition: Conscious knowledge of one's physical and mental state in the present moment.

"I think, overall, like I've become more aware of my body and like especially my breathing and like just like what's going on, if I'm clenching my jaw." (FG, Fall 2021)

#### Major Theme: Self-Acceptance

Definition: Allowing mindfulness principles to positively guide self-image.

"I have a physical disability with my right leg, like I have malformed blood vessels in that leg, so I deal with a lot of pain on a daily basis. ...I wouldn't say that the body scan relieved the pain or anything, but I think it just made me feel a lot more connected to my body. ...I really felt before that, like my leg was just a different part of me. I did not mentally connect with that and so the mind-body thing was not there, but after doing the body scan, I feel like I've just developed kind of like a new mindset about my physical presence in the world, which I'd say has definitely been a positive change." (FG, Spring 2022)

#### Major Theme: Self-Regulation

Definition: Implementing learned techniques to remove or negate negative mental states.

"... My therapist has been like, '[name omitted] you need to meditate, it will help your anxiety so much,' and I was always sort of like pushing back against it... I really discovered it had like a very positive effect, when I felt overwhelmed and this is like the first semester [that] I've had other people say this to me that they said that my demeanor seemed a lot... more calm." (FG, Spring 2021)

#### Major Theme: Applying the Practices

Definition: Recognizing moments where mindfulness practice improves quality of life.

"... we do this like station test where it's like you get a minute and a half, at every station, and you have to label a bunch of things and I like found myself like, it wasn't even necessarily that I was meditating but I was so mindful throughout it and, like, I was positive to myself, too..." (FG, Fall 2021)

#### Major Theme: Quality of Life

Definition: Incorporating mindfulness practice principles into daily mindset and activity.

"I think with the present moment kind of thing, especially because I'm graduating, and I'm about to be 22, so being at that time in my life where I feel things are really starting to fly by even faster than they were before, and seeing how things are so quickly changing, I think mindfulness has just been so wonderful in helping me stay grounded, and not look too far in the back and being sad about what's passing, but also not looking too far in the future, and understanding that, like my time and attention and energy needs to be devoted to what I have right now and it is the most important thing." (SI, Spring 2022)

authors independently read the essays and transcripts, determining open codes directly from the data. Open codes were combined into core codes, resulting in three preliminary codebooks. The authors then collaborated to compare codes, identifying major themes and consolidating everything into the final common codebook. Core themes were aligned with existing mindfulness research terminology where appropriate. The combination of grounded theory and phenomenology allowed for an exploratory, data-driven approach while capturing the lived experience of students engaging in mindfulness practice.

## Results

Six major themes emerged from the data, which elucidate how students experienced the inclusion of KM in a for-credit course: learning to practice, self-awareness, self-acceptance, self-regulation, applying the practice, and quality of life (Table 2).

### Theme 1: learning to practice

Starting and maintaining a meditation practice is notoriously difficult. Many students initially struggled with resistance to meditation. Very few students had consistently practiced mindfulness before entering the course. Some were quite skeptical. One student shared, “It was difficult for me to wrap my brain around just five minutes of breath work being enough to change my mindset” (Student Essay [SE], Spring 2022). In contrast, students with previous experience in mindfulness found it easier to engage. For those who had tried meditation but struggled to maintain it, the course provided an opportunity to reestablish their practice: “I already was introduced to mindfulness [the] previous semester through some clubs, so I was really into meditation and over the summer I lost my practice... I came to the course really looking forward to establishing the practice again” (Focus Group [FG], Fall 2021). Although some students encountered initial resistance, most noted that repeated practice and course scaffolding helped them gradually overcome it. Keeping the practice log was “more like a task” (FG, Fall 2021) but was also appreciated as a way to “keep [them]selves on track” (FG, Fall 2021). Generally, students found the course format helped them overcome barriers to practice. It should be noted that some students were absent on days devoted to the KM practices and had to learn them independently using the guided audio available on the KM website.

### Additional representative quotes

- “...mental health doesn’t have a deadline and a lot of the time it’s like the first thing, to like get swept under the rug when you get busy... I really appreciated this opportunity to do this, like for a course credit, because I think that’s like really what I personally needed to get me started, and now that I’ve like kind of established something like it will be a lot

easier for me to like make that a more of like a big priority in my life.” (FG, Fall 2021)

- “...the habit of setting time aside for mindfulness was definitely difficult at first, but certainly got easier over time, especially because of how peaceful I felt after each Koru session.” (SE, Spring 2022)

### Theme 2: self-awareness

Students reported heightened awareness of both physical and mental states as they grounded themselves in the present moment. In most cases, noticing these states resulted in a greater understanding of themselves or their experiences. The meta-cognition described here is central to the experience of mindfulness. By observing what arises in the present moment, whether physical sensations, thoughts, or emotions, students cultivate the mental state referred to as “mindful” – being aware, observing, attentive, or awake. This self-awareness lays the foundation for both self-acceptance and self-regulation, enabling students to engage more fully with their mindfulness practice and supporting their broader personal development. Several students mentioned that the self-awareness that came with their meditation practice allowed them to better care for themselves. “It made me more aware of my current state, opening up the opportunity to address my needs” (SE, Spring 23). Another stated that “the practice has helped me to be more aware of my emotions and thoughts, allowing me to process them more effectively... I feel like a completely different person after being consistent in doing the practices after several weeks” (SE, Spring 23). A few students shared how mindfulness helped them to become more aware of the “inner critic” and the harsh self-judgements that undermine their wellbeing. This awareness is the foundation for cultivating self-compassion. “I noted the tone of voice I used for different thoughts and realized I would never speak to friends the way I spoke to my own self” (SE, Spring 2022). This self-awareness laid the foundation for self-acceptance, enabling students to be kinder to themselves.

### Additional representative quotes

- “As I experienced the guided meditation for the first time, I really noticed that what usually prevents me from falling asleep is that I am unable to stop my thoughts from churning around inside my head.” (SE, Spring 2022)
- “I found that walking to class, intentionally observing the feeling of my feet touching the ground, the various sounds that I was hearing, as well as noticing the things I saw around me, helped me to appreciate the moment I was in and not get lost in my thoughts.” (SE, Spring 2023)

### Theme 3: self-acceptance

Students shared that their mindfulness practice helped them cultivate self-compassion and self-acceptance. Some described



realizing they had been overly critical of themselves and that mindfulness provided a way to acknowledge their struggles without judgment. “Hold myself, love myself, be kinder to myself, give myself more of a break. Extend the same generosity I do to others for me. I’m not sure why, but those felt like radical things” (SE Spring 2022). The concepts of self-acceptance and self-compassion are central to meditation practice and form a large part of the course discussion. Sometimes students were reluctant to accept their vulnerabilities because they felt they should already know how to be resilient in the face of challenges.

I felt I was trying to set an example of how to be resilient or overcome problems in mental health and so every time I had a problem, I would not share it because I will [sic] feel ashamed or that would ruin my image. So, after experiencing self-compassion, like, it kind of... immediately my sadness went away. I feel that it was there because of all the self-criticism and self-judgment that was going on in my head, and I was able to accept that and... it just got away [sic], went away. (Student Interview [SI], Spring 2022)

This student’s description of the shame felt when experiencing sadness or depression is an example of the pressure students sometimes feel to always be happy, resilient, and capable. This is a form of “toxic positivity,” when the pressure to be well-adjusted ironically leads to decreased wellbeing. Paradoxically, accepting one’s vulnerability tends to help one move through the difficulty more quickly. Shame and self-judgment were common themes among the students, as was the relief that came from letting those feelings go.

#### **Additional representative quotes**

- “I felt really ashamed about myself. I would do a lot of self-criticism, self-judgment and things like that. I mean it was the same week we watched the TED talk about self-compassion and self-esteem, and that was like really helpful because after that I realized after reflecting that like it was okay to be sad and to be afraid, and like. There’s nothing to be ashamed about it.” (SI, Spring 2022)
- “I was a competitive ballet dancer for 10 years, which drastically impacted my relationship with food and nutrition. I found that by practicing mindful eating I felt less guilty after eating unhealthy foods, and I was able to learn to honor my body and my cravings.” (SE, Spring 2023)

#### **Theme 4: self-regulation**

As students developed mindfulness as a coping tool, some described achieving equanimity – defined as a state of psychological stability or balance – through meditation. One student neatly summarized this experience, “Realizing that there is nothing to fear... thoughts are just thoughts, emotions are just emotions. They all come and go, and they enrich our experience, but they are just what they are” (SE,

Spring 2023). By recognizing thoughts and emotions as temporary, they were better able to regulate stress and anxiety, which helped students navigate both academic and personal challenges.

#### **Additional representative quotes**

- “I found myself wanting desperately to set aside time to practice Koru, because I could feel myself getting more irritable and short-tempered.” (SE, Spring 2022)
- “Meditation taught me how to sit with painful sensations and information without instantly sorting my experience into categories, judgments, or distinctions.” (SE, Spring 2022)
- “I had been extremely stressed out from midterms and assignments, and I felt that I always to be on my autopilot mode for school... That was really weighing on me. So then, when we did the safe space meditation... I felt that release of expectation and release of pressure and... this overhanging feeling of doom and failure.” (SI, Spring 2022)

#### **Theme 5: applying the practices**

There were two primary facets students identified when talking about applying what they had learned: practicing learned meditation skills in their daily lives, and using meditation practices to navigate or overcome moments of difficulty. One student recalled using a quick body scan before a presentation:

So, I hate giving presentations... I was getting kind of nervous... so I took like two seconds to... breathe and feel my body and do a quick body scan. And like I was probably the most calm that I’ve ever been for a presentation and like I was really grateful for having a mindfulness practice. (FG, Spring 2022)

Another student described their mind as “like a beach with a sky full of thoughts that make me feel emotions, which I can observe and recognize,” which made them feel “grateful for having been able to create such a beautiful place inside me” (SE, Spring 2022). Finally, one student shared how they could apply what they had learned from the course when feeling overwhelmed:

I had this pretty big personal thing happen to me, and I know that the past me would have broken down crying for like hours... I was like about to cry but I was like, ‘no wait, hold on, let’s be mindful about this.’ And I didn’t... I was like, ‘you know everything is going to be okay’ and I realized then that I really had learned a lot from the course. (FG, Fall 2021)

This ability to stay calm under pressure, despite limited external support, was a recurring theme as students utilized mindfulness to cope with stressful moments more effectively. This was usually followed by a moment of recognition for what they had gained during the course, as noted above. Students recognized mindfulness as a practical, transferable skill, extending beyond the classroom into their daily lives.

### Additional representative quotes

- “I was kind of like I went into the course excited because I was like I’m going to be held accountable and like do it... and I really discovered it had a very positive effect when I felt overwhelmed. This is the first semester, I’ve had other people say this to me, that they said that my demeanor seemed a lot more calm when it came to school, which is something I’ve always put a lot of pressure on myself to like do perfect... I definitely had a more relaxed approach... so that was helpful, I think... really accepting that this could be a positive tool that I can use to navigate stress and anxiety.” (FG, Fall 2021)
- “For me, the ‘labeling thoughts’ meditation has become my go-to. I just think it is really helpful to identify what is going on, like in my mind that day and also to really easily identify it and let it go and not... stay thinking about that.” (FG, Spring 2022)
- “[O]ne that I really liked was the safe space one because it felt like allowing myself some moments of freedom from how intense I was finding a lot of this year.” (FG, Spring 2022)
- “There would be some nights that my mind would be racing too much, because I was like working really intensely on a paper or something, and I actually use [sic] a meditation to help me fall asleep, like slow everything down.” (SI, Spring 2022)

### Theme 6: quality of life

Many students described how learning mindfulness practices positively impacted their wellbeing, particularly regarding their happiness, relationships, and sense of community. One student shared how the practice changed their daily habits:

I just recognized how much I needed to feel safe... how unsafe I felt in my day-to-day actions as a student... it completely helped me change my... habits, and how I go about studying and breaking up my day into different aspects to give myself some breaks. (SI, Spring 2022)

This is exactly the sort of self-care that self-awareness makes possible. There were some intriguing comments suggesting that mindfulness could have an impact on collective wellbeing, in addition to individual wellbeing.

Mindfulness has definitely changed my dynamics with a lot of different people. I think it has made me a much nicer person in general. I think it hasn’t... changed my ethical viewpoint, as much as it lets me act on my more empathic behaviors [instead of] opportunism, or anxiety, or fear, or something like that. So, I’ve been kinder. (SI, Spring 2022)

Mindfulness was not just seen as a technique but as a way of living, leading to a greater sense of balance, fulfillment, and connection.

### Additional representative quotes

- “Koru helped me enjoy life more and also feel more free.” (SE, Spring 2023)
- “I think it has profoundly shifted my life philosophy in a way that I feel... with this practice I feel like I’m becoming more of who I want to become.” (SI, Spring 2022)
- “I was kinder to myself... The Koru practice really helped me... like established a better version of me, which was like more realistic and more resilient.” (FG, Fall 2021)
- “I was able to not judge that much, especially... after the self-compassion class, because I realized that like everybody has their story, and we should understand... everybody learns what they learned because of their story. At the end, we’re all just the same” (SI, Spring 2022)
- “Practicing mindfulness within the Koru program has been transformative... I have felt better about many aspects of my daily life, from when I wake up until I go to sleep. I have more energy in the mornings, and I have been able to fall asleep faster at night. I have been more thoughtful with my friends and family.” (SE, Spring 2023)

### Discussion

This study contributes to the field by shedding light on the lived experience of college students learning to meditate in a for-credit course using the KM/MIEA program. It demonstrates that embedding mindfulness in the academic curriculum is feasible, that it supports students in establishing a meditation practice, and that it may offer a foundation for healthy development among emerging adults. Implementation can take a bottom-up approach, where individual instructors obtain mindfulness certification and integrate mindfulness practices into their courses, or a top-down approach, where institutional leadership creates opportunities to incorporate contemplative education into for-credit curricula. However, the authors believe mindfulness should always be invitational rather than mandatory, aligning with the central tenet that meditation should never be forced.

Because mindfulness meditation is an effective way to both prevent and treat depression and anxiety, integrating mindfulness and other contemplative practices into the academic curriculum – in for-credit courses – could be one important way to promote student wellbeing, especially given the ubiquitous problem of student overscheduling.<sup>5,26</sup> As Deshpande et al<sup>5</sup> found, students’ busy schedules are among the greatest barriers to practicing mindfulness. Students in this study appreciated the opportunity to practice meditation as part of a for-credit course instead of having to pursue it as an extracurricular activity. In fact, a common critique of the course was that students wanted to devote even more class time to meditation. This study suggests that by

integrating contemplative practices into courses, we can change the way courses are experienced by students potentially transforming them into a source of wellbeing rather than an additional stressor.

Despite a genuine desire to provide education for the whole student, higher education has yet to fully understand and meet the social, emotional, and cognitive needs of college student learners. Given this gap in support, combined with the intense pressure to succeed, it is no wonder that students frequently report high levels of stress, anxiety, and depression. Mindfulness cannot replace formal mental health interventions, but it provides a tool for students to manage their own stress and cultivate emotional resilience.

While we have a sophisticated educational system, oddly, we don't learn the most important skill we need to maintain a basic state of wellbeing. In order to create and sustain a good life, we must cultivate a conscious and constructive relationship with our own thoughts... We have infinitely more choice than we know when it comes to our own attention and what we do with it.<sup>27(p11)</sup>

Mindfulness training may also support metacognition – the ability to observe our own thoughts, reflect on their veracity, and question them. Several students in this study described heightened self-awareness and an increased ability to step back from negative thoughts or emotions. Contemplative practice fosters this ability to be aware of their own thinking, and thus to cultivate metacognition.<sup>28</sup> Some posit that metacognitive skills defined as “awareness and control of thinking for learning” are a crucial component of learning.<sup>29,30</sup> It is empowering for students to become aware of their own thoughts and emotions and learn how to direct their attention consciously. This leads to greater self-awareness, better self-regulation, and enhanced self-compassion; it may also improve interpersonal communication both in and outside the classroom.

William James,<sup>31</sup> the nineteenth century “father of American psychology” commented on the importance of attention to education:

The faculty of voluntarily bringing back a wandering attention over and over again is the very root of judgment, character, and will. No one is *compos sui* (master of himself) if he has it not. An education which should improve this faculty would be the education *par excellence*. But it is easier to define this ideal than to give practical instructions for bringing it about.<sup>31(p424)</sup>

At its core, this is what mindfulness skills allow students to cultivate: the ability to bring a wandering attention back to the anchor or focus of the meditation (eg, the breath) regardless of internal or external stimuli. This powerful metacognitive tool appears to improve student success and wellbeing, may enrich interpersonal communication, and has the potential to enhance the educational experience itself. This is precisely the capacity that students described developing through mindfulness training: the ability to focus their attention, regulate emotional responses, and remain present rather than becoming overwhelmed by external pressures – academic or otherwise.

Among the benefits of a mindfulness-based approach to the traditional classroom that can enrich the student

experience are embodied learning, increased curiosity and open-mindedness, and the opportunity for a transformative educational experience. Contemplative practice may offer students a deeper understanding of the subject matter, not only in an increased capacity to assimilate data but also to have an embodied experience of it that can be easily recalled and synthesized. Students from this study reported that mindfulness allowed them to engage more deeply with their coursework and improve interpersonal communication. Mindfulness has been shown in other settings to cultivate both curiosity and open-mindedness (non-judgment) that can be applied to alien concepts that they might otherwise approach with a closed mind.

Finally, there is evidence that contemplative practice supports transformative education in multiple ways, including finding deeper meaning in course material, changing students' relationship to learning, and looking beyond the grade to reignite their natural curiosity about a subject.<sup>22,23</sup> In this study, students described mindfulness as helping them become more present in their learning, more resilient in the face of challenges, and develop a greater sense of self-compassion. “The incorporation of mindfulness-based courses framed broadly and educationally, may be a fruitful path for serving higher education's broad aims of helping students grow, develop as compassionate and critical human beings, learn who they are, and search for larger purpose in their lives.”<sup>23(p17)</sup>

While mindfulness may not appeal to all students and certainly is not a panacea for all the challenges students face, it can open the door to inner empowerment that enhances both cognitive growth and emotional resilience. Integrating mindfulness and other contemplative practices into the academic curriculum may help invigorate higher education by addressing the growing problem of ‘careerism.’ A former dean at Harvard, Harry Lewis,<sup>32</sup> wrote:

[T]he fundamental job of undergraduate education is to turn eighteen- and nineteen-year-olds into twenty-one and twenty-two years olds, to help them grow up, to learn who they are, to search for a larger purpose for their lives and to leave college better human beings.<sup>32</sup>

Mindfulness and contemplative practices may be missing ingredients in the kind of whole-student learning that educators have been calling for: education that prepares students not just for careers but also for the rest of their lives. If college is to be more than merely a return on investment strategy in the pursuit of employment, then universities must address the needs of the whole student. This study suggests that developing a mindfulness practice supports not only mental health but also self-awareness and ethical reflection, which may have long-term implications for students' personal and professional lives. The self-awareness that comes with experiencing contemplative practice bridges the gap between knowledge and ethical action. “Students whose minds and hearts have been formed by a contemplation of self as well as world, are much more likely to become the kinds of ethical actors we need at a time when basic human values... are so widely threatened.”<sup>22(pix)</sup>



### Study limitations

This study was designed as a proof of concept, exploring how students experienced learning mindfulness practices within a for-credit elective. It was not intended to make definitive statements about efficacy. The study relied on a convenience sample of student volunteers, with no effort made to achieve saturation or to recruit a representative sample. Demographic data were not collected. This reliance on a convenience sample likely introduced selection bias, as students with more favorable experiences may have been more inclined to opt in. Because the course itself was an elective, it may have also attracted students who were predisposed to be open to mindfulness practices. Data from three sources were included to capture the depth and variety of the student experience in this exploratory-descriptive qualitative study of the course and its reception. Although data source triangulation in qualitative research can enrich understanding through the use of multiple perspectives, the heterogeneity of sources (focused group interviews, individual interviews, and personal reflection essays) may have also introduced variations that would not have occurred with a single data source.<sup>33</sup> There were also variations in practice “dose”—some students engaged with mindfulness practices more consistently than others. Lastly, the course syllabus evolved across semesters based on student feedback and curriculum changes, meaning that not all students were exposed to identical didactic material. However, the four-week KM/MIEA curriculum itself remained consistent across the study period.

### Study strengths

This study is unique in its qualitative exploration of the lived experience of students learning the KM/MIEA approach to mindfulness embedded in a for-credit course. It demonstrates that integrating contemplative practices into the academic curriculum is feasible, supports student wellbeing, and may contribute to whole student learning. The study deepens our understanding of the student experience, which adds a new dimension to the five quantitative studies of KM published to date and builds on these studies by generating hypotheses related to the cognitive, emotional, social, and moral development of emerging adults.

### Future research

Future research should adopt a mixed-methods approach that combines qualitative and quantitative measures to gain a more comprehensive understanding of mindfulness’ impact on student wellbeing. Pairing pre- and post-intervention assessments of stress, mindfulness, and wellbeing with student reflections would provide richer insights. A longitudinal approach would also be valuable, tracking students beyond the course to assess the sustained impact of mindfulness training, such as emotional regulation and stress reduction. Moreover, future studies should explore best practices for embedding mindfulness into undergraduate curricula. Key

considerations include determining the balance between experiential and didactic learning, appropriate class sizes, grading approaches, and the best methods for training instructors to teach mindfulness so that quality instruction is provided to students.<sup>34</sup>

Another promising area for research is the potential for mindfulness to promote collective wellbeing and prosocial behavior.<sup>35</sup> While most current research on mindfulness in higher education focuses on individual outcomes, emerging voices have emphasized its potential to address broader social issues such as creating a sense of belonging for all persons.<sup>36,37</sup> For example, one recent study found that mindful instructors created more inclusive classrooms for students.<sup>38</sup> Mindfulness practices can help individuals recognize their own biases while cultivating compassion for self and others. The awareness that derives from meditation practice can help us become cognizant of when we are seeing through the “lens of the other” and operating from the “mind of separation.”<sup>39</sup>

Concepts central to mindfulness underscore the interconnectedness of all people and encourage an ethos of caring that extends beyond individual wellbeing.<sup>40</sup> This worldview organically produces an ethic of care, or as bell hooks<sup>41</sup> calls it, a “love ethic,” in which we are motivated to address not only our own suffering, but that of others too. Future research can explore how mindfulness practices improve individual and collective wellness in higher education settings, especially if integrated into the curriculum and culture.

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### Conflict of interest disclosure

The authors declare that they have no conflicts of interest relevant to this study. The authors confirm that the research presented in this article met the ethical guidelines, including adherence to the legal requirements, of the United States and received a QI/QA exemption from the Institutional Review Board of the University of Pennsylvania.<sup>42</sup>

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