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PRACTICING LOVING-KINDNESS MEDITATION TO PROMOTE MENTAL WELLNESS: A QUALITATIVE STUDY OF DOCTORAL STUDENTS' EXPERIENCE

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ABSTRACT

Aim/Purpose	The mental health crisis of graduate students is often overlooked, though this population may experience higher rates of stress and anxiety than undergraduates. The purpose of this study was to describe perceptions and experiences of students practicing loving-kindness meditation (LKM) during synchronous online Doctor of Education classes at a large university.
Background	Doctoral students' mental health remains a prominent international concern. In recent years, more attention has been given to factors affecting graduate students' well-being and psychological distress. Mindfulness-based interventions have shown promising mental health outcomes in higher education.
Methodology	Qualitative research was used to examine the experiences of 25 doctoral students, mainly working adults from education and other backgrounds. Weekly, written responses on meditation practice were collected using a confidential online survey, and focus groups were conducted to provide additional insight. MAXQDA software was used to conduct thematic data analysis.
Contribution	This study contributes to the growing body of knowledge on loving-kindness meditation as a mental health intervention with higher education students. It adds to the virtually non-existent literature on doctoral students' experiences with meditation. LKM has also been associated with reducing anxiety and stress in adolescents and with burnout prevention initiatives.

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Findings	Most participants perceived LKM as a difficult practice, struggled with mind-wandering during sessions, and did not engage if they felt rushed or overwhelmed. A smaller number of students reported experiencing stress relief and changes in perspective towards others.
Recommendations for Practitioners	Advanced meditation methods like LKM should be scaffolded by having students initially study an introductory meditation method. Students also need time to adjust to class before engaging in meditation.
Recommendations for Researchers	Researchers should continue to explore factors affecting the feasibility and efficacy of LKM to enhance well-being and reduce psychological distress, informing effective intervention designs and approaches.
Impact on Society	The study underscores the importance of addressing the concerning mental health issues faced by doctoral students, an issue that receives less attention compared to undergraduate research on the topic. Additional research will help to normalize LKM as a valid, beneficial practice for mental health in academia and professional environments.
Future Research	Future research should include longer-term studies to ascertain whether students' experiences and perspectives change after greater doses of LKM, examine facilitation delivery, and conduct mixed-methods studies on LKM with doctoral students.
Keywords	doctoral students, Ed.D. students, loving-kindness meditation, mental health, mindfulnes

INTRODUCTION

While under-studied, doctoral students' mental health remains a prominent international concern. A study of more than two thousand Ph.D. students found that graduate students are six times more likely than the general population to experience depression and anxiety (Evans et al., 2018). Until recently, research has mainly focused on the mental health of undergraduates; however, depression and anxiety appear to be common among doctoral students, and their rates of psychological distress may be higher (Casey et al., 2023; Hazell et al., 2020; Moss et al., 2022). Psychological distress has been defined as mental health problems severe enough to cause moderate-to-severe impairment in work, school, or social functioning and requires treatment (Weissman et al., 2015). Doctoral students may also be less likely than undergraduates to disclose mental health challenges or accept support services (Casey et al., 2023).

Doctoral students, who include Ph.D. and Ed.D. (Doctorate of Education) students, face numerous stressors, including high workloads, lack of work-life balance, peer pressure, feelings of doubt, difficult mentor-mentee relationships, limited finances, time management issues, and family problems (Schmidt & Hansson, 2018; Zhang et al., 2022). Furthermore, research with United Kingdom doctoral students found strong evidence of association between impostor thoughts and depression and anxiety (Berry et al., 2021). Doctoral students' tendency towards self-deprecation, self-criticism, and perfectionism has also been theorized as a possible contributing factor to decreased mental health among this population (Byrom et al., 2022; Jackman et al., 2022).

Multiple stressors put graduate students at an increased risk for burnout (Park et al., 2021), which involves energy depletion, emotional exhaustion, depersonalization from one's occupation and coworkers, and reduced perceptions of personal accomplishment (Leiter & Maslach, 2016; Maslach & Jackson, 1981). Previous research has shown that graduate students reporting high incidences of burnout have been associated with mental distress, decreased life satisfaction, reduced empathy, and professionalism (Allen et al., 2021). Furthermore, high demands of graduate school have been associated with unhealthy coping strategies, such as illegal prescription drug usage (Lanier et al., 2001); however,

the most concerning outcome of mental health challenges among graduate students has been heightened risk of suicide (Garcia-Williams et al., 2014).

Finally, poor mental health among graduate students has been linked to attrition (Bair & Haworth, 2004). Attrition among doctoral students is a global problem, with rates varying depending on location. For example, the dropout rate in Norway for doctoral students between 2016 and 2021 was about 48% (Aksnes et al., 2024). The attrition rate for doctoral students in the United States ranges from 36% to 51% (Mensah, 2025). Of course, lower attrition rates inversely impact the economics of higher education universities, faculty who invest time and mentor graduate students, and graduate students themselves (Gardner, 2008; Wollast et al., 2018).

Advanced practice doctoral students, such as those who typically enroll in Ed.D. programs, are especially prone to both mental health challenges and attrition. They tend to have more life stressors, including both professional and caring responsibilities. These added stressors arise because they are older than typical doctoral students, disproportionately women, and more often the first person in their family to earn a graduate degree (Bair & Haworth, 2004). As a result, many have advanced in their career responsibilities, more often have to balance program requirements while caring for children, parents, and/or other family members, struggle with being an "impostor," and lack role models (Keefer, 2015). Moreover, fully online programs increase students' sense of social and academic isolation, even while improving access for students who might otherwise be unable to attend (Graham et al., 2023).

Graduate school represents a complicated experience that requires many adjustments (Faro, 2013), and recent studies note a concerning trend of increased psychological distress among graduate students. Scholars are calling for increased attention in this area, as it becomes necessary to better understand the predictors of health and well-being among graduate students (Santos Alves Peixoto et al., 2022). Well-being has been associated with emotional regulation or managing the way emotions are experienced and expressed (Gross, 2015).

Loving-Kindness Meditation

Mindfulness can support the process of emotional regulation (Guendelman et al., 2017; Keleynikov et al., 2022). Mindfulness originates from the Buddhist tradition and, though no agreed-upon definition exists, it is commonly considered a psychological quality of present-moment awareness without judgment (Kabat-Zinn, 2003). Mindfulness meditation involves cultivating this quality through formal practice, such as sitting and observing one's breath. During recent years, there has been increased interest in studying mindfulness-based interventions (MBIs) worldwide to address the mental health crisis among undergraduates. Mindfulness interventions have produced positive effects among higher education students, including graduate students. A systematic review and meta-analysis of 51 randomized controlled trials (RCT) with undergraduate and graduate students found that mindfulness programs significantly improved distress, depression, and state anxiety symptoms compared to inactive controls (Dawson et al., 2020).

Another review of 58 RCTs determined that mindfulness interventions with undergraduates significantly outperformed active and inactive controls, particularly in the areas of anxiety and depression (Johnson et al., 2023). A third systematic review of 46 studies found a similar conclusion, noting that while mindfulness meditation practices produced mixed results regarding academic performance, such interventions consistently demonstrated positive outcomes with decreases in stress, anxiety, and depression (Haberlin & Bradshaw, 2025). Though to a much lesser extent, MBIs have also been tested specifically with graduate students. Researchers report that after an eight-week mindfulness intervention, engineering graduate students showed significant improvement in emotional health, positive affect, and mindfulness, as well as decreased neuroticism and negative affect (Crone et al., 2023). Another study, involving graduate students (half working on their doctorates) meeting for two-hour

sessions for eight weeks to practice mindfulness techniques, suggested increased in mindfulness levels and psychological well-being and reduced perceived stress level in the intervention compared with a control group (Santos Alves Peixoto et al., 2022).

Loving-kindness meditation (LKM) is a special method of mindfulness meditation also derived from Buddhism. While variations exist, LKM practice involves calling to mind different images of individuals or living beings and well-wishing, or mentally repeating phrases and sending intentions towards that target. For example, a meditator might call up the image of a friend or family member and silently repeat phrases such as "may you be happy" or "may you be well" in the direction of the target. Research suggests that practicing LKM activates parts of the brain associated with empathy and other emotional responses (Garrison et al., 2014; Leung et al., 2013). LKM has been shown to improve health and well-being and enhance positive emotions in clinical and nonclinical populations, for example, increasing the daily experience of positive emotions in working adults (Galante et al., 2016; Zeng et al., 2015). A systematic review by Zheng et al. (2023) determined that LKM is effective in reducing anxiety and particularly impactful when combined with mindfulness meditation. A meta-analysis of 65 studies involving LKM interventions suggested that meditation could increase self-compassion in healthy adult populations (Lv et al., 2024). Researchers have also determined that LKM can assist adults with a tendency towards high self-criticism (Shahar et al., 2015). In addition, LKM has been tested with individuals with higher stress and increased risk for job burnout, such as healthcare workers. Despite limitations in the research, such as small sample sizes and lack of controls, LKM practice has been shown to help mitigate stress and burnout by increasing compassion for self and others (Boellinghaus et al., 2012).

In a controlled study with university faculty and staff (*n*=65*)*, Kok et al. (2013) reported an increase in positive emotions for participants who practiced LKM for one hour each week for six weeks compared with a control group. The practice of LKM has also suggested positive mental health outcomes in university students (Ilies et al., 2019; Liu et al., 2023; Martínez-Rubio et al., 2021). However, the study of LKM with graduate students, including doctoral-level students, is virtually non-existent. A quasi-experimental study with 103 master-level counseling students suggested that LKM practice over six weeks improved positive mood (Leppma & Young, 2016). However, the study design contained a number of limitations, which could have impacted outcomes, including 20 participants self-selecting inclusion into a treatment group rather than being randomly assigned.

While individuals have reported common barriers to meditation practice, including difficulty with sitting alone with thoughts and finding time to meditate (Bamber & Schneider, 2022), LKM can present unique challenges. Barnhofer et al. (2010) reported that individuals with a higher tendency towards ruminative brooding, or a form of moody pondering where one self-chastises at times of low mood, did not appear to respond positively towards LKM as compared with focused-breath meditation. The researchers noted that brooding occurs as the product of continuous attempts to reduce discrepancies between current and desired states of the self, which runs in opposition to the notion of unconditional regard that is cultivated during LKM. However, when paired with other interventions, such as Mindfulness-Based Cognitive Therapy (MBCT), LKM has demonstrated positive outcomes with rumination (Wang et al., 2021). One theory is that mindfulness breathing can lead to decreased frequency of repetitive thinking, while LKM then allows individuals to cultivate compassion and gratitude, which reduces rumination (Wang et al., 2021).

Due to a lack of research examining LKM interventions with doctoral students, it is difficult to evaluate whether this group experiences differences in rumination or emotional states compared with other populations. In a larger-scale (*n*= 809) mixed-methods study, involving an online LKM training, some participants who completed written responses of their experiences noted that the meditation method did produce positive feelings of calm and relaxation. It helped them deal with difficult situations and be more accepting of others (Galante et al., 2016). However, many participants also reported experiencing intense emotions and negative feelings, including sadness. Boellinghaus et al.

(2013) reported that, after being interviewed, therapist trainees practicing LKM enhanced self-compassion and self-awareness and benefited their skills as therapists, but that the method was also "emotionally intense," causing at times, "anger, guilt, sadness, or anxiety" (p. 271). LKM may prove more challenging for higher education students who score lower in state or trait positive affect and social connectedness, producing a lesser effect or making practice less desirable (Leppma, 2011).

While face-to-face LKM interventions for larger groups would be an expensive public health endeavor, Internet-based interventions are viewed as a promising mental health tool (Webb et al., 2010). LKM beginner-level instruction can be taught using online methods (Salzberg, 1995), which would improve accessibility and reduce costs. Thus, LKM online interventions could serve as an effective mental health tool for graduate students, who often complete courses virtually.

Theoretical Framework

Meditation practice involves training the attentional processes and is typically categorized into three types: (1) concentrative, (2) open monitoring, and (3) focused or directed. During concentrative methods, one places attention on a particular object, such as the breath or a repeated sound (mantra). With open-monitoring methods, attention is purposely kept open or accepting to whatever enters one's field of awareness (e.g., breath, thoughts, images, emotions, physical sensations). Increased knowledge and advances in neuroscience have provided deeper understandings of neuropsychological functioning. For example, the human brain is designed to constantly scan its environment (internal and external sources) to construct meaning and respond to what is construed as threats, danger, or opportunities in the form of gratification or reward (Kristeller & Johnson, 2005, p. 401). These highly conditioned responses, whether physiological, emotional, or behavioral, can occur within milliseconds. However, meditation practice, such as concentrative or open-monitoring techniques, involves engaging the mind in a different manner, allowing the individual to increase awareness of habitual patterns and responses. By contrast, LKM falls under a third category of methods, which might be considered *directed* meditation. Rather than train attention to a singular object or remain open to attentional phenomena, LKM requires directing attention towards cultivating experiences of compassion, a sense of friendliness or love, and connection with others. This means the LKM practitioner engages with their mind in an atypical manner (disengaging from unconscious thought patterns) but also introduces another uncommon step. This second stage involves the challenge of confronting one's habitual conditioning of self-enhancement (Figure 1). During LKM, an individual must disengage with the usual "daily preoccupation" with self-reinforcing or self-indulgent behaviors and reactions and shift from "self-protective and self-centered" to "focused engagement with one's own capacity for empathy, compassion, and altruistic behavior" (Kristeller & Johnson, 2005, p. 401).

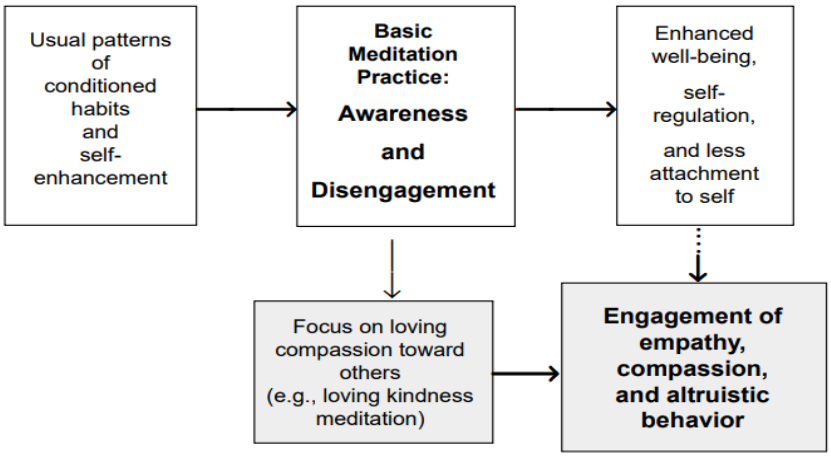

Figure 1. Loving-kindness meditation framework
(adapted from Kristeller & Johnson, 2005)

This LKM framework informed our study in several ways, including the choice of specific variations of LKM practice and sequencing of instruction. During the previous semester, participants had previous practice with concentrative meditation (focusing on the breath), which provided some direct experience with disengaging from typical attentional processes and gaining more awareness of habitual thought and emotion patterns. Additionally, the LKM instruction was scaffolded to initially guide participants using "easier" targets, which theoretically required less intense shifting from self-preoccupation to focusing on another (i.e., a friend, family member, pet) before advancing to more challenging psychological shifts (i.e., a stranger, person of conflict). The frame also influenced data collection regarding embedding questions that asked participants to expound on statements regarding difficulties with shifting away from self-occupation and guided data analysis, as we sought specific instances where participants worked through the stages. Finally, when analyzing data, we intentionally scanned for evidence of LKM challenges as participants described their experiences.

Purpose of the Study

The mental health of graduate students, including doctoral students, has become a global concern. While knowledge of MBIs has rapidly grown during the past decade, little research exists on meditation interventions in graduate programs. Furthermore, LKM has demonstrated highly promising mental health outcomes among the general population of adults. However, few studies have been published on the use of LKM for higher rates of psychological distress among graduate students. For example, doctoral students may perceive LKM differently or experience different outcomes from the general population of adults, including unique barriers or challenges.

Such knowledge would be highly relevant in designing effective MBIs at the doctoral level. Therefore, the aim of this study was to investigate the perceptions and experiences of a group of Ed.D. students at a large university practicing LKM during online classes. In addition, we sought the perceptions and experiences of students who also refrained from practice during that time, as this knowledge is especially lacking from the literature on college-based MBIs.

Methods

Participants

Following approval from the university's Institutional Review Board (IRB), study participants were recruited by a research team member not associated with the course. Participants were 25 of the 37 students enrolled in two sections of a Doctor of Education (Ed.D.) course at a research-intensive university during the Spring 2025 semester. The median age of participants was in their late 30s, and they were mainly full-time working professionals in education, business, and other fields. Most participants identified as White women; two of the participants identified as men, two identified as Black, one as Asian, one as Southeast Asian, and two identified as being of two or more ethnicities. The demographics are similar to the rest of this doctoral program. The majority had little to no experience with meditation outside of the Ed.D. courses.

Procedures

The doctoral course involved studying introductory research methods. LKM was an additional component to assist students with stress management and transitioning from their work lives into the virtual, weekly class. During week 2, a graduate assistant attended class to explain the purpose of the study and recruit participants. Following the class, the second author sent out a confidential recruitment survey that included informed consent. Both the in-class and survey recruitment emphasized that students could participate in the study whether they participated in the weekly meditation or not. During weeks 3 to 8 of the sixteen-week semester, all students in the class were invited to practice LKM during the first 3-5 minutes of each virtual class, prior to instruction. Each week, students

could select to participate in the meditation practice or refrain, choosing how to spend their time during the session.

The LKM sessions were facilitated by the first author, who was also the course instructor. He is certified in contemplative studies, including Buddhist-based practices, such as LKM, has five years' experience teaching and researching meditation, and 29 years of personal meditation practice. During each session, the instructor provided a brief explanation of the practice, and participants engaged in variations of LKM. During the first few weeks, participants were prompted to focus on a target that easily elicited positive emotions, such as a friend, family member, or pet. Silently repeating phrases like "May you be happy" or "May you be well," they visualized sending positive energy from their hearts to this target. After several weeks, participants were instructed to send positive intentions to "neutrals," individuals encountered regularly but not intimately known, such as classmates, neighbors, or store cashiers. Later, participants were guided to extend loving-kindness towards groups, such as those marginalized or experiencing additional hardship. Finally, the LKM practice involved sending positive intentions to a "difficult" target or someone with whom they had experienced a conflict.

Data Collection

Written reflections

Each week after the end of class, students who agreed to participate in the study received a link to a confidential Qualtrics survey, which asked whether they participated in LKM that evening. Depending on their response, they were then asked to provide a written response to one of the following prompts: "Please describe your experience and perceptions of engaging in this week's Loving-Kindness Meditation during class. Please use examples and rich, thick description," or "Please describe your experience and perceptions *while not* engaging in this week's Loving-Kindness Meditation during class. Please use examples and rich, thick descriptions." Twenty-two students who agreed to participate completed at least one survey response, and 13 completed the survey every week for six weeks of the semester, whether they meditated or not. In total, 99 surveys were completed. Fourteen of the participants reported that they participated in meditation four or more times. A preliminary thematic analysis of the responses was conducted to determine appropriate follow-up questions to be used during focus groups.

Focus groups

During Week 10 of the semester, two focus groups were conducted with 12 of the participants. Focus groups were utilized as a way for researchers to allow participants to elaborate on written responses regarding LKM experiences and provide triangulation. Two different focus groups, each containing six participants, were conducted using the Zoom Platform (Richard et al., 2020). Each session lasted 60 minutes. To minimize researcher bias, the sessions were facilitated by research team members who were not teaching the course. To account for bias and groupthink, one researcher led the session while another observed and took notes. The sessions were recorded and transcribed verbatim using the software OtterAi. Transcriptions were reviewed for accuracy by researchers.

Data analysis

Participants' open responses, written reflections, and focus group transcriptions were analyzed using MAXQDA qualitative and mixed-methods software. The software was selected due to its ability to encode all files in one place and provided other features, such as being able to utilize visualization tools for encoded data. Documents were uploaded into the program, and open-coding, or assigning labels to pieces of data, was conducted. To triangulate between the written responses and focus group transcripts, each dataset was coded individually to maintain distinctiveness. To limit personal bias and strengthen inter-rater reliability, all three researchers were involved in the coding process and met to discuss codes, negotiate discrepancies, and refine the codebook. The assigned codes from

both datasets were reviewed by another researcher for corroboration. Any discrepancies or overlaps were discussed until resolved. The codes were then aggregated into broader categories. These main categories were aimed at capturing participants' perspectives, both positive and negative, of engaging in the LKM sessions. The categories were used to construct themes, which captured the essence of the participants' perspectives and experiences (see examples in Table 1). A triangulation matrix was then employed to compare themes generated from written responses and focus group transcripts. The research team held several discussions, and a collaborative decision was made on the final list of themes or major findings from the study. Saturation of the data was reached when no additional codes or themes could be found. A codebook was created featuring the final major themes, supporting categories, and example data extracts (Table 2).

Table 1. Coding process examples

Code	Categories	Themes
I found that I would only be able to keep focus on my targeted individual for about 10-15 seconds before my mind would wander. I participated in the LKM practice this week and last week. I noticed that both times I had difficulties concentrating on the practice.	Mind wandering Distracted Excessive thinking	Mind wandering as a common occurrence.
I feel like it was not as impactful when practicing loving-kindness meditation and picturing a stranger. I did not feel more relaxed after participating this week, and I think it was because I did not have an emotional attachment to the person I was picturing. I had a bit more trouble with this week's practice with sending love to yourself. I am struggling with feeling enough and satisfied with all that I have now, so it was getting more emotional than I expected to wish myself well. I did like the idea of wishing a pet well.	Lack of ease Challenges Struggles	Difficulty with LKM practice.

Table 2. Qualitative codebook

Major theme	Definition	Exemplary quotations
Difficulty with LKM practice	Doctoral students mainly perceived LKM as a difficult meditation practice.	"However, before the directions were given, my initial thought was that I would be sending positive intentions to an 'enemy'. That seemed like it was going to be more of a challenge, so it was a relief when we were instructed to think of someone we adored." (Weekly Reflection)
		"I think everything was positive, except for the conflict one. I geared mine towards my mother-in-law, who was in my living room at the moment, and all I could think about was having to go downstairs and see her. I definitely just got completely derailed the whole class of like now I have to go be nice to you." (Focus Group)

Major theme	Definition	Exemplary quotations
Mind-wandering as a common occurrence	Students regularly experienced distraction and mind-wandering during LKM sessions.	"I participated in the LKM practice this week and last week. I noticed that both times I had difficulties concentrating on the practice. I know this is a guided meditation, so the instructor will provide the instructions during the practice. However, the time between the guided instructions and the meditation practice was short; I found myself busy listening and following the instructions rather than relaxing. So, toward the end of the practice, I just focused on my breathing to help me decompress and clear my mind." (Weekly Reflection)
		"When [the instructor] spoke, it helped bring back my attention, but then again soon after my mind would start thinking about everything else. I felt like it was hard to appreciate the experience and get the full effect of it because I could not fully focus. Then, I noticed that my mind was wandering off from focusing on the exercise. I am not sure if I did the exercise correctly." (Focus Group)
Reasons for refraining from LKM	Students skipped LKM sessions if late to class but also if they felt overwhelmed or rushed when joining.	"I was relieved this week to avoid the LKM exercise which I am not enjoying and not finding relaxing or beneficial." (Weekly Reflection)
		"I was having technical issues with my computer and the sound not working properly, so I had to log out of class during the meditation portion to restart my computer." (Weekly Reflection)
Limited benefit and perspective change	A smaller number of students reported experiencing stress reduction and positive state changes, including increased empathy.	"Recently, my husband has had family issues with his mother passing away and navigating life without either of his parents anymore. This was a great refocus for me to see the situation from his perspective and feel a little bit into what he is feeling right now. It was a good reminder for me, because I tend to get caught up in my own things, and he is always supporting me in it. Now, I can do the same for him. I look forward to more sessions centered on him." (Weekly Reflection)
		"I recently found out a family member has cancer and felt deeply rooted in sending the loving-kindness towards him. It was a bit emotional but also brought a great deal of peace in these early stages. I felt more prepared to take focus off of the situation and place it into class following the meditation, which was fretting as this had just consumed my thoughts." (Weekly Reflection)

FINDINGS

Four themes were created during data analysis to represent the essence of participants' perspectives and experiences with LKM: (1) Difficulty with LKM Practice, (2) Mind-Wandering as a Common Occurrence, (3) Reasons for Refraining from LKM, and (4) Limited Benefit and Perspective Change. The frequency of each theme is reported in Table 3.

Table 3. Frequency of data segments supporting each theme

Theme	Focus groups		Surveys	
	Total mentions	Unique individuals	Total mentions	Unique individuals
Difficulty with LKM practice	15	8	35	14
Mind wandering as a common occurrence	12	7	25	11
Reasons for refraining	8	7	20	9
Limited benefit and perspective change	10	8	15	10

Overall, the doctoral students perceived LKM as a difficult meditation practice and preferred the introductory meditation techniques learned in a prior semester. In addition, many students struggled with distractions and mind-wandering during the meditation sessions, seemingly because of the challenges they experienced with LKM. Students often reported refraining from the meditation sessions if they felt rushed or overwhelmed when joining online classes. Nevertheless, a smaller number of students did perceive some benefits, for example, reduced stress, increased empathy, and a more focused mindset conducive to learning.

Difficulty with LKM Practice

A majority of participants perceived LKM as challenging. They often found the meditation method having too many components, such as visualizing a target and repeating a silent phrase simultaneously, leading to feelings of awkwardness or stress for not doing it "correctly." Most experienced even greater difficulty when practicing variations of LKM that required shifting attention towards a stranger, a problematic person, or themselves. Other factors, such as the online environment, the instructor's facilitation delivery, or religious beliefs, were also mentioned as barriers to practice. For some students, LKM just seemed uncomfortable. As one explained, "For me, the meditation helps to calm me, but I still cannot focus on saying the phrases. I do feel more focused afterward, but I also feel quite awkward saying these phrases, and then just quickly revert back to only deep breathing." Students reported struggling with LKM as practice shifted from focusing on sending positive intentions towards benefactors, such as friends, family members, and pets, towards those less known. "I had difficulty picking and focusing on one person who was not a close family member. It required me to refocus often, and it was difficult to concentrate on proper breathing and focus on a stranger," noted a student. A classmate agreed, stating:

> *I feel like it was not as impactful when practicing loving-kindness meditation and picturing a stranger. I did not feel more relaxed after participating this week, and I think it was because I did not have an emotional attachment to the person I was picturing. I felt the week prior had more of an impact when picturing someone we care about.*

Directing loving-kindness towards confrontational people also proved challenging. As this student explained during a focus group, "the one that I had the most difficulty with was the sending out to somebody that I don't like, because, frankly, if I don't like them, I don't care about sending them stuff, at least not something positive." Some students also reported resistance when asked to direct loving-kindness towards themselves. One student wrote,

> *I had a bit more trouble with this week's practice with sending love to yourself. I am struggling with feeling enough and satisfied with all that I have now, so it was getting more emotional than I expected to wish myself well. I did like the idea of wishing a pet well.*

Finally, attempting to direct positive intentions towards groups who might experience suffering was also highly challenging for some students, who experienced negative emotions during the process. As a student explained during a focus group, "I think it did the opposite for me, because I'm like, I'm a huge animal person, and the thought of animals getting hurt or whatever, just really upsets me."

While reported by fewer students, other factors contributed to the difficulty with LKM. A few mentioned how the sessions conflicted with their personal beliefs and spiritual practices.

> *I think the religious side of me is not completely comfortable with things that I previously considered to be Buddhist or from some other religion than my own, even though I know there to be nothing wrong with the actual process and meaning of loving-kindness meditation and harbor no real negative feelings toward it, just awkwardness of the unknown, I guess.*

Several students also implied that LKM contained too many instructions, and that the meditation facilitator "talked a lot" during the guided sessions, making it harder to concentrate. Another student noted that the virtual setting of the class didn't support meditation practice, writing, "It's a strange environment, though. It takes place before class on a Zoom call. It would probably be more effective in person, but obviously that's not our class structure."

Mind Wandering as a Common Occurrence

Related to the preceding theme, students often reported being distracted or experiencing mind-wandering, or "the tendency for attention to drift to task-irrelevant thought" (Jazaieri et al., 2016, p. 37) when engaged in LKM. The mind-wandering – or being distracted from the object of meditation, such as a phrase or image – occurred throughout the six weeks, regardless of the LKM variation (i.e., focus on friend, stranger, difficult individual). Despite the use of phrases or visualization, students consistently mentioned problems with maintaining focus or dealing with distractions during sessions. As one student wrote:

> *This week, it was very hard to get into it. My mind was going a million different directions. I could not even calm down and focus better, like I normally can, just by having a few minutes to close my eyes and just breathe. That didn't even work this week. I tried saying the phrases, but could not picture any particular person to say them to.*

Students' responsibilities, including academic studies and professional careers, weighed heavily on their minds at times during meditation sessions. "I think, for me personally, like I just it didn't help me focus, like, I found my mind just wandering every time we did it. And I would try to, like, refocus, but like, my mind would just wander, like, about school or work or whatever," explained a student. A classmate echoed similar challenges, noting:

> *At the start, I get into it and can visualize the person I am sending these messages to, but soon after starting, my mind starts to wander off. I start thinking about the homework I need to complete for the week, important work things I need to do after class, creating a grocery list in my mind, etc. I get easily distracted by the amount of things I need to complete.*

As noted, the target of attention didn't seem to help at times and in other cases elicited more mind-wandering, as this student reflected,

> *I found that I would only be able to keep focus on my targeted individual for about 10-15 seconds before my mind would wander. I was repeating the phrase, "I hope you are well." I was trying to focus on my grandson, but my thoughts would go from wishing him well to why he might not be well. I thought of what issues might be bothering him.*

Another student explained that focusing on the selected target actually provides a challenge, stating, "I really tried to get into it again this week, but I found my mind wandering throughout the exercise. Instead of thinking about someone close to me, my mind kept drifting to an individual at work who has been causing me a lot of undue stress."

Along with mental distractions, a few students discussed how they grappled with outside distractions from the physical environment, as they participated in virtual classes from their homes during the evening. "During this session, I was distracted by noise outside of my office area. I was able to pay

better attention to my breathing, but had difficulty concentrating on others in need" stated a student. A classmate explained it this way,

> *I didn't skip completely, but during some of them, I got distracted and kind of had to walk away and then come back to it while it was still going. And that's just what happens when you have an active family around your house, between my grandson and my wife, and my grandson knocking on the door wanting to come in.*

Reasons for Refraining from LKM

As expected, students said they refrained from practicing LKM if they were running late to class or having technical difficulties, such as trouble logging into the class platform. A smaller number of students intentionally skipped the meditation sessions, instead choosing to engage in their own way of relaxing or preparing for class instruction. However, students also passed on the meditation depending on their mindset coming to class.

In some cases, missing the LKM practice was a matter of logistics or scheduling, as one student wrote, "I did not participate in the meditation due to the time crunch I had today. I logged into class late, in the middle of the meditation; therefore, I did not participate." A few students chose not to meditate in favor of their own way of preparing for class. As one explained, "Instead of the meditation, I refilled my water cup and ate a few peanuts." Other self-selected activities during the LKM sessions included watching YouTube videos or playing word games on a smartphone.

In several instances, students refrained from practicing LKM based on their mindset of joining a class. For example, if they felt rushed coming from work, overwhelmed, or preoccupied with other tasks or responsibilities, their decision to practice was impacted. Rather than perceive meditation as an antidote, they viewed it as another difficult task or cognitively demanding challenge, as this student noted, "I lean more to say that I didn't really participate in the meditation because I was so distracted with other thoughts. I have been anxious lately, and sometimes doing meditation while I have nagging thoughts in my head is just not possible." A second student shared a similar perspective, explaining:

> *I believe that if I am going straight from work or doing team project work, say on the semi-structured interview project with my classmate or I'd been taking care of some issues/problems personally, with work, or with school that I just cannot get into the meditation … I think I already have to be somewhat calm and focused, with my mind not worried and with some down time before the class starts to actually get into it.*

A third student, who missed live class but later viewed the LKM session via a recording, implied that not having to transition from their busy work life and outside schedule to a class meditation session made it easier to practice. She noted, "I did not have the normal stressors impacting my day as a typical class day would have. I found that it was easier to send out the well wishes to another person."

LKM Provided Limited Benefit

Despite the apparent difficulties with practice, a smaller number of students reported perceived benefits from LKM, including reduced stress, enhanced positive emotions, increased focus and mental preparation for class instruction, and changes in perspective and increased empathy towards others. These experiences were typically associated with sending positive intentions towards loved ones, strangers, or the self rather than towards people with conflict.

For several students, even a few minutes of LKM produced a positive state change, as this student described:

> *The LKM has had a profound impact for me. I believe focusing on the breath takes me to the point I need to be before going into the visualization. In the visualization, I am able to clearly see the person and feel the way I feel when I am in their presence. When I repeated the phrases towards them, it felt*

> *very similar to praying over someone or even laying hands on them as in the practices of the Pentecostal church. It felt like an energy wrapping around them. For me, I felt both the joy that person brings me, as well as the compassion and love I feel in return for them. It moved me emotionally in a significant manner.*

Another student whose target during loving-kindness meditation was her daughter, stated,

> *I imagined them traveling across the space between us. I calmly focused on the same wishes for myself. It was a very peaceful experience. When the meditation was done, I was happy that I sent my daughter those wishes and felt much more at peace; ready to deeply focus on the lesson before me without any intrusion of negative distractions.*

This student also expressed a state change after just several minutes of meditation practice, noting,

> *Everything has felt heavy the last few weeks in the world. Being able to be separated from that for even a brief time was a relief. The focus on positivity, love, and kindness being shared with strangers – and nothing but a focus on that positivity – brought a much needed levity to my day.*

For others, LKM brought a much-needed pause between the hectic outside world and the start of class time.

> *It does feel a little relaxed that you just because we just found from the morning to the afternoon, just go, go, go, go, go. And then you finally sit down and continue to go, go go. So, it's like, just that three to five minutes, just calm yourself down. And then it does help. And compared to my Thursday class, which don't do that, and it's like, just keep going. Just that the tension, just keep going, going, going. And does feel a little different.*

A few other students found that LKM was a technique that effectively helped them transition to live class. As one wrote, "this week's Loving-Kindness Meditation, along with all the others, helps get my mind centered for the content I will learn or be introduced to. Last week was super tense for me with work and personal life, so I needed that slight pick-me-up." Similarly, this student reflected, "It did help me put a gap in between how I felt and what I needed to focus on for class. The meditation helped, just not to the extent that I felt joy, just not dread, and I was able to focus on the learning."

Furthermore, a few students mentioned that LKM practice caused them to perceive situations and others differently, including family members and those less known. A student explained the perspective shift this way during a focus group:

> *So my initial thought was my Starbucks barista, because I see her every day when I go through the window, but I don't really like take the time to appreciate what she does and all the stress that she probably has going on. I go every day, but when I went came back to Starbucks the next day after doing that practice, I felt like I wanted to connect with her more, and so I started making more small talk with her, and I was more keen to thinking about other people's struggles and not maybe getting upset when, like, my dream for a basic example of my drink order is wrong, maybe not getting frustrated, like, why couldn't she just make my drink right? It was more like, okay, maybe she has something going on in her life right now that I need to consider.*

A second student provided a similar example when visiting a local eatery, stating that she began to empathize more with the employees. "It was an interesting shift for me, because it just completely changed gears. Like, wait a second, she might have had problems as well."

DISCUSSION

During this study, we examined the perspectives and experiences of doctoral students in an Ed.D. program practicing LKM at the onset of synchronous virtual classes. As mental health remains a concerning problem for graduate students worldwide, contemplative practices such as mindfulness

and meditation could provide assistance. The students' challenges with LKM are consistent with previous research (Boellinghaus et al., 2013). Especially for novice meditators, repeating phrases such as "may you be well, may you be happy" towards people less known or connected with negative relationships can be problematic (Barnhofer et al., 2010).

While not describing it as "emotionally intense," at least several students in this study described experiencing negative emotions, such as sadness, which supports experiences reported from other adult populations practicing LKM as novices (Boellinghaus et al., 2013; Galante et al., 2016). Participants' mental and emotional barriers to LKM might be explained by Kristeller and Johnson's (2005) LKM two-stage model. Within a few minutes, students were asked to shift to engaging their mind in an atypical manner (meditation) but also attempting another uncommon cognitive task, shifting from daily preoccupation or self-centered attention to focused engagement with empathy and compassion for another. While focusing on a familiar person or an individual with positive connections might have been manageable, shifting focus to less-known individuals or those associated with conflict appeared to be too emotionally straining or cognitively demanding, at least for some students.

Participants' consistent mind-wandering during LKM is not completely consistent with previous research, which has found that, as a meditation method, LKM can reduce mind-wandering (Jazaieri et al., 2016). However, it should be noted that adults in the aforementioned research spent two hours per class engaged in LKM and were encouraged to practice outside of class. Perhaps with additional practice and experience, students in this study might have decreased mind-wandering during LKM over time. In addition, experiencing mind-wandering during meditation practice in general has been found to be a common occurrence, especially for beginners (Hasenkamp et al., 2012).

Some of the reasons students did not participate in LKM are expected (i.e., late for class, technical issues); the decision of some students to pass on the meditation due to their state of mind is insightful. While LKM was presented as a stress-management method, these students perceived it as a cognitively demanding or unpleasant experience that was unwanted when feeling stressed, overwhelmed, or rushed. Having to join the online class and then "jump" right into LKM, which requires complex, uncommon mental processes, presented an additional barrier. With little research published on LKM and graduate students, including online interventions, it is not possible to state whether this finding supports or contradicts existing studies.

Finally, the finding that some students reported positive emotional experiences and shifts in perspectives on empathy directly supports other LKM studies conducted with adult populations (Boellinghaus et al., 2013; Galante et al., 2016). Furthermore, experiences of LKM producing a mixture of outcomes – enhancing positive emotions and reducing perceived stress for some and causing negative emotions in others – have been reported in previous research. It should be noted that students' positive emotions were most often associated with meditation with "easier" targets, and negative emotions surfacing when attempting to send loving-kindness towards self, unfamiliar, and especially those connected with conflict. Again, this could be a matter of students being new to LKM practice and requiring more time to experience and sit with negative emotions as they arise. Furthermore, perhaps spending more time upfront discussing and normalizing mind-wandering and uncomfortable emotions during meditation might have helped students.

Implications

A main implication from this research is for practitioners (i.e., university counselors, staff, faculty) to consider whether LKM is an appropriate *entry-level* mental health intervention for graduate students. For example, doctoral students might already be struggling with a number of mental health challenges, including heightened stress and anxiety. Thus, LKM, with its cognitively demanding nature and potential for increasing negative emotions, might be better utilized as a more advanced intervention. Perhaps LKM might yield better outcomes if positioned as an extension or advanced training after graduate students have first practiced an introductory meditation method, such as focusing on

the breath and training in mind-wandering. This scaffolded experience could serve as a foundation for LKM, including during online settings. Another implication is for practitioners to consider the timing and structure of LKM practice within class time. As reported, some students might struggle with joining class and immediately practicing LKM. Considerations should be given to providing a "gap" between joining an online class and practicing meditation. This might encourage additional students to try LKM. This space could involve creating time for students to check in with the instructor or each other, for example, placing students in a Zoom break-out room and having them share updates about their personal and professional lives. Upon returning to a main virtual room, students could be invited to engage in brief LKM. Another strategy for longer classes could be to schedule an LKM session during a mid-class break, which would allow students ample time to adjust. Finally, because LKM may be challenging or produce negative emotions, it may be important to allow time for processing and normalizing the experiences, especially to help them understand that they are not doing it "wrong."

Limitations

While our relatively small, homogenous sample provided important theoretical insights, it has limited generalizability to other populations. For example, doctoral students from other programs and disciplines, cultural backgrounds, or younger doctoral students might have different perspectives and experiences with LKM. Also, data sources were self-reported, which presents a bias since students influenced by social desirability, for example, might underreport negative experiences. Furthermore, without longitudinal data, the study cannot determine the possible longer-term impact of LKM on doctoral students.

Future Research

These findings indicate several directions for additional researchers to improve the feasibility and efficacy of LKM by informing effective intervention designs and approaches. Due to the scarcity of research published in LKM with graduate students, there is a wide range of possible areas for researchers to further investigate. Conducting longer-term studies would help to understand whether students' experiences and perspectives change after greater doses of LKM. Design-based research that iteratively assesses and adjusts facilitation delivery, for example, would inform how to best design instructions that might aid students with practice and reduce unhelpful distractions. Mixed-methods studies on LKM with doctoral students can examine statistical outcomes on mental health measures such as perceived stress, anxiety, well-being, and mindfulness, to provide a deeper understanding of the effectiveness of these interventions and the factors that affect their effectiveness.

Conclusion

LKM practice represents a promising intervention for higher education students, including graduate students experiencing higher levels of distress. Findings from this study suggest the value of LKM for improving mental health among doctoral students. While it was not the purpose of our study, the data reinforced our concern that our doctoral students struggle with mental health issues, an issue sometimes overlooked in comparison with undergraduate research on the same topic. Ideally, findings from this study will influence universities and policymakers to implement mental health interventions such as those using mindfulness-based practices for graduate students. Finally, contributing to the growing literature in LKM could help normalize practice and shift societal attitudes towards meditation as a research-based, beneficial practice in academic and professional settings.

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