

# Stress and Coping Among Health Professions Students During COVID-19: A Perspective on the Benefits of Mindfulness

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## Abstract

Many health professions students experience elevated stress and burnout during their professional education and training. With the added challenges of COVID-19, students face a whole new set of stressors. Students in the Spring 2020 semester of our online academic course, “Mindfulness for Healthcare Providers,” began confronting the COVID-19 crisis after several weeks of mindfulness meditation practice as part of the course. Students discussed their experiences using the course discussion boards, providing a unique opportunity to explore the practical application of mindfulness for student well-being during a crisis. Themes from the discussion board revealed a range of novel stressors and concerns due to COVID-19 (physical health, mental health, societal implications, academic and clinical training disruptions). All students reported that mindfulness practice helped them cope by improving specific mindfulness skills (focus, appreciation, cognitive de-centering, non-reactivity). Mindfulness training may be a useful approach to promoting student well-being during a crisis.

## Keywords

coping, mindfulness, stress

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## Introduction

Many health professions students experience elevated stress and burnout, which have been compounded by the COVID-19 crisis.<sup>1</sup> Mindfulness meditation is an evidence-based approach to stress and burnout management.<sup>2</sup> At our academic institution (CL, JG, BH), we offer an online graduate-level course for health professions students called “Mindfulness for Healthcare Providers.” As part of the course, students completed daily mindfulness practice and participated in weekly online discussion boards to share their reflections. Halfway through the Spring 2020 semester, after seven weeks of mindfulness practice, students began confronting the challenges of COVID-19. Students discussed their stressors and use of mindfulness skills as part of the online discussion boards, providing a unique real-world opportunity to explore the practical application of mindfulness practice for student well-being during a crisis. Reflecting on the scientific literature, themes from the discussion boards, and using illustrative quotes from

students, we share our perspective on the challenges health professions students face during COVID-19 and how mindfulness practice may help them cope.

## Stress and Burnout in Health Professions Students

Prior to the COVID-19 pandemic, up to 54% of health professions students experienced elevated levels of stress and burnout.<sup>1</sup> Stress involves the perception that

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environmental demands exceed one's coping resources, and burnout refers specifically to chronic work-related stress. There are multiple sources of stress for health professions students including academic (e.g., grades and classroom performance), clinical (e.g., productivity demands, complex cases) and personal (e.g., work-life balance, financial). Stress and burnout negatively impact students' personal and professional lives and are associated with academic challenges,<sup>3</sup> unprofessional behavior,<sup>4</sup> poor quality clinical care,<sup>5</sup> and greater physical and emotional symptoms.<sup>3</sup>

### **Mindfulness Meditation for Reducing Stress and Burnout**

Mindfulness meditation is rooted in a 2,500-year-old Buddhist philosophy that teaches skills for reducing suffering.<sup>6</sup> Mindfulness involves paying attention to the present moment with an attitude of openness and curiosity, which helps people notice and respond to stress more effectively.<sup>7</sup> Evidence-based mindfulness interventions such as Mindfulness-Based Stress Reduction and Mindfulness-Based Cognitive Therapy (MBCT) are 8-week group programs that use mindfulness practices to help people remain in the present moment, gain distance and perspective from unhelpful thoughts, and choose adaptive behaviors.<sup>7</sup> A systematic review of 19 clinical trials demonstrated that mindfulness interventions reduce stress, anxiety, and depression symptoms for health professions students.<sup>2</sup> A recent mindfulness program for health professions students also showed improvements in mindfulness, burnout, stress, and daily functioning.<sup>8</sup>

### **Our Online Academic Mindfulness Course**

At the MGH Institute for Health Professions, we offer a 13-week online-only elective course for graduate students and licensed providers returning for continued training called "Mindfulness for Healthcare Providers." The course was developed by the authors (CL, JG, BH) based on the evidence-based MBCT manual. The course is delivered over an asynchronous online learning platform and uses recorded video lectures, readings, online discussion boards, experiential activities, and audio recordings of guided meditation practices to teach the theory behind mindfulness interventions, their evidence, and applications in clinical settings. Themes of justice, equity, diversity, and inclusion were also embedded within the course content. Thus, the key components of MBCT are delivered alongside didactic content for academic and professional training (Table 1). There are two synchronous sessions for group meditations and final research summary presentations. To promote experiential learning, students are asked to complete

15–30 minutes of daily mindfulness practice and discuss their experiences using the online discussion boards. In an observational survey study of students in our Spring 2019 semester, we found small-medium improvements in mindfulness, stress, burnout, and positive emotions from before to after the course.<sup>9</sup> There were 14 students enrolled in the Spring 2020 course.

### **The Added Stressors of COVID-19**

The COVID-19 pandemic introduces a significant new source of stress for students. Students discussed their COVID-19-related stressors on the discussion board, providing an opportunity to gain insight into the important challenges and needs of students during this crisis. Direct quotes are only included from students who chose to enroll in the IRB-approved observational survey study as part of the course (n = 8). These students were 100% female, 88% non-Hispanic white, on average 38.13 years (SD = 16.73; range = 22–64), and primarily studying nursing (63%) or speech/communication (25%). All quotes are de-identified to protect student anonymity. IRB approval was sought from the Partner's IRB before the course began. The quotes were analyzed by two authors (CL and AW) to identify themes using content analysis.

A primary concern of students was the health of others: their family, friends, patients, and colleagues, particularly colleagues on the frontline. Students were worried about people's physical health and risk of contracting COVID-19, and the possibility of being a non-symptomatic carrier. Many worried about the potential impact of the pandemic on mental health. There were concerns that social isolation may worsen depressive symptoms, and uncertainty may worsen anxiety. There were specific concerns about providers' mental health (*"I am worried that we are all in disaster, crisis mode and what is going to happen once this is over when many of the thoughts and feelings resurface"*). Students expressed sympathy for those who lost loved ones and could not hold memorial services. Financial worries were also common: many students were concerned for those who were economically impacted, and worried about the long-term financial implications of the quarantine. Students also discussed concerns about their own future schooling, particularly cancellations and delays in planned clinical placements and challenges of shifting to remote learning.

### **Mindfulness for Coping With COVID-19**

In the final week of the course (April, 2020), students were asked to respond to the following question on the discussion board: *"During the course, we entered the challenging time of the COVID-19 pandemic. How, if at*

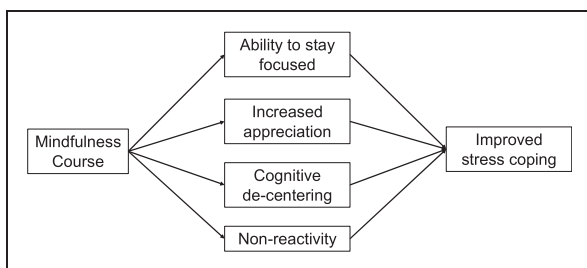
**Table 1.** Outline of the “Mindfulness for Healthcare Providers” Academic Course.

	Didactic Video Lectures	Mindfulness Activities	At-Home Personal Practice
Week 1	<ul style="list-style-type: none"> <li>• Introduction to mindfulness</li> </ul>	<ul style="list-style-type: none"> <li>• Raisin exercise (audio)</li> </ul>	<ul style="list-style-type: none"> <li>• At least one mindful meal</li> <li>• 10-minute awareness of breath daily</li> </ul>
Week 2	<ul style="list-style-type: none"> <li>• Empirically-supported benefits of mindfulness</li> </ul>	<ul style="list-style-type: none"> <li>• Body scan meditation (video)</li> <li>• Guidelines for mindfulness of routine activities (pdf)</li> </ul>	<ul style="list-style-type: none"> <li>• 15-minute body scan, alternate days</li> <li>• 10-minute awareness of breath, alternate days</li> <li>• Routine activity daily</li> </ul>
Week 3	<ul style="list-style-type: none"> <li>• Mindfulness-based interventions</li> </ul>	<ul style="list-style-type: none"> <li>• Walking down the street exercise (audio)</li> </ul>	<ul style="list-style-type: none"> <li>• 15-minute body scan, alternate days</li> <li>• 10-minute awareness of breath, alternate days</li> <li>• Routine activity daily</li> </ul>
Week 4	<ul style="list-style-type: none"> <li>• The body as a vehicle for mindfulness</li> <li>• Rigor in mindfulness research</li> <li>• Mindfulness applications in PT</li> </ul>	<ul style="list-style-type: none"> <li>• Mindful yoga (video)</li> <li>• Mindfulness of sound meditation (audio)</li> </ul>	<ul style="list-style-type: none"> <li>• 15-minute body scan, alternate days</li> <li>• 30-minute mindful yoga, alternate days</li> <li>• 10-minute awareness of breath daily</li> </ul>
Week 5	<ul style="list-style-type: none"> <li>• Mindfulness and the brain</li> <li>• Mechanisms of mindfulness</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to sitting meditation (pdf)</li> <li>• Overcoming obstacles in sitting meditation (pdf)</li> </ul>	<ul style="list-style-type: none"> <li>• 15-minute sitting meditation, alternate days</li> <li>• 30-minute mindful yoga, alternate days</li> <li>• Routine activity daily</li> </ul>
Week 6	<ul style="list-style-type: none"> <li>• Aversion and acceptance</li> <li>• Mindful communication</li> <li>• Applications of mindfulness for communication and cognitive disorders</li> </ul>	<ul style="list-style-type: none"> <li>• 3-minute breathing space (video)</li> <li>• Deep listening activity (pdf)</li> </ul>	<ul style="list-style-type: none"> <li>• 15-minute sitting meditation, daily</li> <li>• 3-minute breathing space, 3x/day</li> <li>• Routine activity daily</li> </ul>
Week 7	<ul style="list-style-type: none"> <li>• Mindfulness and mental health</li> </ul>	<ul style="list-style-type: none"> <li>• 3-minute breathing space-responsive (video)</li> <li>• Cognitive de-centering (pdf)</li> </ul>	<ul style="list-style-type: none"> <li>• 15-minute sitting meditation, alternate days</li> <li>• 15-minute sitting with bells, alternate days</li> <li>• 3-minute breathing space 3x/day</li> <li>• 3-minute breathing space-responsive (when stressed)</li> </ul>
Week 8	<ul style="list-style-type: none"> <li>• Loving kindness and compassion</li> <li>• Compassion fatigue, burnout, resilience</li> </ul>	<ul style="list-style-type: none"> <li>• Self-compassion break (pdf)</li> <li>• Loving kindness meditation (audio)</li> </ul>	<ul style="list-style-type: none"> <li>• Choice of 15-minute formal practice daily</li> <li>• 3-minute breathing space 3x/day</li> <li>• 3-minute breathing space responsive</li> </ul>
Week 9	<ul style="list-style-type: none"> <li>• Mindfulness applications in nursing: mindfulness for medical populations</li> <li>• Mindfulness and addiction</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Choice of 15-minute formal practice daily</li> <li>• 3-minute breathing space 3x/day</li> <li>• 3-minute breathing space responsive</li> </ul>
Week 10	<ul style="list-style-type: none"> <li>• MBCT for children</li> <li>• Mindfulness-based childbirth education</li> <li>• Mindful schools</li> </ul>	<ul style="list-style-type: none"> <li>• Nourishing-draining exercise (pdf)</li> </ul>	<ul style="list-style-type: none"> <li>• Choice of 15-minute formal practice daily</li> <li>• 3-minute breathing space 3x/day</li> <li>• 3-minute breathing space responsive</li> </ul>
Week 11	<ul style="list-style-type: none"> <li>• The mindful clinician</li> <li>• Mindfulness applications in OT</li> <li>• MBI training qualifications</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Choice of 15-minute formal practice daily</li> <li>• 3-minute breathing space 3x/day</li> <li>• 3-minute breathing space responsive</li> </ul>
Week 12	N/A	<ul style="list-style-type: none"> <li>• Mindfulness approaches in healthcare (pdf)</li> </ul>	<ul style="list-style-type: none"> <li>• Choice of 15-minute formal practice daily</li> <li>• 3-minute breathing space 3x/day</li> <li>• 3-minute breathing space responsive</li> </ul>
Week 13	N/A	<ul style="list-style-type: none"> <li>• Student presentations of final projects (review of evidence for population of choice)</li> </ul>	<ul style="list-style-type: none"> <li>• 3-minute breathing space responsive</li> <li>• N/A</li> </ul>

Note. Mindfulness activities were drawn primarily from MBCT and other evidence-based mindfulness interventions. Each week included assigned readings of scientific articles, and two discussion questions where students shared thoughts and experiences with the readings, lectures, and mindfulness activities.

all, have your mindfulness skills helped you during this time, both personally and professionally?" All students stated that mindfulness practices helped them cope. Students reported using short breathing practices, yoga, and loving kindness meditation most often. One student stated, "In the past few weeks since COVID-19, the stress, anxiety, and uncertainty has increased both at home and work. Mindfulness practice has helped me be able to deal with not only my increased stress but with my families, friends, colleagues and patients." Another reported, "I think that the skills and practices we learned have come in helpful during the COVID-19 pandemic. I feel like I am more aware of the toll anxiety or fatigue has on my body and am better at simply noting that it's there."

Students described several reasons mindfulness was helpful. The first was the ability to stay calm and focused. One student said, "My mindfulness skills during COVID-19 have helped me personally by offering me an opportunity to check-in with and re-center myself. . . . By focusing on my breath (rather than focusing on stresses related to COVID-19) I am able to re-center." Another student who was working on the frontlines stated, "[Mindfulness practices] have helped me maintain calm during chaotic times in the ED." A second benefit of mindfulness was a greater sense of appreciation ("Many things are out of my control right now, but meditation has helped me remember that there are many things in my life to appreciate right now"). Students related appreciation to the challenges of social distancing: "Mindfulness practice really helps me feel more connected to and appreciative of the relationships in my life, despite social distancing." Third, students discussed improvements in cognitive de-centering (i.e., the ability to view thoughts as mental events). One student stated, "mindfulness allows me to acknowledge my worries and not ignore them," and another stated, "mindfulness practice has helped me to not ruminate on negative thoughts." A final theme was non-reactivity. A student discussed how non-reactivity helped her cope with racism around COVID-19: "my mindfulness skills have helped me personally not feel as quick to react negatively towards people's reactions to my ethnicity during this time."



**Figure 1.** Students' Reports of How Mindfulness Helped Them Cope During COVID-19.

Many students reported teaching mindfulness to their colleagues and patients ("I have taught some of my colleagues and patients the breathing interventions"). Figure 1 depicts students' reports of how mindfulness helped them cope.

## Summary and Future Recommendations

Health professions students experience high levels of stress and burnout under normal circumstances and have additional stressors due to COVID-19. All students in our course reported that mindfulness skills were helpful in coping with the stress of COVID-19. Themes regarding why mindfulness was helpful were consistent with the larger literature and included improved focus, appreciation, cognitive-decentering, and non-reactivity.<sup>10,11</sup> All students stated that they plan to continue using mindfulness due to cognitive and emotional benefits (e.g., reduced stress, greater focus).

Implementation of mindfulness programs into academic training has the potential to teach important skills for stress management and academic success. As we have done here, mindfulness training may be offered as part of academic courses on mindfulness in health-care. There are a growing number of medical and health professions programs that include elective courses in mindfulness and mind-body medicine, which can simultaneously increase students' academic and clinical skills and improve their personal well-being. The program initiated at Georgetown University School of Medicine<sup>12</sup> has now been implemented in many schools in the USA and in Europe, and the outcomes consistently show that students participating in a semester-long mind-body medicine skills course report reduced stress and negative affect, and increased empathy and positive affect, all significantly correlated with increased mindfulness.

Another approach is to offer mindfulness programs outside of the classroom as part of student wellness initiatives. Students in our course shared suggestions for how to implement mindfulness programs for future students, including making mindfulness smartphone apps accessible to students, incorporating mindfulness into the work day (e.g., during staff meetings), and using synchronous group videoconferencing to have live sessions with other students. Future online mindfulness programs for student wellness should use a standardized, evidence-based approach (e.g., MBCT or MBSR) and be delivered by trained or certified teachers.

Strengths and limitations are worth noting. Strengths are that this was a real-world exploration of the benefits of mindfulness for students coping with COVID, based on students' own descriptions of their experiences. Limitations include a lack of gender and ethnic diversity, small sample size, and inability to reach thematic saturation given the naturalistic qualitative approach. There

may be other reasons mindfulness was helpful, and some students may not find mindfulness helpful. There may also be a bias across students who did and did not enroll in the IRB-approved study, though all students in the course described benefits of mindfulness on the course discussion boards. It is possible that the online community contributed to the benefits of the course, and we did not have quantitative data available to complement the qualitative data.

The COVID-19 pandemic has underscored the importance of student wellness initiatives. The positive feedback from students in our course suggests that mindfulness programming may be a useful addition to these initiatives to support the well-being and success of the next generation of healthcare providers.

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### References

1. Pospos S, Young IT, Downs N, et al. Web-based tools and mobile applications to mitigate burnout, depression, and suicidality among healthcare students and professionals: a systematic review. *Acad Psychiatry*. 2018;42:109–120.
2. McConville J, McAleer R, Hahne A. Mindfulness training for health profession students: the effect of mindfulness training on psychological well-being, learning and clinical performance of health professional students: a systematic review of randomized and non-randomized controlled trials. *Explore*. 2017;13(1):26–45.
3. Mladen S, Loughan A, Kinser P, et al. An analysis of psychological distress profiles and their correlates in interdisciplinary health-care professional students. *Glob Adv Health Med*. 2019;8:2164956119879872.
4. Dyrbye LN, Massie FS, Eacker A, et al. Relationship between burnout and professional conduct and attitudes among US medical students. *JAMA*. 2010;304(11):1173–1180.
5. Williams, ES, Manwell, LB, Konrad, TR, Linzer, M. The relationship of organizational culture, stress, satisfaction, and burnout with physician-reported error and suboptimal patient care: results from the MEMO study. *Health Care Manag Rev*. 2007;32(3):203–212.
6. Kabat-Zinn J. Some reflections on the origins of MBSR, skillful means, and the trouble with maps. *Contemp Buddh* 2011;12(1):281–306.
7. Segal Z, Williams MJ, Teasdale J. *Mindfulness-Based Cognitive Therapy for Depression*. New York, NY: Guilford Press; 2011.
8. Braun SE, Dow A, Loughan A, Mladen S, Crawford M, Rybarczyk B, Kinser P. Mindfulness training for health-care professional students: A waitlist controlled pilot study on psychological and work-relevant outcomes. *Complementary Therapies in Medicine*. 2020. <https://doi.org/10.1016/j.ctim.2020.102405>.
9. Luberto CM, Halvorson B, Crute S, Goodman J. Student well-being and mindfulness knowledge following an online academic mindfulness course. In: *Poster presented at the 2020 International Congress on Integrative Medicine and Health*, e-poster forum; 2019.
10. Swickert R, Bailey E, Hittner J, Spector A, Benson-Townsend B, Silver NC. The mediational roles of gratitude and perceived support in explaining the relationship between mindfulness and mood. *J Happiness Stud*. 2019;20(3):815–828.
11. Bieling PJ, Hawley LL, Bloch RT, et al. Treatment-specific changes in decentering following mindfulness-based cognitive therapy versus antidepressant medication or placebo for prevention of depressive relapse. *J Consult Clin Psychol*. 2012;80(3):365–372.
12. Saunders PA, Tractenberg RE, Chaterji R, et al. Promoting self-awareness and reflection through an experiential mind-body skills course for first year medical students. *Med Teach*. 2007;29(8):778–784.