

# Supporting the Whole Student: Online Learner Mental Health as a Grand Challenge

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Student mental health in higher education has been worsening for some time, even prior to the pandemic, showing up in various ways that learners struggle in online learning and other modalities. More recent research on health, sleep, and chronic illness as aspects of online learner mental fatigue and academic performance suggests that online learners are experiencing a range of conditions that impact their capacity and their learning. By taking a holistic approach to online learning, we can build systems of care, not just systems of learning. In this piece, we explore the trends in student mental health, implications for online learning, a systemic approach for framing online programs, and why this should be adopted as a “grand challenge” for online learning research and design.

*Keywords:* Online Learning, Student Mental Health, Grand Challenges

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## THE RELATIONSHIP BETWEEN ONLINE LEARNING AND STUDENTS' MENTAL HEALTH

During the early stages of the pandemic, authors in popular press articles argued that online learning exacerbated issues with student mental health (e.g., Malesic, 2022; Oster, 2022). This line of logic was further repeated by university provosts or presidents and even governmental agencies (e.g., Government of British Columbia, 2022). In tracking down whether this causal claim of online learning negatively impacting mental health was supported by evidence, Moore and colleagues (2022), reviewed extant literature on mental health and online learning. Out of 45 articles reviewed, they found that all but two studies on mental health and online learning were conducted during the COVID-19 pandemic. Of the 43 published during the pandemic, not a single study employed a methodology that could determine causal relationships, and none of those that employed a quantitative method endeavored to control for the pandemic as a variable. However, in 75.5% of the articles, the authors proceeded to conclude a causal relationship—that online learning had a negative impact on mental health—even when their methods were not appropriate to such conclusions and even when their own reported data contra-indicated such a conclusion. For example, many studies surveyed students about their mental health and about their perceptions of their online learning experiences and drew correlations between the two. However, in the data in those studies, a routine finding across studies was that roughly two-thirds of students had either positive or neutral perceptions of online learning, yet for some reason the authors still extrapolated a negative relationship between online learning and mental health.

### FACTORS CONTRIBUTING TO ONLINE LEARNER MENTAL HEALTH

Not all studies evidenced methodology and logic issues, however. Moore and colleagues (2022) identified nine studies they considered to have no methodological issues. Findings across these studies were very mixed, and studies with sound methodologies tended to identify barriers to and

enablers of mental health and well-being in an online class or program. Moore and colleagues (2022) observed, “Rather than attributing student mental health to one factor (i.e., modality) in an over-simplification of the problem that is facing us, these studies suggest that addressing student mental health requires a number of coping strategies, class strategies, and systemic supports” (p.13). The US Department of Education (2021) reported that nearly 80% of students identified mental health concerns as one of the most significant challenges they faced during the pandemic. However, some students also reported that their mental health improved during online learning because of decreased exposure to racial and gender-based discrimination (Ehmke et al., 2022). In many of the studies that purported a negative relationship between online learning and mental health, the actual data of these studies routinely reflected a majority of students with neutral or positive views about online learning (e.g. Chaturvedi et al., 2021; Idris et al., 2021). Moreover, some also reported decreased stress levels after the shift to online learning (Gusman, 2021).

An important trend that has been documented across time in government reports and the literature reviews of the papers in the analysis by Moore and colleagues (2022) is that student stress has been increasing for a long time, pre-dating the pandemic, and this trend continues to worsen. In a study by Gusman and colleagues (2021) that was started before the pandemic and continued throughout, students reported increased stress levels in 2019 but then decreased stress in Spring 2020 after their university moved online. Students in this study largely reported improved sleep quality and duration, but—importantly—these findings were inverted for students with lower socio-economic status or in specific living situations. Burwell (2018) discussed the “mental health crisis” on campuses, clearly pre-dating the pandemic. The Healthy Minds Network (2017) documented mental health declines in higher education in general, while trends in specific disciplines also predated the pandemic (e.g., Apgar & Cadmus, 2021; Shi, 2019). Shi (2019) identified factors such as financial worries, fears about the future, pressure from schoolwork and load, and transitioning to new environments away from established support systems as contributing to learners’ mental health needs. Additionally, as students returned to classrooms in 2021 and beyond, faculty reported men-

tal health issues and disengagement continuing to surface (McMurtrie, 2022a, 2022b; Mintz, 2022).

Marzban and Inan (2023) specifically examined factors related to students' mental fatigue during their online learning process that can contribute to broader mental health challenges as mental fatigue negatively affects students' mental health. Addressing mental fatigue, which is a prevalent issue among online learners, can lead to improvements in overall mental health and academic performance. Based on a literature review they conducted on sources of mental fatigue in online higher education, factors that contribute to students' mental fatigue and broadly impair students' mental health include inadequate self-regulation skills, poor stress coping strategies, complex academic tasks, high expectations and poor course design and structure, instructional activities, challenging technological interfaces, unfavorable learning environments, multitasking demands, lack of teacher support, uncertainty, and information and communications technology (ICT) competencies (Alleyne-Bayne & Inan, 2022; Inan et al., in press; Marzban & Inan, 2023).

### **LEARNER MENTAL HEALTH AS A GRAND CHALLENGE FOR ONLINE LEARNING**

In short, although popular discourse has muddled the relationship between online learning and mental health, careful review of research does not support a causal relationship. Instead, it suggests that student mental health has been a persistent and growing issue in higher education, and that particular instructional design and administrative decisions can play a role in better supporting learners. Other fields have advanced “grand challenges” as a way to organize and coordinate research and development efforts, such as engineering (National Academy of Engineering, 2024), disaster reduction (Committee on Environment and Natural Resources, 2020) and mathematics education (NCTM Research Committee, 2015). Grand challenges are major, complex problems in a field that should be solvable within a generation or two and that would have great societal and economic impact depending on how they are addressed or left unaddressed (Mertens & Barbian, 2015). George and colleagues (2016) defined grand challenges as “global problems that can be plausibly addressed

through coordinated and collaborative effort” (p. 1880). The field of educational technology and instructional design has not had any grand challenges to date, although Moore will be calling for this in an upcoming special issue of the *Journal of Computing in Higher Education* and special sessions at the Association for Educational Communications and Technology. The goal is to make clear to the field that learner mental health is a pervasive, ongoing, grand challenge in education, and it requires a systematic effort that combines quality research and distillation of effective practices to support learners through better strategies, investments, and policies. In higher education, online learning researchers and practitioners can play an important role in addressing this grand challenge.

### **BARRIERS TO—AND SUPPORTS FOR— ONLINE STUDENT MENTAL HEALTH**

Rather than focusing on just the modality as a factor in student mental health, Apgar and Cadmus (2021) interviewed undergraduate students about their coping strategies during the pandemic. What they found provides some good insights into possible strategies to support online learners' mental health. Students themselves provided the richest insights into strategies and supports in online mediated environments. They reported developing new sleep, exercise, study, and diet routines, as well as using various apps (e.g., social media apps) to connect with others and for self-distraction or mindfulness exercises. This included a range of activities such as home workouts, breathing exercises and guided meditation, and learning new hobbies. They also used two well-documented self-regulation tactics for managing stress: positive reframing and positive self-talk. Biber and colleagues (2020) further identified how instructors, schools, and universities can help online students manage stress and cope with social disruptions. They recommended integrating content into online curricula on positive emotional skills, such as a health, wellness or physical activity course or module. They also argued that universities can establish policies that better support student mental health, such as clear expectations for course workload and supporting faculty in reviewing courses for excessive workloads or expectations.

Drawing upon findings from their literature review, Marzban and Inan (2024) suggested that

**Table 1. Instruction, Programmatic, and Institutional Strategies to Support Online Learner Mental Health**

<b>Strategies for Supporting Student Mental Health</b>	
<b>Instructional</b>	<p>Possible self-regulation modules or activities for online students:</p> <ul style="list-style-type: none"><li>• Regulation of learning: Quick activities that prompt students to develop a coping strategy or learning strategy; incorporate Willingham's (2023) book, <i>Outsmart Your Brain</i>, and engage students in periodic discussions of insights from the book and application to their learning (Stephanie has used this in her online classes with very positive feedback from students).</li><li>• Regulation of learning environment: Instructors share how to manage your own online work / teaching environment, and ask students to share strategies for how they set up their online learning environments at home.</li><li>• Use quizzes to create periodic, ungraded self-assessments that prompt learners to indicate how they are managing their time or how well their degree of participation is taking shape in the class. Options can be structured to prompt ideas, and an open text question can be used to prompt students to generate ideas around, for example, one thing they will aim to manage better in the next two weeks.</li><li>• Create a sidebar for students on "Caring for Yourself While Learning Online" that briefly summarizes the importance of creating routines and values students having a social and personal life.</li></ul> <p>Self-reviews by online instructors and/or designers: Attend to course load, expectations, and organization. Communicate organization and expectations clearly.</p> <ul style="list-style-type: none"><li>• Do weekly required readings, assignments, and class participation equal accreditation expectations, or do they exceed those? If you value student mental health, identify a few things you can do to truly support your students' ability to create routines and maintain social and personal connections.</li><li>• Where possible, simplify course structures and provide clear, detailed instructions to reduce cognitive load (Inan et al., in press). Moore and Barbour (2023) dedicate an entire chapter to organization of online courses, noting that organization and communication are essential in online learning. In a recent study, Fischer and colleagues (2022) found that strong course organization was associated with increased letter grades, and that the effect for clear organization was even larger for traditionally underserved students.<ul style="list-style-type: none"><li>○ Create a course matrix that clearly maps out weekly readings, assignments, and due dates.</li><li>○ Create rubrics for assignments that can be shared early to clearly communicate expectations.</li><li>○ Create a course organization in the LMS with a clear weekly organization and weekly overviews with a "flat" navigation that allows learners to find everything for one week in one spot (Dance, 2016; Pratas, 2014).</li></ul></li></ul> <p>Class policies:</p> <ul style="list-style-type: none"><li>• Create class policies, such as discussion board policies, aimed at reducing or eliminating the presence of discriminatory or other harmful posts.</li><li>• Consider policies that reflect flexibility related to late assignments that convey to students that they can reach out to you for extra time. Remove any requirements for documentation or justification.</li></ul> <p>Instructional Strategies:</p> <ul style="list-style-type: none"><li>• Create opportunities for students to participate in the process of developing course goals, assignment requirements, and/or a schedule of deliverables and due dates</li><li>• Incorporate a mix of in-person and online (i.e. blended learning) that provides you and your students a flexible course structure should you need to lean more heavily on online. This helps to habituate everyone so that transitions are less difficult.</li></ul>

recognizing signs of mental fatigue, such as exhaustion, frustration, decreased motivation, and difficulties in concentration indicate the need for strategies to improve students' overall mental health. For example, simplifying course structures, providing clear instructions, and ensuring accessible technological platforms can reduce cognitive load and mental fatigue (Inan et al., in press). Addressing these factors is important because mental fatigue often precedes more serious mental health conditions like anxiety and depression. Educators can intervene early to prevent the escalation of mental health issues by recognizing these warning signs. Additionally, reducing excessive workloads and creating engaging learning materials can en-

hance students' motivation and interest, helping to mitigate the effects of mental fatigue. Supporting inclusive learning environments and providing resources for stress management are also crucial for maintaining students' mental well-being (Inan et al., in press). Studies on student mental health routinely noted improved mental health for online learners who reported they experienced less discrimination in online environments. This is something that online instructors and designers can more intentionally lean into.

Designers and leaders working in online learning or overseeing online initiatives can help in a number of ways, both instructional and systemic. We have organized suggestions into instructional

**Table 1. Continued**

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<b>Programmatic</b>	Support modules: <ul style="list-style-type: none"><li>• Develop orientation or regular support modules for students that includes mental health needs and resources.</li><li>• Embedded resources:</li><li>• Embedded features of all courses that include access to resources (e.g. along with access to library or career services, also embed access to other mental health and crisis resources).</li></ul> Workshops: <ul style="list-style-type: none"><li>• Offer workshops and training sessions on stress management, time management, and self-care strategies (Bladek, 2021)</li></ul> Peer networks: <ul style="list-style-type: none"><li>• Develop peer support networks for emotional support and sharing coping strategies (Bladek, 2021)</li></ul>
<b>Institutional</b>	Institutional, state or other policies: <ul style="list-style-type: none"><li>• Are there any policies that disincentivize online students or instructors from engaging in self-care? If so, these should be modified or possibly even suspended.</li><li>• Do any policies create inflexible options for online students that can induce stress? If so, consider how these can be modified.</li></ul> Invest in online resources and supports for mental health, curated in one place for ease of access: <ul style="list-style-type: none"><li>• Provide easy 24-7 access to mental health that is free or very low cost. What resources, workshops, phone or text messaging options, and other supports can be made available remotely or online?</li><li>• Devise a plan to explicitly communicate out options and resources to online learners, e.g. by coordinating with a teaching and learning center or instructional design team to bake resource access into online interfaces.</li></ul> Moving away from “fix thyself” messaging: <ul style="list-style-type: none"><li>• Consider real, structural changes that can better support mental health. Consider opportunities for decompression, different schedules, or other structural changes that can better support mental health.</li></ul> Ask students—give them voice: <ul style="list-style-type: none"><li>• In study after study, the most practical advice came directly from students. Go beyond a nameless, faceless survey. Create annual focus groups or online socials that include time for online learners to share examples of how they have experienced feeling cared for by their peers, instructors, or support staff. Recognize the positive strategies students are using, and create opportunities for instructors and staff to share them with others. Ask students what they need—then deliver as much as possible. This builds trust, and higher trust helps to lower stress.</li></ul>

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strategies, programmatic strategies, and institutional strategies in Table 1. For instructional strategies, research on social and emotional learning (SEL) in particular offers some ideas that can be incorporated at the course level. In the table below, suggestions are curated from Moore (2021) on SEL in online learning settings, Tuckwiller and Milman (2019), and Marzban and Inan (2024), as well as from Apgar and Cadmus (2021). Programmatic supports reflect a level of systemic supports that programs can incorporate. Here we draw on the concept of the online learning ecosystem presented in Moore and Piety (2022) to suggest programmatic levels of supports and curate some specific ideas from Biber and colleagues (2020). Finally, for systemic supports at the institutional level, we draw on ideas from Biber and colleagues (2020), as well as Moore (2022) on building better systems of care that use a human performance technology framework to identify ways that academic leaders can support online learners' mental health and well-being. The Adaptability, Connection, and Equity Framework (ACE Framework, [https://colab.](https://colab.plymouthcreate.net/ace/)

[plymouthcreate.net/ace/](https://colab.plymouthcreate.net/ace/)), developed by the Open Learning and Teaching Collaborative at Plymouth State University (n.d.) also provides additional instructional and systemic strategies that instructors, designers, and administrators might also consider.

By no means are these strategies meant to suggest that doing them will easily solve this challenge. This is an under-researched area, and we anticipate there is much more to learn about what the actual root causes are for stress and what are effective strategies for employing these. Additionally, effective strategies will likely vary from individual-to-individual. At this stage, we have little research on whether employing these strategies leads to improved learner mental health. Conditions may also be shifting, as more students experience social disruptions or instability due to climate change, local politics, social unrest, and other disruptive conditions. Thus, we encourage our professional community to adopt a commitment to addressing learner mental health and leveraging our tools of research and design in service of our learners and their futures. We also would encour-

age the collaborative creation of a site dedicated to mental health for online learners where research and design ideas may be curated and shared to further support instructors, designers, and decision makers.

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