Mental Health and Social-Emotional Learning

A year into the COVID-19 pandemic, school-aged children and young adults are facing a shadow mental health crisis. Recent research reveals the vulnerability of college-aged young people to anxiety and depression, fueled by restricted social interactions, the loss of economic opportunities, and growing uncertainties about the future.\(^1\) Among pK-12 school children across the United States, rates of suicide and self-harm attempts have also increased at an alarming rate.\(^2\) For example, in the United States in Nevada’s Clark County, the number of students who died by suicide during the 9 months of school closures doubled to 18, with the youngest student reported to be 9 years old. While the spikes in suicide rates among school children in Clark County and around the world cannot be conclusively linked to school closures, mental health professionals note that lockdowns have not only exacerbated students’ anxiety and stress but also restricted access to school mental health resources.\(^3\) Anxiety, stress, and depression affect students’ “social connections, their physical health, and indeed, their performance in school.”\(^4\)

Although the mental health challenges facing school-aged children and young adults pre-dates the pandemic, over the past year, the isolation, loneliness, stress, and grief of the pandemic have compounded the crisis. Around the world, girls, children with disabilities, children from low socioeconomic backgrounds, and other marginalized populations are particularly vulnerable to the stresses of the pandemic, not only losing out on formative social connections because of school closures but also facing increased violence at home in some cases and the permanent loss of education in other cases.\(^5\) Violence and bullying in schools, which UNICEF reports affected 32% of children before the pandemic, has also persisted in new forms, including cyberbullying.\(^6\)

Despite shifts in learning environments and the ensuing challenges, the education community, particularly teachers, continues to play a key role in supporting students’ mental wellbeing, particularly in crisis or conflict-affected regions. While the typical approaches for identifying students struggling with mental health challenges may not be effective in remote or hybrid learning contexts, many teachers and education professionals have adapted existing screening

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processes to the pandemic circumstances or innovated ways to support their students’ learning and social-emotional wellbeing.\(^7\)

However, as the pandemic has forced teachers to rethink their pedagogical approaches, they themselves must contend with an onslaught of their own COVID-related stressors, including concerns over health and safety, job security, and competing priorities at home. Even before the pandemic, the field of pK-12 education saw high rates of burnout and turnover, fueled by the stress of the profession and disproportionate rates of compensation. Research notes that, for teachers who stay in the field, stress can affect performance, creating a cycle in which both teachers and students struggle. These effects on teacher mental health are amplified for educators working in crisis and conflict-affected areas, where resources may be reduced or altogether lacking.\(^6\)

Addressing these mental health challenges in pK-12 education requires attention to the effects on students, teachers, parents, and the entire school community. In the following report, we provide an overview of the factors that shape mental wellbeing, some of the current approaches to address these challenges, and directions for further study:

- Social-emotional learning to help students cope with stress and anxiety
- Meditation and mindfulness practices to support students’ mental wellbeing and academic performance
- Mental health support for teachers
- A compassionate systems framework for fostering global mindsets in students
- Mental health screening processes for educators to identify and support at-risk students during the pandemic and beyond
- Solutions to address bullying and violence in schools
- Approaches to creating inclusive learning environments and cultivating a growth mindset

Social-Emotional Learning

Social-emotional learning (SEL) is the process of acquiring and applying “the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions.”\(^9\) Together, these skills, knowledge, and attitudes comprise social-emotional competencies. During her keynote session at the J-WEL Connections event in April 2021, Dr. Kimberly A. Schonert-Reichl, the NoVo Foundation Endowed Chair in Social and Emotional Learning in the Department of Psychology at the

\(^7\) https://www.brookings.edu/blog/brown-center-chalkboard/2021/03/04/with-digital-savvy-teachers-can-enliven-americas-classrooms/

\(^8\) https://www.edu-links.org/sites/default/files/media/file/TWB%20Landscape%20Review_June%202019.pdf

\(^9\) https://casel.org/what-is-sel/
University of Illinois at Chicago, noted an abundance of research in SEL over the last two decades that has documented the critical role of social and emotional competencies, such as self-regulation, empathy, and compassion, in students’ resilience and successful development in school and in life. SEL has been shown to promote positive attitudes towards school, improve students’ achievement, and empower young people to cope with stressors. The growing interest in promoting and assessing children’s SEL has resulted in the design, implementation, and development of numerous school and after-school programs and interventions, as well as the passing of educational policies that mandate teaching social-emotional skills (Thomson et al., 2017). However, developing and implementing “psychometrically sound and developmentally appropriate” (Thomson et al., 2017, p. 1) SEL assessment tools remains a key concern for researchers.

The Social and Emotional Learning Lab, established by Dr. Schonert-Reichl at the University of British Columbia, conducts research on school-based SEL programs and mindfulness-based programs to better understand the processes and mechanisms that promote children’s social-emotional competencies. In 2012, Schonert-Reichl et al. developed and validated the Middle Years Development Instrument (MDI), one of the first tools to collect data on child

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11 https://sel.ecps.educ.ubc.ca/
well-being and the factors that contribute to it during the transitional years between childhood and adolescence. The MDI is a population-level, self-report measure of school-aged children’s social-emotional development and the social and environmental conditions that foster SEL. A recent study by Thomson et al. (2017) further examines the conceptualization, development and validation, and application of the MDI. The researchers provide strategies for how to report the data collected from the MDI back to the schools and communities in which students completed the survey, as well as examples of how MDI data has influenced decisions, policies, and actions in schools and communities with regard to SEL programs (Thomson et al., 2017). Thomson et al.’s findings reinforce the need to develop instruments to understand children’s social-emotional development and to assess the effectiveness of SEL programs.

Classroom-based universal SEL programs include MindUp, an evidence-based program that gives children the knowledge and tools to manage stress, regulate emotions, and face challenges with optimism, resilience, and compassion. The Massachusetts Department of Elementary and Secondary Education has also partnered with the Education Development Center (EDC) and Transforming Education (TransformEd) to work with schools and districts across the state on developing coordinated approaches to the planning and delivery of SEL and mental health programs and practices. Motivated by the outcomes of social and emotional competencies and the lack of mental health services for students in school, the resulting Social Emotional Learning and Mental Health Academy offers a unique, evidence-based approach to building and sustaining the multi-tiered systems of support students need to be successful.

Promoting SEL in schools requires not only the buy-in of educators but also familiarity with the science of social-emotional development and strategies for supporting children’s SEL. In another first-of-its-kind project, researchers at the Social Emotional Learning Lab scan the SEL content of teacher preparation programs in the U.S. and Canada to determine how SEL is currently being taught to pre-service teachers. Based on their findings, the researchers developed a series of recommendations on the tools and strategies that would “increase the effective and broad implementation of research-based, coordinated practices to promote SEL into teacher preparation programs.”

Relatedly, researchers from the Center for Healthy Minds at the University of Wisconsin-Madison have developed a “train-the-trainer” model for 5th-grade teachers to facilitate them in implementing SEL curriculum in the absence of an SEL expert. Focused on the impact of mindfulness-based training for teachers and students, the Center researchers have prototyped an integrated training curriculum for 5th grade teachers and students.

12 https://sel.ecps.ubc.ca/research-studies/research-on-social-emotional-learning-programs/sel-in-teacher-education/

Mindfulness-Based Practices

In adults, practices that promote mindfulness, or the ability to focus on the present moment, have been shown to reduce stress and impact neuroplasticity, or the brain's ability to change and adapt in response to experience. However, research on the neural and behavioral benefits of mindfulness training on children is relatively new with MIT scientists leading the way.

Two recent studies from MIT suggest that mindfulness may lead to better academic performance, fewer behavioral issues in school, and less stress among middle schoolers. In one study, Bauer et al. (2019) investigated the impact of mindfulness training in the developing brain in a randomized controlled trial (RCT) with 99 sixth-graders, half of whom received mindfulness training every day for 8 weeks, while the other half received coding training. Created by the nonprofit Calmer Choice, the mindfulness intervention taught students physical and mental strategies for focusing on the moment and changing negative mindsets, like paying attention to their breath (Bauer et al., 2019). After the interventions, the researchers found that students who received the mindfulness training reported decreased stress levels and fewer negative feelings, while students in the control group did not. Bauer et al. (2019) were also able to detect the impact of mindfulness training in brain scans, which revealed reduced activation in the amygdala, a region of the brain that processes emotions, when the students were shown stressful images. These findings parallel those of research on how mindfulness training affects neuroplasticity in adults, indicating that mindfulness-based practices can reduce stress in children as well.

A second study by Bauer et al. (2020) on the impact of mindfulness training on children’s ability to focus on a sustained-attention task reported that children in the mindfulness intervention group had fewer lapses in attention than children in the control group. The researchers were again able to observe how mindfulness training affected specific regions of the childrens' brains, in this case related to cognitive control.

At a recent MIT Open Learning panel discussion, “Mindfulness, Mental Wellness, and Learning,” John Gabrieli, Pattie Maes, and Pawan Sinha from the MIT Integrated Learning Initiative (MITili)'s Mental Wellness Initiative (MWI) elaborated on the impact of mindfulness-based practices on children's academic performance and mental well-being. The researchers discussed how the cognitive and neural correlates of autism, anxiety and depression, and Alzheimer's affect learning and what solutions can emerge from these findings. Noting the proven impact of mindfulness training on the developing brain, the researchers plan to further study specific mindfulness techniques and interventions, including the use of technology like wearable devices in supporting mindfulness, to determine best practices.

Teacher Wellbeing
The benefits of mindfulness training extend to teachers as well. Teachers play a key role in fostering student learning and wellbeing, but teaching and managing classrooms can be stressful, leading to high rates of burnout and turnover. For teachers who stay in the field, stress can negatively affect performance. Flook et al. (2013) argue for the implementation of mindfulness training to reduce and manage teacher stress as “part of a formula for promoting a healthy classroom environment” (p. 182).

In a randomized controlled pilot trial of a modified Mindfulness-Based Stress Reduction course adapted for teachers, the researchers found that mindfulness training “boosts aspects of teachers’ mindfulness and self-compassion, reduces psychological symptoms and burnout, increases effective teaching behavior, and reduces attentional biases” (p. 189). While there is no consensus yet on the best approach to mindfulness training for teachers, Flook et al. (2013) suggest including mindfulness-based practices as part of pre-service training and professional development, “making training readily accessible and specifically relevant to educators outside of a strictly mental health care framework” (p. 183).

Recognizing that the occupational stress and burnout facing teachers, particularly in public schools, can spill over onto their students, Oberle and Schonert-Reichl (2016) examine the relationship between the classroom environment created by teachers and students’ stress and well-being in school. In considering students’ salivary cortisol levels as a biological indicator of stress, it is the first study “to assess students' stress regulation objectively at a biological level in relation to teachers' emotional exhaustion and feelings of depersonalization from their students” (Oberle & Schonert-Reichl, 2016, p. 30). The researchers found, as predicted, a correlation between higher levels of burnout in classroom teachers and higher levels of cortisol in students. Based on the study results, Oberle and Schonert-Reichl (2016) emphasize the importance of preventing teacher burnout and promoting teacher well-being through increasing support, resources, and professional development opportunities (p. 35).

For teachers working in crisis or conflict-affected regions, occupational burnout and stress are amplified. A landscape review, commissioned by the Education Equity Research Initiative (EERI), found the research on teacher well-being in conflict and displacement settings to be lacking, with teachers’ perspectives largely missing from the literature that does exist (Falk et al., 2019, p. 40). They suggest a number of approaches, areas, and topics for future research, including: social-emotional competencies, teacher-student relationships, peer relationships, school leadership, teacher mobility, teacher attrition, the relationship between community factors and teacher well-being, and equity implications. The report concludes with recommendations for activities to support teacher well-being at the individual, school, community, national, regional, and global levels at different phases in responding to a crisis (Falk et al., 2019, p. 43).

A series of case studies published by the Inter-agency Network for Education in Emergencies (INEE) highlights several promising initiatives and programs for delivering quality education in existing crisis contexts, including research methods, evidence-informed policy making, and

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14 [https://centerhealthyminds.org/assets/files-publications/FlookMindfulnessMindBrainAndEducation.pdf](https://centerhealthyminds.org/assets/files-publications/FlookMindfulnessMindBrainAndEducation.pdf)
innovative approaches to program design and implementation. But similar to the findings of the EERI landscape review, there is not yet enough evidence to influence policy outside of a program’s specific context, to scale successful programs, and to guide the creation of new programs. As a result, new and ongoing programs struggle to transition from promising practice to achieving systemic, continuous, and transformative change. While several of the case studies promote teachers’ voices and contributions to program design and implementation—filling the gap identified by the landscape review—the INEE report found that teachers working in crisis contexts continue to face challenges at the occupational, community, regional, and national levels.

Compassionate Systems

Many of the challenges of the mental health crisis in education are interconnected, calling for systems-wide approaches and solutions. Emerging from SEL, systems thinking, and mindfulness in education, the compassionate systems framework aims to support children’s, educators’, and individuals’ well-being by situating individual and community challenges as part of interconnected systems that require mindful and compassionate responses. As a framework for building a cognitive and affective foundation for global citizenship, compassionate systems conceptualizes compassion as an essentially systemic property of mind: to cultivate compassion is to be able to appreciate the systemic forces that influence people’s actions.

For years, different disciplines, from neuroscience to psychology, have investigated the workings of empathy, sympathy, and emotional intelligence, with the goal of better understanding human emotional states and reactions. The current work on compassionate systems understands compassion as the ability to actually feel what it is like to be an actor in the system—to “walk in someone else’s shoes.” This involves systems sensing—being able to experience the multiple realities in any complex setting through collaborations with others or simulations of the causes of problems—and systems thinking, which tries to objectively understand how a system is functioning. The basic aim of a compassionate systems framework is the growth of “compassionate integrity” in students and teachers—to have alignment between thinking, feeling and acting.

Pilot implementations of the compassionate systems framework at international schools in Switzerland and the United States were well-received, with both participating students and teachers reporting on the benefits of the model in nurturing students’ resilience, empathy, and ability to cope with emerging challenges. As of 2019, the compassionate systems approach to education has expanded to more schools in the U.S., Indonesia, Denmark, and in crisis contexts.\(^{15}\)

\(^{15}\) https://jwel.mit.edu/assets/document/introduction-compassionate-systems-framework-schools
Screening and Prevention

With the COVID-19 pandemic disrupting students’ routines, support systems, and sources of security, the education community has been on high alert for signs of a worsening student mental health crisis. In many cases, educators have had to adapt or develop new methods for screening and preventing students’ mental health crises. The Brookings Institute, for example, suggests that educators, administrators, and guardians can support students by learning to recognize warning signs of distress, such as sudden or extreme changes in behavior, connecting students with school- and community-based resources, and building social connection through prioritizing opportunities for active connection.¹⁶

The effects of the pandemic on student mental well-being not only spotlights the longstanding mental health crisis in schools, but also emphasizes the need to develop better tools to understand children’s risks for mental health issues. Researchers at Harvard’s Lee Kum Sheung Center for Health and Happiness have been developing more accurate scales and indices for measuring the two domains of well-being: objective and subjective well-being. Objective well-being is often assessed using material, tangible, and quantitative indicators like education, physical and built environment, community, and economy, which tend to capture a societal rather than an individual perspective on well-being. On the other hand, subjective well-being “is characterized by the individual’s internal subjective assessment, based on cognitive judgments and affective reactions, of their own life as a whole.”¹⁷ Investigators also consider psychological, social, and spiritual aspects of well-being when assessing subjective well-being. In an ongoing study of the relationship between mental well-being and physical health, the Center’s researchers focus on identifying the aspects of subjective well-being that may contribute to attaining and maintaining physical health, such as “eudaimonic well-being (e.g., finding meaning in life, experiencing a sense of personal growth, being autonomous in one’s own decisions and behaviors), hedonic well-being (e.g., feeling happy, being satisfied with [one’s] own life), as well as others (e.g., optimism).”

Early detection and intervention tools, along with brain imaging science, also hold the key to changing how patients with mental illnesses, including children, are diagnosed and treated. Susan Whitfield-Gabrieli, a psychology professor at Northeastern University and a visiting scientist at MIT’s McGovern Institute for Brain Research, notes that clinicians have long relied on pencil-and-paper diagnostic tools, like questionnaires, to diagnose and treat mental illnesses,
a process that may involve years of trial and error. But brain imaging may lead to more personalized and optimal treatments; it may also help identify children at risk for mental health issues early enough to provide preventative treatments. Whitfield-Gabrieli directs a biomedical imaging center at Northeastern, where she is currently leading a study on how functional magnetic resonance imaging (fMRI) might help people with schizophrenia learn how to suppress auditory hallucinations. The fMRI would measure patients’ brain activity and provide immediate, real-time feedback that could then be combined with mindfulness techniques to treat patients. Another of Whitfield-Gabrieli’s projects looks for biomarkers in the brain that can predict anxiety and depression in teenagers, helping to figure out who will respond to what treatments at the onset.

Violence Prevention

School violence and bullying are major contributing factors to the student mental health crisis. A [UNICEF (2019)] report notes that 32% of children have been bullied by peers in school. Psychological bullying is most common in Europe and North America, while physical bullying is the most common in all other regions. Among boys, physical bullying is more common, whereas psychological bullying is more common among girls. Students who are perceived as different in any way—e.g. physical appearance, race, ethnicity, nationality, gender identity, socioeconomic status—are most vulnerable to bullying. The report also notes that older students seem to be more at risk of cyberbullying, which is a growing problem that has been accelerated by schools transitioning online during the pandemic.

In addition to mental-health and quality-of-life impacts, bullying leads to worse educational outcomes, more school absences, and increased risk of dropping out. UNICEF (2019) observes a correlation between unsafe school environments and lower academic achievement, suggesting that school violence and bullying harm all students (p. 8).

Based on a comparative analysis of responses from 8 case study countries that have been able to reduced or maintained low levels of school violence and bullying, the UNICEF (2019) report identifies the following success factors, which present in all or most of the countries where the studies were conducted, and uses them as foundations for developing recommendations:

- Strong political leadership and a robust legal and policy framework to address violence against children, including school violence
- Collaboration between the education sector and a wide range of partners, such as non-governmental partners
- Implementing evidence-based programs and interventions in schools
- Availability of data on school violence and bullying and systematic monitoring of responses

18 https://cos.northeastern.edu/news/this-neuroscientist-wants-to-change-how-we-diagnose-and-treat-mental-illness/
- Training for teachers on preventing and responding to school violence and bullying
- Focus on a safe and positive school and classroom environment
- Commitment to child rights and empowerment, and student participation
- Support and referral for students affected by school violence and bullying

Research has linked exposure to violence with increased risk for suicidal behavior, particularly among women and children who have experienced domestic violence.¹⁹ H.O.P.E.: Suicide Prevention for Crime Victims is an initiative from the Education Development Center (EDC), "a global nonprofit working to improve education, promote health, and expand economic opportunity," provides training to advocates who work with victims of violence to support them in addressing suicide prevention with their clients. The H.O.P.E. training provides advocates with strategies for increasing protection against vicarious trauma, as well as continuing education in the form of a 9-month virtual learning community.

Growth Mindset as an Approach to Dealing with Failure

Many of the factors that shape student mental well-being, including solutions, center on the learning environment and the mindset it helps to cultivate. Research has shown that students with a growth mindset—the belief that abilities and intelligence can grow with experience and effort—are more motivated and engaged, better able to cope with difficulty or failure, and more likely to persist in their education.²¹ In conjunction with the neuroscience findings on the neuroplasticity of children’s brains, these findings hold promise for the creation and implementation of programs and activities that help children cultivate a growth mindset. Transforming Education, a non-profit organization that partners with school systems and other education-focused organizations, including MIT, Harvard University, and other Boston-based schools, has developed a Growth Mindset Toolkit, available for free with versions for parents, for specific subjects like math, and for speakers of Spanish.

The MIT Teaching and Learning Lab (TLL) also provides resources that support the development of a growth mindset, noting that teaching students to view intelligence and abilities as malleable can create more equitable learning environments. Specifically, practices that encourage a growth mindset have been shown to bridge the academic gap for women and underrepresented minority groups. Supportive practices include teachers’ modeling a growth mindset; normalizing the experience of failure and mistakes; praising effort and study strategies, rather than intelligence; emphasizing the importance of feedback; challenging the notion that learning is easy; and communicating that abilities can grow over time.

¹⁹ https://padv.org/exposure-to-violence-linked-to-suicidal-behavior
²⁰ EDC - https://www.edc.org/about
²¹ https://transformingeducation.org/resources/introduction-to-growth-mindset/
²² https://transformingeducation.org
At MIT, **Flipping Failure** is a campus-wide initiative to bring visibility to stories of academic challenge and resilience that reflects the growth mindset framework. The Flipping Failure site features a collection of video stories of MIT students who have faced and overcome challenges on their path to resilience and acceptance. With the goal of normalizing struggles as a part of the human experience, the initiative models healthy and productive strategies for students coping with difficult challenges and learning experiences.

The TLL offers additional resources for creating an inclusive classroom environment, where students feel welcomed and supported. A resource on academic belonging, for instance, explains that students who feel “a sense of belonging [feel] cared about, accepted, respected, and valued by others on campus,” which positively affects their physical and mental health. The resource encourages the use of structured, active, and interactive classroom practices that help students feel that they are an integral part of the class. Interventions that support specific groups or subgroups in particular disciplines, such as women in STEM, underrepresented minority students, and 1st-generation students, have been shown to foster academic belonging.

**Conclusion**

While the COVID-19 pandemic has renewed attention to the global student mental health crisis, the factors that affect young people’s mental well-being existed long before the pandemic and will persist into the future. Current approaches to these challenges reveal the complexity and interconnectedness of the crisis, highlighting its impact on everyone in the education community, from students to teachers to caregivers. Research in neuroscience, psychology, and child learning and development supports the positive effects of programs like social-emotional learning and mindfulness-based interventions on not only students' mental health, but their academic achievements. For example, children who start Kindergarten with strong social-emotional skills are more likely to graduate high school, complete college, and obtain meaningful employment. Malleable in nature, SEL can occur at any age, which indicates the need to design and implement SEL programs with measurable outcomes.
The benefits of mental health support extend to educators as well. Specifically, given the contagious nature of stress, caring for educators’ well-being results in downstream effects that in turn benefit students. This elucidates that students belong to a community and future considerations could further involve other members of the community, including parents and caregivers, in programs that support mental health and well-being.

The current approaches also emphasize the important role of scientific findings in driving policy changes. For instance, the education system in British Columbia, Canada has recently redesigned its curriculum to integrate SEL based on much of the data presented in this report. To facilitate systems-wide change, then, continued investment in studying and assessing existing and new programs is vital.