

# WHAT WORKS FOR IMPROVING MENTAL HEALTH IN HIGHER EDUCATION?



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Many campus communities want to address mental health with a public health approach that incorporates a range of resources, practices, and policies to promote well-being among all of their students. However, one of the main difficulties encountered is the lack of clarity about which strategies are most effective. Sara Abelson, Sarah Ketchen Lipson, and Daniel Eisenberg conducted a comprehensive review, published as “Mental Health in College Populations: A Multidisciplinary Review of What Works, Evidence Gaps, and Paths Forward,” that gathered information on evaluating the effectiveness of campus interventions from a range of academic fields and journals. Abelson, Lipson, and Eisenberg summarize their findings in this brief, presenting key takeaways and highlighting recommendations to help higher education leaders make evidence-based investments in student mental health.

## CHALLENGES AND OPPORTUNITIES TO ADDRESS STUDENT MENTAL HEALTH

College and university leaders are well aware of the rising prevalence of mental health problems in student populations. These concerns have been building for a long time, since well before the COVID-19 pandemic. Data from the Healthy Minds Study (HMS)—a national survey of student mental health—have shown steady increases in the share of students who are reporting high levels of distress, particularly in recent years. For example, from 2016 to 2021, the percentage of students with significant symptoms of depression rose from 25 percent to 41 percent and the percentage of students with significant symptoms of anxiety rose from 21 percent to 34 percent.

An obvious first response to these trends has been for institutions to increase the availability of mental health services, such as counseling and psychiatric care. Indeed, many colleges and universities have substantially expanded their capacity in counseling and health centers. HMS data have shown a dramatic rise in service use; in the early years of the survey (2007–10), 20 to 25 percent of students with depression or anxiety had received mental health treatment in the previous year compared with more than 50 percent as of 2021.

Increasing the availability of mental health care is helpful but not sufficient, which many campus communities recognize. Despite the approximate doubling in mental health service use during the past 10 to 15 years, the rise in distress continues unabated—far outpacing increases in service use—and there are persistent inequities. Students of color and low-income, first-generation students have high levels of unmet mental health needs (Lipson et al. 2018); community college students also have higher levels of unmet mental health needs when compared with students at four-year institutions (Lipson et al. 2021).

These challenges have led campus communities to ask whether a more proactive, preventive approach to student mental health is possible. Such a public health approach should not replace traditional mental health services, which are generally effective but only reach a portion of students. Rather, this approach should include a wider range of resources and efforts to promote mental health and well-being among all students. This type of public health approach recognizes that mental health is dynamic and can be improved not only through treatment delivery but also social, economic, and institutional factors including sense of belonging, financial support, and campus climate and policies. This line of thinking is reflected in the frameworks and programs advocated by national organizations such as The Jed Foundation, The Steve Fund, and Active Minds, and it is also present in leading reports on student mental health such as the [consensus study report](#) issued by the National Academies of Sciences and Medicine in 2021.<sup>1</sup>

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1 For mental health frameworks and resources, see [The Jed Foundation](#), the [Equity in Mental Health Framework](#), and [Active Minds](#).

Implementing this vision is not easy, however. One of the main difficulties is the lack of clarity about which specific preventive approaches are most effective. Campus communities are using a variety of preventive intervention strategies that *might be* helpful; however, it is often unclear whether and to what degree these interventions are actually effective. A growing body of research evaluates interventions, but this literature is scattered across academic fields and journals. To bring coherence to this large volume of information and provide guidance to campus leaders, we conducted a comprehensive review of the evidence regarding higher education programs, services, practices, and policies that influence student mental health.<sup>2</sup> This brief summarizes key takeaways from that detailed review and offers recommendations to higher education leaders.

To underscore the urgency and opportunity even further, students' mental health has implications not only for their health and well-being but also for their academic outcomes (Eisenberg, Golberstein, and Hunt 2009). Research has shown that depression is associated with a twofold increase in the likelihood of dropping or stopping out of college without graduating (Eisenberg, Golberstein, and Hunt 2009). National dialogues around college persistence and student mental health have been largely separate, siloed conversations. Given that the same groups of students who have lower rates of persistence and retention also have higher levels of unmet mental health needs—namely students of color and first-generation, low-income students—an urgent need exists to bring together these two dialogues to advance equity in both domains (Lipson et al. 2018). These efforts are likely to benefit not only individuals' well-being but also the well-being of institutions and communities through greater retention of tuition revenue and more skilled future employees in the U.S. economy.

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## FIVE RECOMMENDATIONS FOR LEADERS IN HIGHER EDUCATION

Given the current mental health crisis, higher education leaders need to invest strategically in preventive public health approaches to student mental health, much as they had to apply public health practices to combat the COVID-19 pandemic. Strategies to improve student mental health must be guided by data and evidence to the greatest extent possible to maximize returns on investment. In this brief, we offer recommendations that promote the use of data to make evidence-based investments in student mental health. We recommend the following:

1. Use data to regularly assess population-level needs, priorities, and progress
2. Invest substantially in strategies with proven effectiveness
3. Revise or discontinue strategies with proven ineffectiveness
4. Invest modestly in strategies with promising evidence, then evaluate and reassess
5. Contribute to a broader movement toward an evidence-informed approach to student mental health

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2 The review is available in *Higher Education: Handbook of Theory and Research*, vol. 37 (Abelson, Lipson, and Eisenberg 2022).





## RECOMMENDATION #1: USE DATA TO ASSESS NEEDS, PRIORITIES, AND PROGRESS

It is important to gather data on a regular basis from a variety of sources within each campus community. National data or data from other institutions can give an approximate sense of what might be happening in your student population, but each student population is unique. In the Healthy Minds Study (HMS) and other data sources, we see substantial variation across institutions in many key measures. We also see considerable change over time, so data from a few years ago might no longer be accurate. Knowing the current needs of the institution's population will guide where and how to invest in intervention. Sharing data and information widely with students, staff, and administrators has helped many colleges to spur collective investment in student mental health. Moreover, identifying the student groups who are experiencing the greatest mental health burdens and not receiving care will allow for designing and implementing interventions specifically for these students—a critical step for enhancing mental health equity.

Population surveys and assessments, such as HMS, the Hope Center Basic Needs Survey, and the National College Health Assessment (NCHA), serve as key data sources. These sources offer a direct perspective from students, including those who have and have not utilized treatment. Routine satisfaction surveys of students who use campus services and programs are also valuable. Utilization and staffing data from the counseling and health center is another important source of information. In addition, it is important to track information about student crises and critical incidents.

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In light of the large number of data points that are potentially available, higher education leaders might wonder which specific measures should receive the closest attention. For assessing campus needs and priorities, we suggest focusing on measures such as:

- The symptom prevalence of common mental health conditions (e.g., depression, anxiety, suicidal risk, disordered eating)
- Positive measures of mental health and well-being or flourishing
- Use of and barriers to mental health services and other support
- Differences across student subpopulations that might indicate inequities or varying needs

That said, it is not always possible to know which data points will be most revealing; therefore, it is important to gather data on a wide variety of measures (as is done in HMS, NCHA, and other national surveys) and then review the findings to see what jumps out as divergent from peer institutions or past data or otherwise appears concerning or notable.

When measuring progress over time, the set of measures to focus on might be somewhat different than those for measuring needs and priorities. For example, while the prevalence of mental health conditions is a proxy for overall needs in the population, it might not be realistic to change that indicator in an entire student population within a short time frame such as a year or two. In contrast, the following are examples of indicators that could realistically be improved even within a year or two:

- Perceptions of the climate with respect to mental health (e.g., HMS assessment statements such as “At my school, I feel that students’ mental and emotional well-being is a priority”)
- Sense of belonging
- Awareness of services and resources
- Helping behaviors (e.g., referring a friend in need)
- The usage rate and satisfaction rate with respect to services and programs

Measuring changes in barriers to accessing care and key risk factors such as students’ experiences with discrimination and financial stress is also useful for assessing progress.

Campus leaders often raise important questions and concerns about collecting data on student mental health, including the limitations and downsides to surveying students. Students are asked to complete a number of surveys and forms, so adding another survey imposes a burden and typically yields response rates below 20 percent. These concerns are legitimate and must be balanced against the substantial value of gaining mental health data from the student perspective. We encourage campus leaders to advocate for mental health data collection as a top priority, aligning with the majority of presidents who indicate student mental health is a top concern (Turk, Soler, and Chessman 2020). Surveys should be prioritized that cover multiple priority areas and for which there are timely plans to use and respond to the findings. Another simple way to mitigate the burden on students at larger institutions is to draw a random sample rather than invite the entire student population; inviting 5,000 students is typically enough to gain the necessary data representing the larger population. Many institutions also alternate surveys from one year to the next (e.g., a rotation between HMS and NCHA) so that they are not fielding too many surveys in the same year.



## RECOMMENDATION #2: INVEST SUBSTANTIALITY IN STRATEGIES WITH PROVEN EFFECTIVENESS

As noted previously, the evidence base for specific mental health programs, services, and practices is currently scattered across a wide range of sources, but through our comprehensive review (Abelson, Lipson, and Eisenberg 2022) we can offer some conclusions about which strategies are more effective than others.<sup>3</sup> In this brief, we highlight a small number of intervention strategies that have strong evidence of effectiveness, based on evaluation research to date. These are strategies that leaders can invest in with confidence.

*Extensive evidence* suggests that **skill-training interventions** effectively promote positive adjustment and prevent negative adjustment in college students (Durlak 1997; Conley, Durlak, and Kirsch 2015; Yager and O’Dea 2008; Cimini and Rivero 2018; Howard et al. 2006; McDonald, Pritchard, and Landrum 2006; Stice, Shaw, and Marti 2007). Skill-training interventions teach students social, emotional, and coping skills to promote mental health and prevent problems. Supervised practice—behavioral rehearsal and supportive feedback—over multiple sessions is an essential component of effective skill-training interventions, though it is not universally employed and is often neglected (Conley, Durlak, and Kirsch 2015; Conley 2015).

Several types of skill-training interventions exist. **Mindfulness programs** with supervised practice have the most *consistently positive evidence*. They have been shown to improve social-emotional skills (e.g., coping, positive thinking, emotional and stress management), enhance self-perceptions (e.g., self-esteem, self-actualization) (Conley 2015; Astin 1997; Oman et al. 2008; Rosenzweig et al. 2003; Shapiro, Brown, and Biegel 2007; Shapiro, Schwartz, and Bonner 1998; Shapiro et al. 2008; Sears and Kraus 2009), reduce emotional distress (Conley, Durlak, and Kirsch 2015; Conley, Durlak, and Dickson 2013; Regehr, Glancy, and Pitts 2013) and mental health symptoms (Keng, Smoski, and Robins 2011; Hofmann et al. 2010), enhance well-being and

3 Italicized text indicates the level of evidence for the effectiveness of a given strategy; bolded text indicates the type of strategy.

flourishing (Long, Halvorson, and Lengua 2021; Chiesa and Serretti 2009; Davidson et al. 2003; Eberth and Sedlmeier 2012), and improve sleep (Friedrich and Schlarb 2018; Greeson et al. 2014). **Cognitive-behavioral and relaxation interventions** with supervised practice *show promise* for improving social-emotional skills and reducing psychological distress in college students (Conley 2015; Conley, Durlak, and Dickson 2013; Conley et al. 2017; Deckro et al. 2002). In contrast, meditation programs with supervised practice have *minimal evidence* for effectiveness (Conley, Durlak, and Kirsch 2015; Conley 2015; Conley et al. 2017).

Another *effective strategy* is routine **screenings** for mental health concerns—such as depression, anxiety, and suicide risk. Many colleges and universities are already implementing screening interventions widely (Schwartz and Davar 2018; Fedorchak and Cimini 2018). Several studies have shown that screening for mental health symptoms and suicidal thoughts and behaviors in academic settings can effectively identify at-risk individuals and link them to care (Hom, Stanley, and Joiner 2015; Eisenberg, Hunt, and Speer 2012; Peña and Caine 2006; Micheltore and Hindley 2012; Chung et al. 2011; King et al. 2015; Haas et al. 2008; Moutier et al. 2012). Of course, screening programs are only effective to the extent that evidence-based mental health services are available for students with needs that are identified through the screening. Given that most campus communities are already struggling to keep up with current needs for mental health services, any effort to expand screening programs must be paired with an efficient system for triaging students with the greatest needs into the appropriate level of care.

Although most robustly evaluated strategies focus on the individual student, colleges and universities have important opportunities to support student mental health through improvements to the broader campus environment. Institutions may reduce mental health risks through the physical environment, for example, by restricting means for suicide. In campus settings, this may include installing barriers or nets on bridges and rooftops and mounting closet rods that dislodge from the wall when bearing significant weight in residences to prevent suicide by hanging. **Means restriction** is one of the few suicide prevention strategies with *proven effectiveness* (Cimini and Rivero 2018; Zalsman et al. 2016; Mann et al. 2005; Hawton 2007; Sarchiapone et al. 2011; Miller and Hemenway 2008; Reisch and Michel 2005; Beautrais 2001).

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### RECOMMENDATION #3: REVISE OR DISCONTINUE STRATEGIES WITH PROVEN INEFFECTIVENESS

The other side of investing in strategies with strong evidence is revising or abandoning strategies for which there is weak evidence. We are referring here not to strategies with incomplete evidence but rather to strategies with substantial evidence of disappointing results. There are at least two widely used strategies that fall into this category.

**Psychoeducational interventions** are didactic programs focused on providing mental health information (Durlak 1997). They target students' knowledge of and attitudes toward stress, coping, mental health symptoms, and mental health resources with hopes that the information will enable students to prevent or respond to future stress or symptoms and seek help if needed (Conley, Durlak, and Kirsch 2015). Across a large number of studies, settings, formats, and populations, psychoeducational interventions for mental health have been shown to be *minimally effective* in improving attitudes, changing behaviors, fostering skills, or preventing problems (Durlak 1997; Conley, Durlak, and Kirsch 2015; Yager and O'Dea 2008; Stice, Shaw, and Marti



2007; Conley, Durlak, and Dickson 2013; Conley et al. 2016; Corrigan et al. 2012; Yamaguchi et al. 2013). Psychoeducational programs have been found to be largely ineffective whether they address social-emotional skills (Conley 2015), stigma (Corrigan et al. 2012; Yamaguchi et al. 2013), sleep (Friedrich and Schlarb 2018; Dietrich et al. 2016), or eating-disorder prevention (Yager and O'Dea 2008; Stice, Shaw, and Marti 2007) and whether they are delivered in-person or via technology (Conley et al. 2016). Overall, the literature strongly indicates that college leaders should not invest in psychoeducation as an independent or primary approach to address student mental health (Durlak 1997; Conley, Durlak, and Kirsch 2015; Conley et al. 2017; Conley et al. 2016; Conley, Travers, and Bryant 2013).

These findings are not to say that psychoeducation in all forms should be abandoned. Although it typically has minimal impact by itself, psychoeducation is often a key piece in a multicomponent intervention. Many of the effective skill-training interventions noted previously contain psychoeducation; learning and applying a skill such as a mindfulness technique requires at least a basic understanding of why the skill is important and how it works.

Another type of intervention with *questionable effectiveness* is **gatekeeper training** for those who are not mental health professionals. These prevention programs seek to increase knowledge about mental health disorders, and they aim to enhance the ability to identify community members in distress and connect them to appropriate services (Lipson 2014). These trainings are meant to change community norms and behaviors around recognizing and responding to signs of mental health distress, but they have mostly been assessed by measuring learning and skill acquisition only among those trained (Lipson 2014; Wolitzky-Taylor et al. 2020). For example, evaluations have shown positive outcomes for trainee attitudes (e.g., levels of stigma) (Lipson 2014; Shannonhouse et al. 2017), self-efficacy (e.g., one's perceived ability to refer someone to get help) (Mitchell et al. 2013; Coleman et al. 2019), self-perceived intervention skills (Cross et al. 2010; Morse and Schulze 2013), and intention to intervene (Pearce, Rickwood, and Beaton 2003; Tompkins and Witt 2009; Indelicato, Mirsu-Paun, and Griffin 2011). Yet three college-based studies found no effects on trainee actual behaviors (intervening or referring to care) (Tompkins and Witt 2009; Indelicato, Mirsu-Paun, and Griffin 2011; McLean and Swanbrow Becker 2018), and a rare study that examined help-seeking and service use among the community members who are meant to benefit—in this case, student residents when their resident advisers were trained—detected no effects for the target population, even among residents with significant symptoms (Lipson et al. 2014).

As in the case of psychoeducation, we are not recommending the complete abandonment of gatekeeper training. After all, these programs are generally not expensive; further, it is encouraging that trainees are found in most evaluations to be more knowledgeable and confident in their skills than before. There is no reason to think these programs are harmful, and they are probably doing some good. That said, the evidence indicates that as a field we need to push for stronger outcomes from gatekeeper programs, such as clear indicators that more students with the highest levels of distress and risk are being identified and are accessing services as a result of the trainings.

We believe that current approaches to gatekeeper training need to be enhanced. One strategy for enhancement would be to include a series of brief booster or refresher trainings or exercises (perhaps with supervised practice) to ensure that the skills and knowledge from the initial training remain active in trainees' minds. Another possibility is to consider a saturation approach, in which all students, faculty, and staff receive training rather than just a select number of people (e.g., resident advisers or instructors). With a saturation approach, it is more realistic to hope for a meaningful shift in the culture and norms with respect to supporting each other and seeking help.

## RECOMMENDATION #4: INVEST MODESTLY IN STRATEGIES WITH PROMISING EVIDENCE, THEN EVALUATE AND REASSESS

Whereas relatively few interventions with clear evidence of being effective exist, far more strategies show promising but incomplete evidence. These strategies warrant continued experimentation in campus communities, as long as we are also evaluating outcomes carefully—data are the only antidote to the vast uncertainty about which strategies work best. Thus, campus leaders should invest in these strategies and also in rigorous evaluations that clarify the outcomes. This information needs to be shared with other institutions to advance the field.

We can divide the large group of interventions with promising but incomplete evidence into two general categories. The first set of strategies are those that have begun to be evaluated in higher education and have demonstrated some positive impacts on mental health. The second set of strategies are innovative approaches for which there is not yet direct evidence regarding mental health benefits among college students, but there are reasons—such as theory and evidence from outside higher education settings—to believe these benefits might exist.

### Strategies with Some Evidence of Effectiveness with College Students

Many institutions have a **peer health education** program (Wawrzynski, LoConte, and Straker 2011; Salovey and D’Andrea 1984), and peer educators increasingly receive mental health training (Wawrzynski and Lemon 2021). A large longitudinal study of students across 12 California colleges found that increased familiarity and involvement with the peer organization Active Minds over the course of one academic year were associated with *increases* in mental health knowledge, *decreases* in stigma, and *increases* in helping behaviors (providing or enhancing access to emotional support and helping peers get professional help) (Sontag-Padilla et al. 2018).

More research has focused on an array of **peer support programs**. Across settings, peer counseling and group interventions are *effective* in improving a wide range of health outcomes among diverse populations (Ramchand et al. 2017; Webel et al. 2010; Davidson et al. 2012). Mental health peer support programs at colleges and universities vary in delivery methods, aims, and training elements (John et al. 2018; Kirsch et al. 2014; Caporale-Berkowitz 2022). High-quality studies of these programs in higher education remain limited (John et al. 2018; Caporale-Berkowitz 2022), but a nine-week, peer-led prevention group focusing on transition to college and social support has demonstrated mental health and academic benefits through rigorous evaluation (Lamothe et al. 1995; Mattanah et al. 2010; Mattanah et al. 2012; Pratt et al. 2000). Another unusually well-evaluated, efficacious group peer intervention for college students is the Body Project, an eating disorder prevention program (Stice et al. 2006; Becker, Smith, and Ciao 2005; Halliwell and Diedrichs 2014; Matusek, Wendt, and Wiseman 2004; Stice et al. 2008; Mitchell et al. 2007; Becker et al. 2008; Stice et al. 2011; Stice et al. 2013; Stice, Marti and Cheng 2014). Online peer support interventions also hold promise, particularly for student populations that are less likely to utilize mental health treatment (Watkins and Jefferson 2013). For example, an online, social media-based intervention addressing mental health, manhood, and social support for Black college men reduced depressive symptoms among participants (Watkins et al. 2020).

Evidence from clinical contexts outside of higher education provides strong support for the efficacy of peer-led support groups. Enough work has been done to support two meta-analyses in depression, where peer-run support groups significantly reduced depressive symptoms, performing as well as professional-led interventions and significantly better than no-treatment conditions (Bryan and Arkowitz 2015; Pfeiffer et al. 2011; Byrom 2018). Peer-led support groups enhance positive outlooks, empowerment, hope, and self-efficacy more than traditional services alone (Repper and Carter 2011). In a randomized control trial, patients working with peer-led support groups felt more accepted and understood than patients enrolled in traditional care (Sells et al. 2006) and showed reduced depression relative to patients in typical group therapy (Pfeiffer et al. 2011).

Peer support, as well as many other factors, shapes students' sense of **belonging** in their institution. Sense of belonging—the human need to belong to and be accepted within a community—influences a wide range of social, psychological, and academic outcomes for adolescents and young adults (Bensimon 2007; Hausmann et al. 2009; Osterman 2000; Pittman and Richmond 2008; Shochet et al. 2006; Walton and Cohen 2011; Fink 2014; Gummadam, Pittman, and Ioffe 2016). There is *growing evidence* that sense of belonging is modifiable through interventions in students (Walton et al. 2015; Binning et al. 2020; Marksteiner, Janke, and Dickhäuser 2019; Layous et al. 2017; Stephens, Hamedani, and Destin 2014; Gilken and Johnson 2019; Winkelmes et al. 2016). These interventions not only produce health and academic benefits but also help reduce inequities, with strong support found in a series of rigorous randomized controlled trials (Walton and Cohen 2011; Brady et al. 2020). Fostering belonging via brief intervention at the beginning of college enhanced mentorship during college and led to better social and psychological life outcomes both immediately and significantly postcollege for Black students (Walton and Cohen 2011; Brady et al. 2020). The intervention eliminated differences that were identified in the psychological well-being of Black and White participants in the treatment group that persisted in the control group (Brady et al. 2020). A similar intervention reduced stress and anxiety, improved adjustment to college life, and enhanced academic and social engagement among low-income students (Stephens, Hamedani, and Destin 2014). In addition to adopting interventions to improve individual students' sense of belonging, campus leaders have an opportunity to do this work at scale by removing and replacing discrediting cues (e.g., portraits primarily of White men in academic spaces, only binary gender options on forms) in everyday settings and adjusting features of the social, psychological, and physical environment to foster belonging and create mental health-enhancing environments (Purdie-Vaughns et al. 2008; Steele 2010; Geronimus et al. 2016).

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Numerous opportunities exist for colleges to foster supportive **learning environments** (Dooris, Wills, and Newton 2014; Newton, Dooris, and Wills 2016; Orme and Dooris 2010). Mounting evidence *suggests* that changes to syllabi, courses, and classroom culture can help address students' mental and general health (Orme and Dooris 2010; Baik, Larcombe, and Brooker 2019; Knutson et al. 2022; Slavin, Schindler, and Chibnall 2014; Bowman 2010b). Institutions, schools, departments, and instructors have opportunities to offer mental health-focused curricula, reduce classroom and learning stressors that interfere with students' mental health (Robotham 2008), and adopt pedagogical practices that support students' well-being (Harper and Neubauer 2021; The University of Texas at Austin 2019; Bowman 2010a).

Higher education institutions have created **mental health-focused courses** and incorporated class content related to student mental health. Mental health interventions delivered as a class appear to be *more effective than* small-group programs (e.g., workshops outside of class; interventions conducted in residence halls) (Conley, Durlak, and Dickson 2013). Pre-post studies have found impacts on mental health knowledge (Becker et al. 2008), quality of life, depression symptoms, global mental health (Hassed et al. 2009), connectedness and hope (Shek et al. 2012; Shek et al. 2013), and stress reduction (Bughi, Sumcad, and Bughi 2006). In more robust evaluations, a psychosocial wellness seminar for first-year students improved psychosocial well-being and stress management (Conley, Travers, and Bryant 2013), and a brief mindfulness-based stress reduction elective course led to greater mindfulness and self-compassion (but not anxiety) after six weeks (Bergen-Cico, Possemato, and Cheon 2013). Well-evaluated positive psychology courses have shown effects on student mental health (Hood, Jelbert, and Santos 2021; Oades et al. 2011; Parks 2011; Young et al. 2022; Brett et al. 2020).

These findings suggest the value of further experimentation and evaluation to assess the expanding cadre of cost-effective, scalable mental health courses and curricula through rigorous research designs with diverse student populations (Riley and McWilliams 2007; Lo et al. 2018; Dobkin and Hutchinson 2013). Diversity-related courses should also be assessed for mental health effects since institutional LGBTQ+ course offerings (for credit) and taking more than one diversity course have been associated with lower psychological distress among sexual minority students (Woodford et al. 2018) and psychological well-being among first-year students (Bowman 2010b; Bowman 2010c; Bowman 2010a).

Colleges and universities have also worked to **reduce stressors associated with students' learning, testing, and the classroom environment**, which has shown *some efficacy*. Structured and transparent assessment practices can limit anxiety and equitably improve students' learning, retention, and testing performance (Murphy and Destin 2016; Chiou, Wang, and Lee 2014; Cross and Angelo 1988). Pass/fail grading has been shown to reduce stress and anxiety and improve well-being among medical students (Rohe et al. 2006; Bloodgood et al. 2009; Reed et al. 2011; Shiralkar et al. 2013). Beyond changing curricula and practices to reduce stressors, institutions and instructors have implemented pedagogical activities to enhance conditions for well-being in the classroom. Relevant foci include social connectedness, mindfulness, a growth mindset, resilience, gratitude, inclusivity, self-compassion, and life purpose (The University of Texas at Austin 2019). Syllabi statements that normalize mental health help-seeking and share mental health resources can influence students' intentions to contact instructors for assistance (Gurung and Galardi 2022).

Efforts to increase **mentoring** also *hold promise* for improving mental health. College students from traditionally underrepresented backgrounds who retain a greater number of natural mentors through their first year of college show reductions in depressive symptoms across the year (Hurd, Tan, and Loeb 2016), via enhanced self-worth that reduced psychological distress (Hurd et al. 2018). Students who feel more emotionally close to mentors report less depression and worry than students less connected to their mentors (Le, Hsu, and Raposa 2021). Mentors are recognized as being particularly important for retention, mental health, and well-being among graduate students, especially for students with marginalized identities (Goldberg, Kuvalanka, and dickey 2019; Hazell et al. 2020; Becerra et al. 2021; Allen et al. 2022; Hyun et al. 2006; Jones-White et al. 2022; Charles, Karnaze, and Leslie 2022; Ryan, Baik, and Larcombe 2022; Posselt 2021; Tuma et al. 2021).

Another approach for which there is *budding evidence* for higher education settings is “postvention.” **Post-crisis intervention** aims to improve the campus community's response during and after mental health crises. A suite of evidence-based interventions exists to help K–12 schools prevent and reduce psychological distress symptoms among students after traumatic events (Kataoka et al. 2012). For instance, school-based interventions after Hurricane Katrina reduced such symptoms in students (Jaycox et al. 2010). At colleges, faculty and administrator responses to hate crimes and bias incidents can inform students' stress, anxiety, fear, and longer-term responses (El-Amin 2016). Proactive activities to promote healing and reduce risk (i.e., contagion) following a suicide—“postvention”—are recommended (HEMHA 2018; Miller and Mazza 2018), but evidence of effectiveness is still limited (Szumilas and Kutcher 2011).

## Innovative Approaches Warranting Evaluation in Higher Education Settings

Interventions that **prevent discrimination and microaggressions** and those that **support sense of identity** *warrant further study*. Experiences with interpersonal, communal, and structural harms, such as racism and discrimination, which are unfortunately a common part of college for students of color, sexual and gender minorities, students with disabilities, and others impact mental health (Goodwill, Taylor, and Watkins 2021; Hwang and Goto 2008; Woodford, Kulick et al. 2014; Pieterse et al. 2010). Ally training programs reflect one strategy to increase support and decrease harm. They have been implemented in higher education to improve the collegiate experience of student veterans (Olsen, Badger, and McCuddy 2014), LGBTQ students (Poynter and Tubbs 2008), and students in recovery from substance use disorders (Beeson et al. 2019). These programs are recommended and popular but, unfortunately, rarely evaluated (Poynter and Tubbs 2008; Woodford, Kolb





et al. 2014; Draughn, Elkins, and Roy 2002). Diversity trainings and racial dialogue workshops are another category of interventions to decrease interpersonal harms for which there is frustratingly little evidence or agreement regarding effective interventions, desired outcomes, or even essential elements of such training (Williams 2019; Ogunyemi et al. 2020; Paluck 2006; Paluck and Green 2009). Positive (Miller and Donner 2000; Sue et al. 2019; White-Davis et al. 2018) and detrimental (Sue et al. 2009; Sue et al. 2010) effects have been demonstrated.

While mental health harms, such as discrimination, are ideally prevented, research demonstrates that factors such as racial and cultural socialization (e.g., cultural pride) can protect against the mental health consequences of experiencing discrimination (Keels, Durkee, and Hope 2017; Lee 2005; Reynolds and Gonzales-Backen 2017; Umaña-Taylor et al. 2015). For example, research suggests that positive feelings about one's racial-ethnic group and recognition of negative societal perceptions of one's racial-ethnic group may protect Black and Latino college students from the negative mental health repercussions of experiencing discrimination (Sellers et al. 2003; Sellers et al. 2006). In a longitudinal study, empowered racialization messages (warnings about discrimination combined with strategies for overcoming racial prejudice) received in late adolescence partially buffered respondents ages 20 to 22 against the mental health consequences of racial discrimination (Granberg et al. 2012). Lesbian, gay, bisexual, and queer college students with greater self-acceptance experience less distress from experiences of heterosexism and microaggressions (Woodford, Kulick et al. 2014). Identity-support interventions, including but not limited to racial, ethnic, sexual, or gender identity, are a potentially powerful but mostly unexplored strategy for impacting mental health in higher education (Goodwill, Taylor, and Watkins 2021; Woodford, Kulick et al. 2014; Pieterse et al. 2010; Keels, Durkee, and Hope 2017; Lee 2005; Reynolds and Gonzales-Backen 2017; Umaña-Taylor et al. 2015; Hwang and Goto 2008).

**Families** are an important source of social support in college (Mattanah, Lopez, and Govern 2011; Drum et al. 2009; Hope and Smith-Adcock 2015), but we were *unable to identify* any higher education interventions focused on families that were evaluated for impact on student mental health. Evidence outside of higher education suggests that family-focused interventions are worth investigating, however. For example, in random controlled trials, family-based intervention in suicidal adolescents have consistently shown a

reduction in suicidal ideation and suicide risk factors, an increase in protective factors, and a reduction in psychiatric hospitalizations and suicide attempts (Diamond et al. 2010; Wharff, Ginnis, and Ross 2012; Hooven et al. 2012; Pineda and Dadds 2013). Growing evidence documents the importance of family support to first-generation students and students of color (Torres, Jones, and Renn 2009; Torres and Solberg 2001; Strayhorn 2010; Nuñez and Kim 2012; Makomenaw 2014; Crockett et al. 2007). Since many students, especially those of color, are not being served by the campus mental health system (Lipson et al. 2018), family interventions might be a key avenue for increasing support systems and help-seeking. More research is needed to understand the mental health benefits of interventions providing housing, childcare, and employment supports to the growing number of students, especially at community colleges, who are supporting families (as parents, caregivers, or children) while in college (Makomenaw 2014; Ascend at the Aspen Institute and The Jed Foundation 2021; Nelson, Froehner, and Gault 2013; Kienzl et al. 2022).

**Coaching interventions** change behavior via goal-directed, collaborative strategies, often through motivational interviewing. This emerging class of interventions attempts to change behaviors related to mental health (e.g., increasing sleep, decreasing substance use, facilitating help-seeking) but *have not been rigorously evaluated with college students*.

Finally, there are many avenues through which **college and university policies** likely impact student mental health, though *studies of their mental health effects are rare* (Fernández et al. 2016; Dooris 2006; Byrd and McKinney 2012; Brubaker and Mancini 2017). Relevant policies include those **pertaining to substance use; sexual assault; leaves of absence; financial aid; and diversity, equity, and inclusion** (including protection from discrimination). Policies may influence mental health by shaping behavior (e.g., help-seeking and interpersonal harm), social integration and support (Pittman and Richmond 2008; Gummadam, Pittman and Ioffe 2016; Chen, Szalacha, and Menon 2014; Woodford, Han et al. 2014; Banks 2010; Stebleton, Soria, and Huesman 2014; Hawe, Shiell, and Riley 2004), composition of the student body (Bellmore et al. 2004; Elharake et al. 2020; Graham 2018; Graham, Munniksma, and Juvonen 2014), and campus climate (Schwartz and Davar 2018; Woodford et al. 2018; Goldberg, Beemyn, and Smith 2019; Rhodes et al. 2005; Streng and Kamimura 2015), as all of these are associated with mental health outcomes. For example, nondiscrimination policies inclusive of gender identity (in addition to sexual orientation) are directly associated with reduced discrimination, which is associated with less psychological distress (Woodford et al. 2018).

Institutional decisions regarding the form, timing, and distribution of **financial aid** are a *relatively unexplored but likely powerful* lever for enhancing student mental health. Financial stress taxes mental health, and aid may impact academic, social, financial, and psychological pressures.<sup>4</sup> For example, qualitative research shows that access to financial aid through the California Dream Act reduced undocumented students' anxiety and mental health burdens (Raza et al. 2019). Negative psychological effects of student loans and debt have in fact been demonstrated. Debt broadly impacts psychological functioning (Selenko and Batinic 2011), anxiety (Cooke et al. 2004; Drentea 2000), and mental disorders (Sweet et al. 2013; Jenkins et al. 2008) and poses psychological burdens for college students (Robb, Moody, and Abdel-Ghany 2012; Dowd and Coury 2006).

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<sup>4</sup> For more on the effect of financial stress on mental health, see Adams, Meyers, and Beidas 2016; Cadaret and Bennett 2019; Raza et al. 2019; Gonzales, Suárez-Orozco, and Dedios-Sanguinetti 2013.

## RECOMMENDATION #5: SUPPORT A BROADER MOVEMENT TOWARD AN EVIDENCE-INFORMED APPROACH TO STUDENT MENTAL HEALTH

Our final set of recommendations pertain to an evidence-informed approach to mental health and the actions and objectives that operate on a much wider scale than any single campus, involving policymakers, foundations, philanthropists, and perhaps even the private sector. The following is an outline of critical next steps for advancing such a movement.

First, the field needs to **develop and maintain a centralized database of evidence** regarding the effectiveness of programs and services to support student mental health. This database must be thorough, nuanced, and easy to understand and use. It will require pulling together evidence from a wide variety of disciplines and sources, and it must be updated continuously as new evidence arrives.

Second, **provide active support for decision-makers such as campus leaders and administrators** when they use this database to select and implement programs. This active support helps decision-makers make sense of the complexity and nuance in the database and also helps campus professionals implement and sustain programs once they have been identified. Thus, the database of evidence must be surrounded by a network of experts who and peer institutions that can provide ongoing guidance and mutual support to the users of the information.

Third, **enhance incentives for using evidence to inform practices** with respect to student mental health. Campus leaders and funders of campus services and programs should consider requirements to use evidence-based programs; alternately, they should conduct rigorous evaluations in tandem with promising but unproven programs. This type of policy could be enacted through national policies and organizations as well as state and regional initiatives. These large-scale initiatives would ideally be complemented by a bottom-up approach, whereby individual colleges and their stakeholders—such as presidents, provosts, deans, and counseling and health center directors—make their own decisions to focus on implementing only programs that have a certain standard of evidence or promising programs that are accompanied by rigorous evaluations.

*Campus leaders are ideally positioned to help address the mounting challenges related to student mental health.*

Fourth, **invest in innovative research to address the evidence gaps** that we and others have identified. Research is needed on increasing the reach and engagement of students at scale in interventions; rigorously evaluating community-level and organization-level interventions; evaluating practices and policies, not just programs and services; adapting programs and services to different cultural contexts across student populations and college settings; and implementing programs so they maximize impact and sustainability.

Fifth and finally, **develop and strengthen the networks of practitioners and researchers** who collaborate on understanding and promoting student mental health. These networks are important not only for supporting users of the evidence base but also for facilitating the large-scale, multi-institution evaluations that are necessary to understand the effectiveness of campus-level programs and services.

In conclusion, we believe that campus leaders are ideally positioned to help address the mounting challenges related to student mental health. A more evidence-informed, policy-focused, equity-minded approach is needed. As we have described, campus leaders have many ways to advance this goal both within their own institutions and on a broader national level. Higher education is fundamentally designed to understand and address complex challenges, and its leaders now have the opportunity and responsibility to improve how we support the mental health and well-being of students.

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