EVIDENCE-BASED RESOURCE GUIDE SERIES

# Prevention and Treatment of Anxiety, Depression, and Suicidal Thoughts and Behaviors Among College Students

SAMHSA
Substance Abuse and Mental Health Services Administration

CHAPTER

1

# Issue Brief

This chapter presents an overview of some of the most common mental health concerns among college students, such as anxiety and depression, focusing on their prevalence, consequences, and related factors.

Transitioning to adulthood is a time of significant change, particularly for college students. While many young adults take on more responsibilities and navigate new relationships, those residing on college campuses must also adapt to living away from home while facing greater academic demands. Surrounded by roommates and peers, college students experience social pressures constantly. They may also have increased access to alcohol and drugs, which can lead to substance misuse. These circumstances may adversely affect a college student's emotional and mental well-being.

Mental health concerns, such as anxiety and depression, are common among college students.[3] While 50 percent of mental illnesses first occur by adolescence, another 25 percent emerge by the mid-20s, overlapping with typical college years.[5] Some students start college with existing mental health conditions. Regardless of when mental health symptoms first appear, college students must navigate these challenges while being away from their network of relationships and support systems. They also have to receive care in an adult-serving behavioral health system, possibly for the first time in their lives.

Student mental health concerns are associated with decreased academic performance, and higher dropout rates in college.[6] Studies have shown that depression and suicidal thoughts and behaviors are associated with lower grade point average.[7-9]

**Anxiety** refers to anticipation of a future real or perceived threat and is often associated with "muscle tension and vigilance in preparation for future danger and cautious or avoidant behaviors."[10] Symptoms, which are typically persistent, lasting 6 months or more, may also include excessive worry, palpitations, restlessness, being easily fatigued, trembling, feelings of choking, sweating, chest pain, nausea, dizziness, paresthesias (numbness or tingling sensations), problems concentrating, irritability, and sleep disturbances. Anxiety disorders differ from normal feelings of fear or anxiety, in being excessive or persistent. Anxiety disorders include generalized anxiety disorder, panic disorder, specific phobias, agoraphobia, social anxiety disorder (social phobia), selective mutism, substance/medication-induced anxiety disorder, and separation anxiety disorder. Many of the anxiety disorders develop in childhood and tend to persist if not treated.

**Depression or depressive disorders**, with the classic condition being major depressive disorder, is a mood disorder characterized by the presence of "sad, empty or irritable mood, accompanied by somatic and cognitive changes that significantly affect the individual's capacity to function."[10] A major depressive episode is different from normal sadness and grief, including bereavement, Major depressive disorder symptoms can vary from mild to moderate to severe and can include:

- Depressed mood (e.g., feeling sad, empty, or hopeless) most of the day, nearly every day
- Markedly diminished interest or pleasure in activities once enjoyed (anhedonia)
- Changes in appetite; significant weight loss or gain unrelated to dieting
- Trouble sleeping (insomnia) or sleeping too much (hypersomnia)
- Loss of energy or increased fatigue, nearly every day
- Increase in purposeless physical activity (e.g., inability to sit still, pacing, handwringing) or slowed movements or speech (these actions must be severe enough to be observable by others)
- Feeling worthless or guilty, nearly every day
- Difficulty thinking, concentrating, or making decisions, nearly every day
- Recurrent thoughts of death, recurrent suicidal ideation, or suicide attempt

**Suicide** is death caused by an intentional self-directed injurious act, carried out with the intent of causing one's own death. Common warning signs of suicidal behavior include:[11]

- Talking about wanting to die, great guilt or shame, and being a burden to others
- Feeling empty, hopeless, trapped or having no reason to live, extremely sad, more anxious, agitated or full of rage, and unbearable emotional or physical pain
- Behaviors such as making a plan or researching ways to die, withdrawing from friends, saying goodbye, giving away important possessions or making a will, taking dangerous risks like driving extremely fast, displaying extreme mood swings, eating or sleeping more or less, and increasing drug or alcohol use.

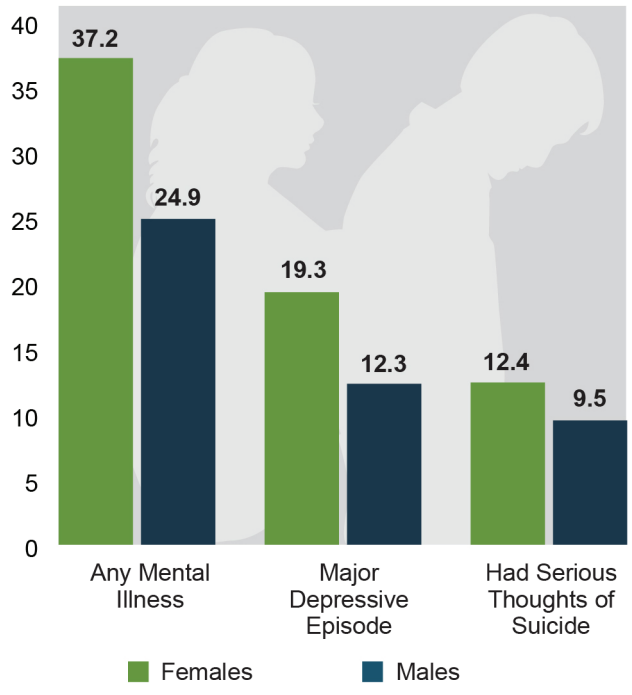
A **suicide attempt** is a non-fatal, self-directed, and potentially injurious behavior with intent to die. **Suicidal ideation** refers to thinking about or planning suicide. The thoughts lie on a continuum of severity from a wish to die with no method, plan, intent, or behavior, to active suicidal ideation with intent and a specific plan. **Self-harm**, also known as self-directed violence, is behavior that is deliberately self-directed and results in injury or the potential for injury. The term encompasses both suicidal and non-suicidal self-injury (NSSI), and self-harm with unclear intent.

*Sources: American Psychiatric Association and Centers for Disease Control and Prevention, National Center for Injury Prevention and Control*

## Prevalence of Mental Health Concerns in College Students

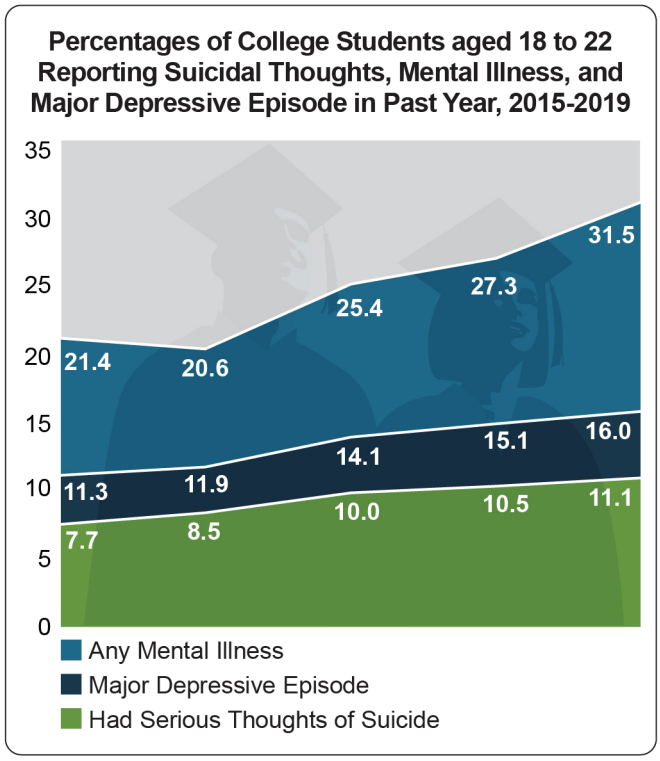
In 2018, about 69 percent of individuals aged 16 to 24 who graduated from high school or completed a GED or other high school equivalency credential were engaged in post-high school education. Of those seeking further education, 25 percent were enrolled in a 2-year college and 44 percent in a 4-year college.[12]

In recent years, there has been an increase in reported symptoms of mental illness in this population.[2] Mental health diagnoses rose from 22 to 36 percent among college student respondents between 2007 and 2017, with particular increases in the prevalence of depression and suicidal ideation.[13] According to the National College Health Assessment, about 60 percent of respondents felt overwhelming anxiety, while 40 percent experienced depression so severe that they had difficulty functioning.[14]




**Source:** Center for Behavioral Health Statistics and Quality. (2020). *Results from the 2019 National Survey on Drug Use and Health: Detailed tables*. Rockville, MD: Substance Abuse and Mental Health Services Administration. Retrieved from https://www.samhsa.gov/data

Note that no significance testing was conducted. Differences in prevalence between males and females may not be statistically significant




**Source:** Center for Behavioral Health Statistics and Quality. (2020). *Results from the 2019 National Survey on Drug Use and Health: Detailed tables*. Rockville, MD: Substance Abuse and Mental Health Services Administration. Retrieved from https://www.samhsa.gov/data

Note that formal trend analyses for the presented period were not conducted.

National Institute of Mental Health (NIMH) defines any mental illness (AMI) as a mental, behavioral, or emotional disorder. AMI can vary in impact, ranging from no impairment to mild, moderate, and even severe impairment (e.g., individuals with serious mental illness). Serious mental illness (SMI) is defined as a mental, behavioral, or emotional disorder resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities.

Additionally, in a 2019 study of over 400 college presidents, 8 out of 10 presidents reported the mental health of their students as a rising priority when compared to the three previous years.[15]

The 2019 National Survey on Drug Use and Health (NSDUH) found that 31.5 percent of full-time college students aged 18 to 22 reported any mental illness in the past year, and 7.5 percent reported serious mental illness (SMI) in the past year. In addition, 16.0 percent of full-time college students reported at least one major depressive episode (MDE) in the past year, and 11.1 percent of students had serious thoughts of suicide in the past year.[16] These rates have been increasing steadily over the past decade.[2]

### *Gender Differences in Prevalence*

Research has found gender differences in the prevalence of mental health concerns among college students. Female students typically exhibit more depressive symptoms and also report higher levels of stress than their male counterparts.[17-20] Additionally, females have reported more self-cutting behaviors than males.[21] Studies have also noted that men often find acknowledging mental health concerns stigmatizing, which, in turn, deters them from disclosing those concerns and seeking help.[22-24]

### *Sexual Orientation and Gender Identity Differences in Prevalence*

Multiple studies have been conducted to explore the differences in college student mental health experiences based on sexual orientation. Compared with their heterosexual counterparts, individuals who identify as gay, lesbian, and bisexual report receiving more counseling or mental health services on college campus.[25] Also, bisexual students are more likely to report mental health diagnoses and suicidal thoughts and behaviors compared to heterosexual and gay/lesbian students.[26]

Gender minority students (individuals who have a gender identity or expression that differs from their assigned sex at birth or does not fit within the male-female classification) are found to experience increased risk of depression, suicidal thoughts, and suicidal attempts, when compared with their cisgender (people whose gender identity matches their sex assigned at birth), lesbian, gay, bisexual, queer, and questioning counterparts.[27-28] Additionally, young people who report undergoing sexual orientation or gender identity conversion also report higher rates of suicide attempts than those who do not.[29] A study using a national dataset of college students found that transgender students are twice as likely to experience anxiety, depression, and panic attacks as cisgender female students.[30]

### *Race Differences in Prevalence*

Studies show that a higher proportion of students who identify as multiracial or Asian/Pacific Islander report feelings of hopelessness, depression, and anger, when compared to their White counterparts.[33] On the annual Healthy Minds web-based survey of 2015, Latino/a, Asian, and multiracial students exhibited more severe depressive symptoms than White students, as measured by scores on the Patient Health Questionnaire-9 (PHQ-9).[34] Research also suggests that Black, Latino/a, and Asian students are individually more likely to consider or attempt suicide, compared to White students.[35] However, other studies find no racial difference in rates of lifetime suicide attempts.[36]

Racial differences also exist regarding access to mental health services for college students. For example, Asian American students are less likely than their Black, Latino/a, or White counterparts to have previously sought mental health services. They are also less likely to know anyone close to them who has used such services.[37]

### Potential Sources for Increase in Mental Health Concerns Among College Students in Recent Years[3, 31]

1. Dramatic transition that can bring about adjustment difficulty
2. Intense pressure to succeed academically
3. Increased levels of anxiety and depression in society
4. Rapid evolution of technology and information overload, including social media
5. Economic and financial pressure
6. Food insecurity
7. Stigma against mental illness inhibiting help-seeking; lack of adequate mental health education
8. College counseling centers experiencing overload of demand and dearth of skilled staff

The COVID-19 pandemic, beginning in March 2020, has added to the stress experienced by college students. Among other concerns, students associated the pandemic with fear and worry about their own health and that of their loved ones, difficulty in concentrating, disruptions to sleeping patterns, decreased social interactions due to physical distancing, and increased concerns about academic performance.[32]

Studies have shown that BIPOC students (black, indigenous, and other people of color) utilize mental health services less frequently than White students and are more likely to have unmet mental health needs.[38] One reason for this disparity appears to be related to self-perception; studies have shown that youth of color are less likely to perceive a need for mental health services.[39] This difference in perception may be due to the perceived social stigma associated with seeking mental health treatment.

Similarly, differences exist in barriers that students face in accessing mental health services. Finances are greater barriers for Black and Latina/o students, while White students report a lack of time; all racial/ethnic minority students report cultural sensitivity issues (e.g., sensitivity of the mental health provider) as significant barriers.[40]

### *Socioeconomic Differences in Prevalence*

Research has demonstrated association between adolescents' and young adults' socioeconomic status (SES) and mental illness.[45-47] Studies have particularly indicated a close relationship between low SES and high levels of stress, anxiety, and depression in college students.[48]

#### Intersectionality

The college population is incredibly diverse, composed of students from a number of backgrounds and identities. A framework of intersectionality asserts that those who belong to more than one historically disenfranchised group, such as those defined by sex, race, religion, gender identity, socioeconomic status, (dis)ability, or sexual orientation, may experience mutually reinforcing effects of disparity and/or systemic inequality.[41] College students with multiple marginalized identities may face particular challenges that may cause or exacerbate mental health symptoms and make seeking and receiving treatment more difficult. Previous studies provide evidence that individuals experiencing discrimination are more likely to use alcohol and other substances as a coping strategy.[42-44] As practitioners and decision-makers on campus address mental health concerns on campus, they should take issues of campus climate and identity into consideration throughout the continuum of care.

Data from the annual Healthy Minds web-based survey of 2015 showed that college students experiencing financial distress and a lack of student medical insurance had higher levels of anxiety, depression, and suicidal ideation.[49] A national study of college students' mental health found that 7 out of 10 students in the sample were stressed because of their personal finances, with 60 percent worrying about having adequate funds to pay for college tuition.[50] The financial burden of student loans is also associated with college students' experience of stress, anxiety, and depression.[51] Additionally, the rising cost of college increases students' anxiety and the pressures on them to succeed academically.[52]

### *International Student Status Differences in Prevalence*

There were more than 1 million international students enrolled at U.S. colleges during the 2019-20 academic year, representing 5.5 percent of all college students.[53] Research suggests that international students seek help for their mental health concerns at rates significantly lower than their domestic student counterparts (32.0 percent vs. 49.8 percent for any formal treatment; 14.9 percent vs. 32.9 percent for pharmaceutical treatment).[54] International students also are more likely to report perceived public stigma and personal stigma towards formal help-seeking.[54] These students may face unique stressors such as language barriers, lack of familiarity with the U.S. education system, cultural misunderstandings or miscommunication, and cultural isolation.[55]

## Co-Occurring and Related Conditions

This guide focuses primarily on depression, anxiety, and suicidal thoughts and behaviors, the most common mental disorders among college students. However, there is a wide array of other individual and environmental factors which may be related to or co-occurring with depression, anxiety, and/or suicidal ideation. Practitioners must consider these factors when engaging and treating the college student population.

Regardless of the specific intervention, understanding the potential clinical challenges patients could present and the environmental context producing such challenges will help practitioners to select and implement the most appropriate treatment practices to meet the needs of their patients. This guide presents some of these related issues, including how they may be intertwined with or exacerbate the symptoms of depression, anxiety, and suicidal thoughts and behaviors that college students experience.

### *Eating Disorders*

Eating disorders, such as anorexia nervosa, bulimia nervosa, and binge-eating disorder, are serious and often fatal illnesses. These illnesses are characterized by severe disturbances in people's eating behaviors and related thoughts and emotions. Preoccupation with food, body weight, and shape are common symptoms of eating disorders.

Eating disorders are a significant problem among college students, with an increase in prevalence in the last couple of decades.[56] These disorders in college students increase the risk of negative physical health and psychological consequences, including substance use and depression.[57] Studies have shown that eating disorders often co-occur with anxiety disorders and depression.[58-59]

### *Alcohol and Substance Use*

Alcohol misuse and substance use disorders (SUD) are prevalent on college campuses. According to 2019 NSDUH data, one in eight college students aged 18-22 met the criteria for SUD in the previous year and 8.2 percent of full-time college students met criteria for heavy alcohol use (defined as binge drinking on 5 or more days in the past 30 days).[16] SUD may co-occur with mental illness; adults 18 or older who reported past-year any mental illness (AMI) were more likely than those without mental illness to have used illicit drugs in the past year (38.8 percent versus 16.6 percent). Among adults 18 years of age or older in 2019 3.8 percent (or 9.5 million people) had both AMI and SUD.[60]

The prevalence rates of heavy alcohol use differ by race and ethnicity. Prevalence was highest among Whites (11.8 percent), followed by Asian (4 percent), Hispanics (3.9 percent), and Blacks (2.1 percent).[61] Heavy alcohol use is also less prevalent among those who identify as lesbian, gay, and bisexual (LGB) compared to those who do not (7.6 percent vs. 8.2 percent).[61]

The prevalence rates of SUDs also differ by race and ethnicity. Prevalence was highest among Whites (14.0 percent), followed by Hispanics (12.1 percent), Blacks (11.3 percent), and Asians (8.2 percent).[61] SUD is more prevalent among those who identify as LGB compared to those who do not (18.3 percent vs. 11.9 percent).[61]

Studies have shown that major depressive disorder is a significant predictor of heavy episodic drinking, and substance use is a risk factor for self-injurious behavior and suicidal ideation.[62-64] A review of studies on suicide completion in the general population found that those with opioid use disorder, intravenous drug use, and polydrug use were 14 to 17 times more likely to die of suicide.[65]

### *Non-suicidal Self-injury*

Non-suicidal self-injury (NSSI) is defined as behaviors in which an individual intentionally harms their body without explicit suicidal intent and for reasons that are not socially sanctioned. NSSI typically involves behaviors such as cutting, burning, scratching, and self-battery.[66] Although there is no single clear set of risk factors for NSSI, research has shown that it is often related to depressive and anxiety symptoms in college students.[67] NSSI also increases the chances of suicidal ideation, plans, and attempts.[68] Gender differences have been found in the reasons male and female college students report for their NSSI behaviors: females were more likely to self-injure in hopes that their distress would be recognized, while males report anger and intoxication as contributing factors.[69]

### *Other Serious Mental Illness*

While depression, anxiety, and suicidal thoughts and behaviors are of great concern and common among college students, the college years are also the developmental period when symptoms of SMI first appear. Approximately 75 percent of people with SMI, such as schizophrenia and bipolar disorder, experience symptoms by the age of 25.[70]

According to recent data the prevalence of SMI appears to be highest for young adults aged 18 to 25. However, compared to other adults, this age group appears to be the least likely to receive treatment for their SMI.[16] Early detection and treatment of these disorders are particularly important.

### Mental Health and Social Support

One factor that has been shown to promote mental health of college students and act as a buffer against stress and anxiety is social support.[71] Social support, the physical and emotional assistance provided by family and friends, is associated with emotional well-being.[72-73] Both the quantity of social relationships (structural support) and quality of social relationships (functional support) are considered important aspects in determining the positive effects of social support on student mental health.[74]

Yet college students with SMI may face challenges receiving treatment in college. Thirty-four percent of campus counseling centers do not have psychiatrists on staff to assess and treat SMI that requires medication, and only 15 percent of centers have full-time, in-house psychiatric services available.[4] Remaining in college may also be difficult for these students; studies show that adults living with schizophrenia or bipolar disorder are much more likely to have dropped out of college than the general population.[75]

### *Sexual Assault and Violence*

Sexual assault—any nonconsensual sexual act proscribed by federal, tribal, or state law, including when the victim lacks capacity to consent—is a common occurrence on college campuses. More than one in five college women will experience at least one incident of sexual assault during their time at college, and 6.8 percent of undergraduate men have experienced nonconsensual sexual contact.[76] Also, lesbian, gay, bisexual, transgender, and queer/questioning (LGBTQ) students experience higher rates of sexual assault while in college, as compared to their heterosexual, cisgender peers.[76]

Survivors of sexual assault may experience mental health crises or ongoing mental health symptoms as a result. Research has shown that sexual assault is a significant predictor of anxiety, depression, and suicidal thoughts and behaviors.[77-78] In addition, those with mental illnesses may also be at greater risk for sexual assault. A study found that people with post-traumatic stress disorder (PTSD)[a] and depression had a greater risk for sexual assault.[79]

[a] According to the American Psychiatric Association, *PTSD* is a psychiatric disorder that may occur in people who have experienced or witnessed a traumatic event, such as a natural disaster, serious accident, terrorist act, war/combat, or rape or who have been threatened with death, sexual violence, or serious injury.

## Treatment of Mental Health Concerns on College Campuses

The transition from mental health services for children and adolescents to those for adults is rarely seamless, and transition-aged individuals (individuals who are between 18-24 years) often fall through the cracks during this period. These individuals may not be provided with appropriate support or referrals or may be referred to adult systems with which they are unfamiliar and that are ill-equipped to meet their current needs.[80] Continuity of care can be even more compromised when a student moves to a new location during the transition from youth to adult, as often happens when starting college.

Higher education institutions have the responsibility to provide students with access to mental health services, but they may find it difficult to keep up with the growing demand. The Center for Collegiate Mental Health reported that between Fall 2009 and Spring 2015, counseling center utilization increased by an average of 30 to 40 percent, while college enrollment increased by only 5 percent.[4] In a 2019 survey, 87.3 percent of counseling center directors reported an increased need for services compared to the previous year.[81]

For students who seek counseling, wait times for an appointment can span multiple days, if not weeks.[81] While evidence suggests that as many as 35 percent of college students screen positive for a mental illness, only about 13 percent, on average, actually utilize their campus counseling centers.[4, 81, b] Although some students may choose to forego treatment due to social stigma or personal reasons, others may face difficulty in accessing services.

Counseling centers working at capacity are not always able to serve every student who seeks treatment, may provide shorter or less frequent sessions than desired, or may not offer the types of services needed (e.g., pharmacological services). More than half of counseling centers manage patient demand by referring students off-campus or by triaging them based on perceived urgency.[81] Moreover, higher caseloads per counselor are associated with lower rates of improvement for patients experiencing common mental health concerns.[4] Thus, an overwhelmed counseling center may be less effective in helping students.

**Among college students who reported receiving mental health services in the past 12 months (multiple responses possible):[14]**

- 55% received services on campus at the health center or counseling center
- 22% received services from a local provider near campus
- 48% received services from a provider in their hometown

**Among providers/clinicians at on-campus counseling centers:[4]**

- 71% are professional staff members
- 10% are pre-doctoral interns
- 5% are trainees at the doctoral level
- 5% are trainees at the master's level
- 5% are at the post-doctoral level

**Among clinicians at on-campus counseling centers (highest degree reported):[4]**

- 34% have a degree in counseling psychology
- 33% have a degree in clinical psychology
- 13% have a degree in social work
- 6% have a degree in counselor education
- 3% have a degree in psychiatry

In light of these challenges, higher education institutions need to create a network of supports beyond the typical counseling center. Colleges can leverage their unique environment to identify, prevent, and treat mental health concerns. A multi-pronged holistic approach that includes all levels of the care continuum is required to address student mental health by the college leadership.[88]

Some colleges train members in their community to become "gatekeepers," which are people equipped to respond when they recognize early warning signs of suicide.[89] Gatekeepers interact with students daily and can include anyone with a campus presence, faculty, staff, or even other students.

[b] The Center for Collegiate Mental Health (CCMH) data include a sample of counseling centers across the country. Other studies have indicated that the percentage using campus counseling services varies widely.[66]

## Administrative Policies of Higher Education Institutions

Various mental health and education-focused organizations have position statements and resources related to administrative policies of higher education institutions to support students' mental health. Some of these statements are summarized below.

Mental Health America's position statement, *College and University Response to Mental Health Crises*,[82] recommends:

- Colleges and universities provide a variety of mental health resources to proactively reach students where they are.
- College and university policies prevent students with mental health conditions from experiencing stigma and discrimination.
- Colleges and universities develop protocols to respond fairly and effectively to students in crisis.
- Policies limit liability for colleges and universities to encourage proper protocols.[82]

Active Minds' *position statement* promotes leave of absence and return from absence policies for mental health concerns at higher education institutions that are in keeping with the provisions of the Americans with Disabilities Act of 1990 (ADA), Section 504 of the Rehabilitation Act of 1973, and best practices recommended by the Judge David L. Bazelon Center for Mental Health Law, a national legal-advocacy organization that advocates for the civil rights, full inclusion and equality of adults and children with mental disabilities.[83]

The American Psychiatric Association's resource on *College Mental Health and Confidentiality* prepares practitioners to provide clinical care within the framework of relevant law.[84]

Campus Pride, a national nonprofit organization for student leaders and campus groups working to create a safer college environment for LGBTQ students, has developed *Best Practices to Support Transgender and Other Gender-Nonconforming Students*, which include gender-inclusive bathrooms and housing policies and preferred name change policies.[85]

The National Association of Student Personnel Administrators' (NASPA) resource *Strategies for Addressing Mental Health Support on Campus* includes ways to effectively support the mental health needs of today's students, such as a robust infrastructure, equity centered policies and procedures, and strong mechanisms for communication, assessment, and improvement.[86]

The Jed Foundation's resource *Student Mental Health and the Law* provides campus professionals with a summary of laws and professional guidelines, as well as related good practice recommendations, to support well-informed decision making around students at risk.[87]

## Economic Benefits for Institutions

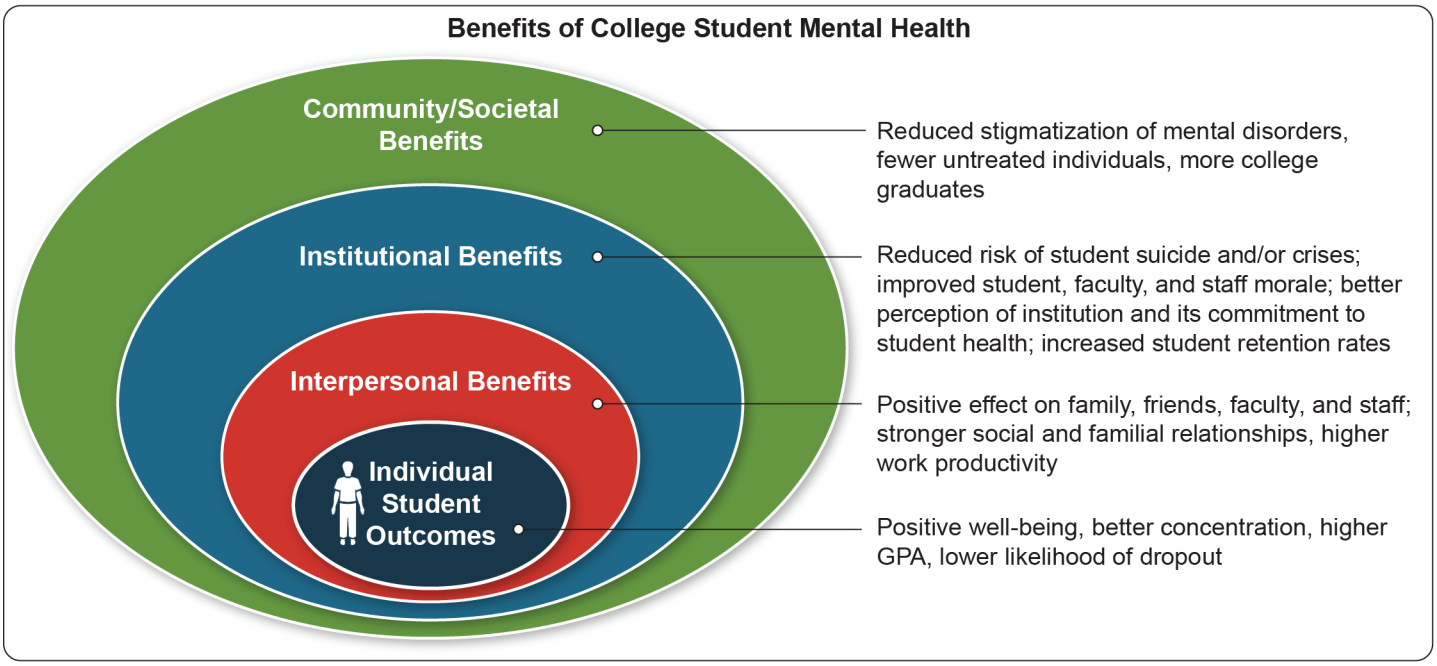
Colleges' investments in student mental health can not only improve students' individual outcomes (overall health and well-being, academics, etc.), but also produce a number of economic benefits from an institutional perspective. Improving students' mental health is likely to reduce dropout, and this increased retention should result in increased tuition revenues for institutions, as well as higher earnings for students who otherwise would not have graduated.[90] These outcomes may further an institution's academic standing and/or improve its reputation, producing further economic benefits.

Beyond specific academic institutions, the economic benefits of improved campus mental health services could be enormous; one study by the RAND Corporation found that each dollar spent on prevention and early intervention programs by the California Mental Health Services Administration (CalMHSA) produced $6.49 in net societal benefits.[91]

Institutions interested in learning more about the potential economic benefits of student mental health investments may wish to explore the Healthy Minds Network's Return on Investment (ROI) tool.

Another strategy that has become more common in recent years is the use of embedded counselors.[92] This model increases access to mental health services by placing counselors in specific locations across the university, such as residence halls, athletic offices, and professional schools.

Whatever the method of expanding their mental health care system, colleges need to continue to identify opportunities to support the mental well-being of their students. Intervening early, when symptoms are identified, makes for better long-term outcomes for the student over their lifetime, and not just during their college years.[93] Additionally, healthy college students not only gain positive college experiences, but these positive outcomes are also associated with long-term individual, interpersonal, institutional, and community benefits, as depicted in the graphic below.



# Reference List


1 Lattie, E. G., Lipson, S. K., & Eisenberg, D. (2019). Technology and college student mental health: Challenges and opportunities. *Frontiers in Psychiatry, 10*, 1-4. https://doi.org/10.3389/fpsyt.2019.00246

2 Duffy, M. E., Twenge, J. M., & Joiner, T. E. (2019). Trends in mood and anxiety symptoms and suicide-related outcomes among US undergraduates, 2007–2018: Evidence from two national surveys. *Journal of Adolescent Health, 65*(5), 590-598. https://doi.org/10.1016/j.jadohealth.2019.04.033

3 Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C., & Wilens, T. (2015). College students: Mental health problems and treatment considerations. *Academic Psychiatry, 39*(5), 503-511. https://doi.org/10.1007/s40596-014-0205-9

4 Center for Collegiate Mental Health. (2020). 2019 annual report. (Publication No. STA 20-244). https://eric.ed.gov/?id=ED602859

5 Kessler, R. C., Amminger, G. P., Aguilar-Gaxiola, S., Alonso, J., Lee, S., & Ustün, T. B. (2007). Age of onset of mental disorders: A review of recent literature. *Current Opinion in Psychiatry, 20*(4), 359-364. https://doi.org/10.1097/YCO.0b013e32816ebc8c

6 Eisenberg, D., Golberstein, E., & Hunt, J. B. (2009). Mental health and academic success in college. *The BE Journal of Economic Analysis & Policy, 9*(1), Article 40. https://doi.org/10.2202/1935-1682.2191

7 De Luca, S. M., Franklin, C., Yueqi, Y., Johnson, S. & Brownson, C. (2016). The relationship between suicide ideation, behavioral health, and college academic performance. *Community Mental Health Journal, 52*, 534-540. https://doi.org/10.1007/s10597-016-9987-4

8 Mortier, P., Demyttenaere, K., Auerbach, R. P., Green, J. G., Kessler, R. C., & Kiekens, G. (2015). The impact of lifetime suicidality on academic performance in college freshmen. *Journal of Affective Disorders, 186*, 254-260. https://doi.org/10.1016/j.jad.2015.07.030

9 Hysenbegasi, A., Hass, S. L., & Rowland, C. R. (2005). The impact of depression on the academic productivity of university students. *Journal of Mental Health Policy Economics, 8*, 145-151. http://www.icmpe.net/fulltext.hp?volume=8&page=145&-year=2005&num=3&name=Hysenbegasi%20A

10 American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

11 National Institute of Mental Health. (n.d.). Warning signs of suicide. (Publication No. OM 19-4316). National Institute of Mental Health, National Institutes of Health, U.S. Department of Health and Human Services. https://www.nimh.nih.gov/health/publications/warning-signs-of-suicide/

12 De Brey, C., Snyder, T.D., Zhang, A., & Dillow, S.A. (2021). *Digest of Education Statistics 2019 (NCES 2021-009)*. National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. https://nces.ed.gov/pubs2021/2021009.pdf

13 Lipson, S. K., Lattie, E. G., & Eisenberg, D. (2019). Increased rates of mental health service utilization by U.S. college students: 10-year population-level trends (2007–2017). *Psychiatric Services, 70*(1), 60-63. https://doi.org/10.1176/appi.ps.201800332

14 American College Health Association. (2020). American College Health Association-National College Health Assessment II: Undergraduate Student Reference Group Data Report Fall 2019. https://www.acha.org/documents/ncha/NCHA-III_FALL_2019_UNDERGRADUATE_REFERENCE_GROUP_DATA_REPORT.pdf

15 Chessman, H., & Taylor, M. (2019, August 12). *College student mental health and well-being: A survey of presidents*. Higher Education Today, American Council on Education. https://www.higheredtoday.org/2019/08/12/college-student-mental-health-well-survey-college-presidents/

16 Center for Behavioral Health Statistics and Quality. (2020). *Results from the 2019 National Survey on Drug Use and Health: Detailed tables*. Rockville, MD: Substance Abuse and Mental Health Services Administration. https://www.samhsa.gov/data

17 Ghodasara, S. L., Davidson, M. A., Reich, M. S., Savoie, C. V., & Rodgers, S. M. (2011). Assessing student mental health at the Vanderbilt University School of Medicine. *Academic Medicine, 86*(1), 116-121. https://doi.org/10.1097/ACM.0b013e3181ffb056%20%20

18 Villatte, A., Marcotte, D., & Potvin, A. (2017). Correlates of depression in first-year college students. *Canadian Journal of Higher Education, 47*(1), 114-136. https://eric.ed.gov/?id=EJ1140055

19 Gefen, D. R., & Fish, M. C. (2012). Gender differences in stress and coping in first-year college students. *The Journal of College Orientation, Transition, and Retention, 19*(2), 18-31.

20 Richards, D., & Salamanca Sanabria, A. (2014). Point-prevalence of depression and associated risk factors. *The Journal of Psychology, 148*(3), 305-326. https://doi.org/10.1080/00223980.2013.800831

21 Cramer, R. J., La Guardia, A. C., Bryson, C., & Morgan, K. (2017). The intersection of nonsuicidal self-injury and suicide-related behavior: Patterns of elevated risk and implications for college mental health. *Journal of American College Health, 65*(6), 363-371. https://doi.org/10.1080/07448481.2017.1312416

22 Möller-Leimkühler, A. M. (2002). Barriers to help-seeking by men: A review of sociocultural and clinical literature with particular reference to depression. *Journal of Affective Disorders, 71*(1), 1-9. https://doi.org/10.1016/S0165-0327(01)00379-2

23 Latalova, K., Kamaradova, D., & Prasko J. (2014). Perspectives on perceived stigma and self-stigma in adult male patients with depression. *Neuropsychiatric Disease and Treatment, 10*, 1399-1405. https://doi.org/10.2147/NDT.S54081

24 Seidler Z. E., Dawes, A. J., Rice, S. M., Oliffe J. L., & Dhillon H. M. (2016). The role of masculinity in men's help-seeking for depression: A systematic review. *Clinical Psychology Review, 49*, 106-118. https://doi.org/10.1016/j.cpr.2016.09.002

25 Baams, L., Luca, S. M., & Brownson, C. (2018). Use of mental health services among college students by sexual orientation. *LGBT Health, 5*(7), 421-430. https://doi.org/10.1089/lgbt.2017.0225

26 Liu, C. H., Stevens, C., Wong, S. H. M., Yasui, M., & Chen, J. A. (2019). The prevalence and predictors of mental health diagnoses and suicide among U.S. college students: Implications for addressing disparities in service use. *Depression and Anxiety, 36*(1), 8-17. https://doi.org/10.1002/da.22830

27 Lipson, S., Raifman, J., Abelson, S., & Reisner, S. (2019). Gender minority mental health in the U.S.: Results of a national survey on college campuses. *American Journal of Preventive Medicine, 57*(3), 293-301. https://doi.org/10.1016/j.amepre.2019.04.025

28 Price-Feeney, M., Green, A., & Dorison, S. (2019). Understanding the mental health of transgender and nonbinary youth. *Journal of Adolescent Health, 66*(6), 684-690. https://doi.org/10.1016/j.jadohealth.2019.11.314

29 Green, A. E., Price-Feeney, M., Dorison, S. H., Pick, C. J. (2020). Self-reported conversion efforts and suicidality among US LGBTQ youths and young adults, 2018. *American Journal of Public Health, 110*(8), 1221-1227. https://doi.org/10.2105/AJPH.2020.305701

30 Oswalt, S. L., & Lederer, A. M. (2017). Beyond depression and suicide: The mental health of transgender college students. *Social Sciences, 6*(20), 1-10. https://doi.org/10.3390/socsci6010020

31 Elzein, A., Shelnutt, K., Colby, S., Olfert, M., Kattelmann, K., Brown, O., ... & Mathews, A. (2017). The prevalence of food insecurity and its association with health and academic outcomes among college freshmen. *Advances in Nutrition*, *8(1)*, 4-4. https://doi.org/10.1093/advances/8.1.4

32 Son, C., Hegde, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on college students' mental health in the United States: Interview survey study. *Journal of Medical Internet Research, 22*, 1-14. https://doi.org/10.2196/21279

33 Chen, J. A., Stevens, C., Wong, S. H. M., & Liu, C. H. (2019). Psychiatric symptoms and diagnoses among U.S. college students: A comparison by race and ethnicity. *Psychiatric Services, 70*(6), 442-449. https://doi.org/10.1176/appi.ps.201800388

34 Hunt, J. B., Eisenberg, D., Lu, L., & Gathright, M. (2015). Racial/ethnic disparities in mental health care utilization among U.S. college students: Applying the Institution of Medicine definition of health care disparities. *Academic Psychiatry, 39*(5), 520-526. https://doi.org/10.1007/s40596-014-0148-1

35 Sa, J., Choe, C. S, Cho, C. B., Chaput, J., Lee, J., & Hwang, S. (2020). Sex and racial/ethnic differences in suicidal consideration and suicide attempts among US college students, 2011-2015. *American Journal of Health Behavior, 44*(2), 214-231. https://doi.org/10.5993/AJHB.44.2.9

[36] Ammerman, B., A., Fahlgren, M. K., Sorgi, K. M., & McClosekey, M. S. (2018). Differences in suicidal thoughts and behaviors among three racial groups. *The Journal of Crisis Intervention and Suicide Prevention, 41*(3), 172-178. https://doi.org/10.1027/0227-5910/a000621

[37] Kam, B., Mendoza, H., & Masuda, A. (2019). Mental health help-seeking experience and attitudes in Latina/o American, Asian American, Black American, and White American college students. *International Journal for the Advancement of Counselling, 41*, 492-508. https://doi.org/10.1007/s10447-018-9365-8

[38] Lipson, S. K., Kern, A., Eisenberg, D., & Breland-Noble, A. M. (2018) Mental health disparities among college students of color. *Journal of Adolescent Health, 63*(3), 348-356. https://doi.org/10.1016/j.jadohealth.2018.04.014

[39] Narendorf, S. C., & Palmer, A. (2016). Perception of need and receipt of mental health treatment: A three-group comparison of young adults with psychological distress. *Psychiatric Services, 67*(8), 924-927. https://doi.org/10.1176/appi.ps.201500230

[40] Horwitz, A. G., McGuirea, T., Busby, D. R., Eisenberg, D., Zheng, K., Pistorello, J., Albucher, R., Coryellf, W., & Kinga, C. A. (2020). Sociodemographic differences in barriers to mental health care among college students at elevated suicide risk. *Journal of Affective Disorders, 271*, 123-130. https://doi.org/10.1016/j.jad.2020.03.115

[41] Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *University of Chicago Legal Forum, 1989*(1), 139-167. https://chicagounbound.uchicago.edu/uclf/vol1989/iss1/8

[42] Hatzenbuehler, M. L., Corbin, W. R., & Fromme, K. (2011). Discrimination and alcohol-related problems among college students: A prospective examination of mediating effects. *Drug and Alcohol Dependence, 115*(3), 213-220. https://doi.org/10.1016/j.drugalcdep.2010.11.002

[43] Gerrard, M., Stock, M. L., Roberts, M. E., Gibbons, F. X., O'Hara, R. E., Weng, C., & Wills, T. A. (2012). Coping with racial discrimination: The role of substance use. *Psychology of Addictive Behaviors, 26*(3), 550-560. https://doi.org/10.1037/a0027711

[44] Vu, M., Li, J., Haardörfer, R., Windle, M., & Berg, C. J. (2019). Mental health and substance use among women and men at the intersections of identities and experiences of discrimination: Insights from the intersectionality framework. *BMC Public Health, 19*(1), 1-13. https://doi.org/10.1186/s12889-019-6430-0

[45] McLaughlin, K. A., Costello, E. J., Leblanc, W., Sampson, N. A., & Kessler, R. C. (2012). Socioeconomic status and adolescent mental disorders. *American Journal of Public Health, 102*(9), 1742-1750. https://doi.org/10.2105/AJPH.2011.300477

[46] Ibrahim, A. K., Kelly, S. J., & Glazebrook, C. (2013). Socioeconomic status and the risk of depression among UK higher education students. *Social Psychiatry and Psychiatric Epidemiology, 48*(9), 1491-1501. https://doi.org/10.1007/s00127-013-0663-5

[47] Le-Scherban, F., Brenner, A. B., & Schoeni, R. F. (2016). Childhood family wealth and mental health in a national cohort of young adults. *SSM - Population Health, 2*, 798-806. https://doi.org/10.1016/j.ssmph.2016.10.008

[48] Hyun, H. (2018). The impact of low socioeconomic status on the mental health and self-efficacy of college students. *Proceedings of GREAT Day, 2017*, 64-71. https://knightscholar.geneseo.edu/proceedings-of-great-day/vol2017/iss1/5

[49] Assari, S. (2018). Financial distress, anxiety, depression, and suicide among American college students. *International Journal of Behavioral Sciences, 12*(2), 84-90. http://www.behavsci.ir/article_82783.html

[50] McDaniel, A., Montalto, C. P., Ashton, B., Duckett, K., & Croft, A. (2015). *National Student Financial Wellness Study*. https://cssl.osu.edu/posts/documents/nsfws-key-findings-report.pdf

[51] Tran, A. G., Mintert, J. S., Llamas, J. D., & Lam, C. K. (2018). At what costs? Student loan debt, debt stress, and racially/ethnically diverse college students' perceived health. *Cultural Diversity and Ethnic Minority Psychology, 24*(4), 459-469. https://doi.org/10.1037/cdp0000207

[52] Nicholson, S. (2017, November 2). *Does the cost of college tuition have an impact on student's mental health?* Medium. https://medium.com/@sidvnicholson/does-the-cost-of-college-tuition-have-an-impact-on-students-mental-health-fdb646869c17

[53] Institute of International Education. (2020). International Student Enrollment Trends, 1948/49-2019/20. *Open Soors Report on international Educational Exchange.* https://opendoorsdata.org/

[54] Zhou, X., Zhou, A. Q., & Sun, X. (2021). Prevalence of common mental concerns and service utilization among international students studying in the US. Counselling Psychology Quarterly, 1-21. https://doi.org/10.1080/09515070.2021.1875400

[55] Prieto-Welch, S. L. (2016). International student mental health. New Directions for Student Services, 2016(156), 53-63. https://doi.org/10.1002/ss.20191

[56] Fitzsimmons-Craft, E. E., Karam, A. M., Monterubio, G. E., Taylor, C. B., & Wilfley, D. E. (2019). Screening for eating disorders on college campuses: A review of the recent literature. *Current Psychiatry Reports, 21*(10), 101. https://doi.org/10.1007/s11920-019-1093-1

[57] Claydon E., & Zullig, K. J. (2020). Eating disorders and academic performance among college students. *Journal of American College Health, 68*(3), 320-325. https://doi.org/10.1080/07448481.2018.1549556

[58] Swinbourne, J. M., & Touy, S. W. (2007). The co-morbidity of eating disorders and anxiety disorders: A review. *European Eating Disorder Review, 15*(4), 253-274. https://doi.org/10.1002/erv.784

[59] Mischoulona, D., Eddy, K. T., Keshaviah, A., Dinescu, D., Ross, S. L., Kass, A., E., Franko, D. L., & Herzog, D. B. (2011). Depression and eating disorders: Treatment and course. *Journal of Affective Disorders, 130*(3), 470-477. https://doi.org/10.1016/j.jad.2010.10.043

[60] Substance Abuse and Mental Health Services Administration. (2020). *Key substance use and mental health indicators in the United States: Results from the 2019 National Survey on Drug Use and Health* (HHS Publication No. PEP20-07-01-001, NSDUH Series H-55). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. https://www.samhsa.gov/data/

[61] Center for Behavioral Health Statistics and Quality. (2021). *Results from the 2019 National Survey on Drug Use and Health*: *[Special Data Analyses]*.

[62] Pedrelli, P., Borsari, B., Lipson, S. K., Heinze, J. E., & Eisenberg, D. (2016). Gender differences in the relationships among major depressive disorder, heavy alcohol use, and mental health treatment engagement among college students. *Journal of Studies on Alcohol and Drugs, 77*(4), 620-628. https://doi.org/10.15288/jsad.2016.77.620

[63] Serras, A., Saules, K. K., Cranford, J. A., & Eisenberg, D. (2010). Self-injury, substance use, and associated risk factors in a multi-campus probability sample of college students. *Psychology of Addictive Behaviors, 24*(1), 119. https://doi.org/10.1037/a0017210

[64] Lamis, D. A., Malone, P. S., & Jahn, D. R. (2014). Alcohol use and suicide proneness in college students: a proposed model. *Mental Health and Substance Use, 7*(1), 59-72. https://doi.org/10.1080/17523281.2013.781535

[65] Wilcox, H. C., Conner, K. R., & Caine, E. D. (2004). Association of alcohol and drug use disorders and completed suicide: An empirical review of cohort studies. *Drug and Alcohol Dependence, 76*, S11-S19. https://doi.org/10.1016/j.drugalcdep.2004.08.003

[66] Simeon, D. & Favazza, A.R. (2001). Self-injurious behaviors: phenomenology and assessment. In D. Simeon & E. Hollander (Eds.), *Self-injurious Behaviors: Assessment and Treatment* (pp.1-28). Washington, DC: American Psychiatric Press.

[67] Hoff, E. R., & Muehlenkamp, J. J. (2009). No-suicidal self-injury in college students: The role of perfectionism and rumination. *Suicide and Life Threatening Behavior, 39*, 576-587.

[68] Kiekens, G., HAsking, P., Boyes, M., Claes, L., Mortier, P., Auerbach, R. P., Cuijpers., P., Demyttenaere, K., Green, J. G., Kessler. R. C., Myrin-Germeys, I., Nock, M. K., & Bruffaerts, R. (2018). The associations between non-suicidal self-injury and first onset suicidal thoughts and behaviors. *Journal of Affective Disorders, 239*, 171-179. https://doi.org/10.1016/j.jad.2018.06.033

[69] Whitlock, J., Muehlenkamp, J., Purington. A., & Eckenrode, J. (2011). Non-suicidal Self-Injury in a College Population: General Trends and Sex Differences. *Journal of American College Health, 59*, 691-698. https://doi.org/10.1080/07448481.2010.529626

[70] Van Deusen, T., Wilson, C., Kim, H. J., Qayyum, Z., Millard, H., & Parke, S. (2018). Transitional age youth with serious mental illness: High acuity patients requiring developmentally informed care in the inpatient hospital setting. *Adolescent Psychiatry, 8*(3), 231-240. https://doi.org/10.2174/2210676608666180820153318

[71] Alsubaie, M. M., Stalin, H. J., Webster, L. A. D., & Wadman, R. (2019). The role of sources of social support on depression and quality of life for university students. *International Journal of Adolescence and Youth, 24*(4), 484-496. https://doi.org/10.1080/02673843.2019.1568887

[72] Glozah, F. N. (2013). Effects of academic stress and perceived social support on the psychological well-being of adolescents in Ghana. *Open Journal of Medical Psychology, 2*, 143-150. https://doi.org/10.4236/ojmp.2013.24022

[73] Awang, M. M., Kutty, F. M., & Ahmad, A. R. (2014). Perceived social support and well being: First-year student experience in university. *International Education Studies, 7*(13), 261-270. https://eric.ed.gov/?id=EJ1071180

74 Hefner, J., & Eisenberg, D. (2009). Social support and mental health among college students. *American Journal of Orthopsychiatry, 79*(4), 491-499. https://doi.org/10.1037/a0016918

75 Baldwin, M. (2018, March 19). *A diagnosis of mental illness need not end a college career*. National Alliance on Mental Illness. https://www.nami.org/Blogs/NAMI-Blog/March-2018/A-Diagnosis-of-Mental-Illness-Need-Not-End-a-Colle

76 Cantor, D., Fisher, B., Chibnall, S., Harps, S., Townsend, R., Thomas, G., Lee, H., Kranz, V., Herbison, R., & Madden, K. (2019). *Report on the AAU campus climate survey on sexual assault and misconduct*. Association of American Universities. https://www.aau.edu/sites/default/files/AAU-Files/Key-Issues/Campus-Safety/Revised%20Aggregate%20report%20%20and%20appendices%201-7_(01-16-2020_FINAL).pdf

77 Carey, K. B., Norris, A. L., Durney, S. E., Shepardson, R. L., & Carey, M. P. (2018). Mental health consequences of sexual assault among first-year college women. *Journal of American College health, 66*(6), 480-486. https://doi.org/10.1080/07448481.2018.1431915

78 Backhaus, I., Lipson, S. K., Fisher, L. B., Kawachi, I., & Pedrelli, P. (2019). Sexual assault, sense of belonging, depression and suicidality among LGBQ and heterosexual college students. *Journal of American College Health, 69*(4), 404-412. https://doi.org/10.1080/07448481.2019.1679155

79 Conley, A. H., Overstreet, C., Hawn, S., Kendler, K., Dick, D., & Amstadter, A. (2017). Prevalence and predictors of sexual assault among a college sample. *Journal of American College Health, 65*(1), 41-49. https://doi.org/10.1080/07448481.2016.1235578

80 Singh, S. P., & Tuomainen, H. (2015). Transition from child to adult mental health services: Needs, barriers, experiences and new models of care. *World Psychiatry, 14*(3), 358-361. https://doi.org/10.1002/wps.20266

81 LeViness, P., Gorman, K., Braun, L., Koenig, L., & Bershad, C. (2019). *The Association for University and College Counseling Center Directors Annual Survey: 2019*. Association for University and College Counseling Center Directors. https://www.aucccd.org/assets/documents/Survey/2019%20AUCCCD%20Survey-2020-05-31-PUBLIC.pdf

82 Mental Health America. (2019). *Position Statement 73: College And University Response To Mental Health Crises*. https://mhanational.org/issues/position-statement-73-college-and-university-response-mental-health-crises

83 Active Minds. (2017). Active Minds Position Statement: Recommendations for Leave of Absence and Return from Absence Policies for Mental Health Concerns at Higher Education Institutions. https://www.activeminds.org/wp-content/uploads/2018/04/ActiveMinds_PositionStatement_LeaveofAbsence_May2017.pdf

84 Bonnie, R. J., Datta, V., Fisher, C., Kim, W., Pinals, D., Schwartz, V., & Zonana, H. (2016). *Resource Document on College Mental Health and Confidentiality*. American Psychiatric Association. https://www.psychiatry.org/File%20Library/Psychiatrists/Directories/Library-and-Archive/resource_documents/resource-2016-college-mental-health-and-confidentiality.pdf

85 Beemyn, G. (2013, May 14). *Best practices to support transgender and other gender-nonconforming students*. Campus Pride. https://www.campuspride.org/resources/best-practices-to-support-transgender-and-other-gender-nonconforming-students-2/

86 Wesley, A. (2019, May 1). *Strategies for addressing mental health support on campus*. NASPA Policy and Practice Series. Issue No. 4. NASPA-Student Affairs Administrators in Higher Education. https://www.naspa.org/report/strategies-for-addressing-mental-health-support-on-campus

87 The Jed Foundation. (2008). *Student Mental Health and the Law: A Resource for Institutions of Higher Education.*

88 National Academies of Sciences, Engineering, and Medicine. (2021). *Mental Health, Substance Use, and Well-being in Higher Education: Supporting the Whole Student.* The National Academies Press. https://www.nap.edu/catalog/26015/mental-health-substance-use-and-wellbeing-in-higher-education-supporting

89 Suicide Prevention Resource Center. (2020). Selecting and implementing a gatekeeper training. https://www.sprc.org/resources-programs/selecting-implementing-gatekeeper-training

90 Ketchen Lipson, S., Abelson, S., Ceglarek, P., Phillips, M., & Eisenberg, D. (2019). *Investing in student mental health: Opportunities & benefits for college leadership.* American Council on Eduation. https://www.acenet.edu/Documents/Investing-in-Student-Mental-Health.pdf

91 Ashwood, J. S., Stein, B. D., Briscombe, B., Sontag-Padilla, L., Woodbridge, M. W., May, E., Seelam, R., & Burnam, M. A. (2016). Payoffs for California college students and taxpayers from investing in student mental health. *Rand Health Quarterly, 5*(4), 11. https://pubmed.ncbi.nlm.nih.gov/28083421/

[92] New, J. (2016, June 3). *Counseling Anytime, Anyplace*. Inside Higher Ed. https://www.insidehighered.com/news/2016/06/03/colleges-expand-access-mental-health-services-campus

[93] Colizzi, M., Lasalvia, A., & Ruggeri, M. (2020). Prevention and early intervention in youth mental health: is it time for a multidisciplinary and trans-diagnostic model for care? *International Journal of Mental Health Systems, 23*, 1-14. https://doi.org/10.1186/s13033-020-00356-9

CHAPTER

# 2

# What Research Tells Us

## Effectiveness of Mental Health Interventions in Colleges

Mental disorders frequently begin during young adulthood (ages 18–25 years), when young people are typically in college.[1] Concerns about mental health among college students are exacerbated by factors such as lack of screening for and diagnosis of mental disorders, symptom denial, and inaccessible, inadequate, and/or inappropriate treatment. Evidence-based interventions for prevention, early identification and diagnosis, and treatment programs on college campuses can help reduce these concerns. The campus-based mental health programs presented in this chapter are grouped into two categories:

1. **Campus-wide interventions focused on prevention and early intervention**: The primary purpose of campus-wide interventions is to facilitate and/or increase access to mental health services. These interventions use a public health approach, and help campus staff, faculty, and students recognize students in distress and refer them to individual interventions and therapy available on campus.

   Campus-wide practices include, but are not limited to, universal screenings, self-help apps, gatekeeper trainings, peer-to-peer interventions[a], bystander interventions, and stigma-reduction campaigns.[b] These practices are designed to facilitate access to or improve attitudes toward help-seeking behavior and/or referrals. The practices are intended to be preventative and are typically appropriate for use by all adults who interact with students on a college campus. In addition, universal screenings can capture the mental health needs of all students on campus and help identify those who are at risk for behavioral health challenges.

2. **Clinical interventions**: Clinical interventions are administered by licensed mental health professionals (or graduate interns), typically through the college counseling center. They focus on treatment of specific mental health diagnoses and can be administered in a group or individual format. In the past, these interventions were entirely in-person, but in recent years, colleges have expanded the scope of these practices to include additional clinical services through telehealth, sometimes using external partnerships.

[a] Peer-based interventions are defined as a method of teaching or facilitating health promotion that asks people to share specific health messages with members of their own community.

[b] Stigma-reduction campaigns aim to create awareness around and help remove stereotypes associated with mental health issues.

This chapter highlights one campus-wide and four clinical interventions to prevent or treat mental health problems among college students:

**Campus-wide/public health interventions**

1. Gatekeeper trainings

**Clinical interventions**

1. Mindfulness-Based Stress Reduction (MBSR)
2. Acceptance and Commitment Therapy (A&CT)
3. Cognitive Behavioral Therapy (CBT)
4. Dialectical Behavior Therapy (DBT)

The chapter also provides an overview of the interventions, including a discussion of the typical settings, demographic groups, intensity and duration, and outcomes attributed to receipt of the intervention. Each program or practice description includes a rating based on its evidence of impact on mental health outcomes, which include:

- Increased understanding and recognition of mental health concerns, especially suicide-related behaviors, and improved understanding of and access to services (campus-wide interventions)
- Improvements in mental health or reductions in severity of symptoms associated with anxiety and depression and in suicidal thoughts and ideation (clinical interventions)

## Intervention Selection

Interventions had to meet the following criteria to be considered for inclusion in this guide:

- Be clearly defined and replicable
- Address mental health concerns of college students
- Be currently in use
- Demonstrate evidence of effectiveness
- Have accessible implementation resources and fidelity (the degree to which a program delivers a practice as intended) supports

## Evidence Review and Rating

Authors completed a comprehensive review of published research for each selected intervention, to determine its strength as an evidence-based practice. Eligible research studies were required to:

- Employ a randomized or quasi-experimental design, or
- Be a single sample pre-post design or an epidemiological study with a strong counterfactual (i.e., a study that analyzes what would have happened in the absence of the intervention), and
- Have been conducted in the United States since 2000

Descriptive studies, implementation studies, and meta-analyses were not included in the review, but were documented, to understand the interventions better and identify implementation supports for the practices.

Each eligible study was reviewed for evidence of measurable impact on mental health outcomes. In addition, trained reviewers checked each study to ensure rigorous methodology, asking questions such as:

- Are experimental and comparison groups statistically equivalent, with the only difference being that participants in the experimental group received the intervention and those in the comparison group received treatment as usual or no or minimal intervention?
- Was baseline equivalence established between the treatment and comparison groups?
- Were missing data addressed appropriately?
- Were outcome measures reliable, valid, and collected consistently from all participants?

Using these criteria, each study was assessed and given a rating of low, moderate, or high. Only randomized controlled trials, quasi-experimental designs, and epidemiological studies with a strong comparison were eligible to receive a high or moderate rating.

After all studies for a practice were assessed and rated, the practice was placed into one of the three categories (strong evidence, moderate evidence, and emerging evidence) based on its causal evidence level. See Appendix 2 for more information about the evidence review process.

## CAUSAL EVIDENCE LEVELS

**Strong Evidence**

Causal impact demonstrated by at least ***two*** randomized controlled trials, quasi-experimental designs, or epidemiological studies with a high or moderate rating.

**Moderate Evidence**

Causal impact demonstrated by at least ***one*** randomized controlled trial, quasi-experimental design, or epidemiological study with a high or moderate rating.

**Emerging Evidence**

No study received a high or a moderate rating. The practice may have been evaluated with less rigorous studies (e.g., pre-post designs) that demonstrate an association between the practice and positive outcomes, but additional studies are needed to establish causal impact.

## Research Opportunity

This evidence review identified research studies for five prevention/treatment practices. Although the body of research is growing, practitioners continue to face the challenge of limited evidence, particularly from well-designed randomized controlled trials (RCTs), when selecting programs to address mental health concerns of college students. There are other interventions for mental health, but they have not been studied specifically for college students. The field would benefit from more research on impact of these interventions on college students.

# Campus-Wide/Public Health Interventions Associated With Mental Health of College Students

## Gatekeeper Trainings

**Strong Evidence**

### *Overview*

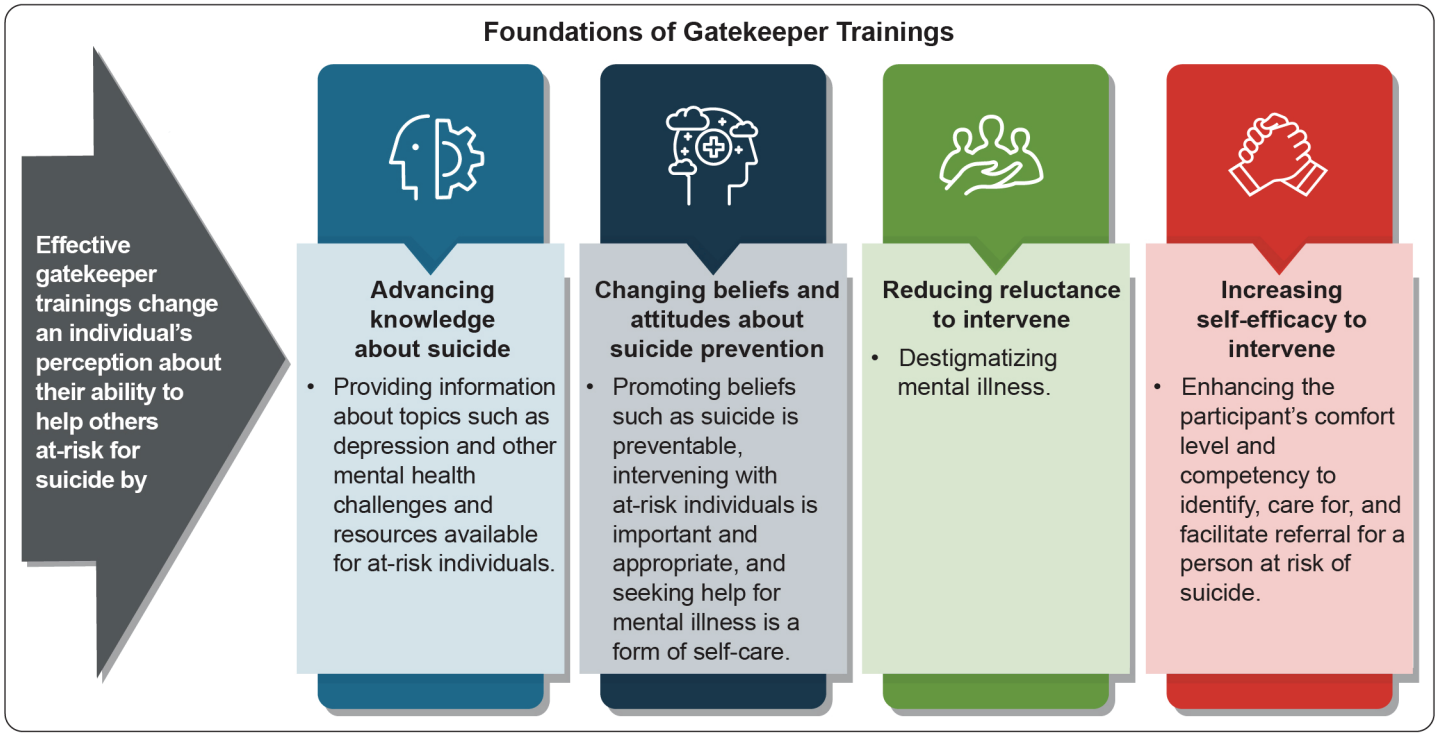
Gatekeeper trainings are suicide prevention programs that train participants to recognize warning signs of suicide risk in individuals they interact with and to help them get access to trained mental health services they need in the moment of crisis. Students on college campuses at risk for suicide do not always consult healthcare professionals in the critical period before they harm themselves. During that time period, friends, family, fellow students, and staff can help vulnerable students if they are trained to recognize and respond to suicide risk.[3]

Although various gatekeeper trainings are available for use with college populations, they all have similar foundational principles and objectives, with the common aim of helping adults:

1. Recognize warning signs of psychological distress and suicide exhibited by at-risk students
2. Communicate effectively with these students and encourage them to seek further help

The trainings may differ in their format and delivery methods.

Twenty-one studies of gatekeeper training were considered eligible for this evidence review. Of these studies, one was rated high and four were rated moderate. Sixteen were rated low because they were pre-post design studies or the reviewers identified weaknesses in their study designs. The five high and moderate studies led to an overall rating of "strong support for causal evidence," and included all the gatekeeper trainings mentioned on the next page.




**Source:** Burnetter, C., Ramchand, R., & Ayer, L. (2015). Gatekeeper Training for Suicide Prevention. *Rand Health Quarterly, 5*, 1-16.

| Type of Gatekeeper Training | Training Description |
|---|---|
| **Question. Persuade. Refer. (QPR)** | Developed by Paul Quinnett, QPR is a specialized training for individuals (students), organizations (large number of college students or staff), and professionals (counselors/ therapists on college campuses). The intervention is delivered through online or in-person sessions, each one to two hours long. |
| **Applied Suicide Intervention Skills Training (ASIST)** | Developed by LivingWorks, ASIST offers multiple programs focused on crisis resolution with varying time commitments from a one-hour training to a more in-depth, half-day training, to an intensive two-day, 16-hour training. |
| **Campus Connect** | Developed by the Syracuse University Counseling Center especially for college campuses, Campus Connect is a two and a half hour, experientially based training that involves participants in multiple interactive exercises. |
| **Kognito** | Developed by health simulation company Kognito, this training consists of two online training sessions involving interactive roleplay simulations specifically for college populations; one 45-minute training is designed for faculty, staff, and administrators and another 40-minute training is intended for college students and student leaders. |
| **Mental Health First Aid (MHFA)** | Developed by Betty Kitchener and Anthony Jorm from Australia, MHFA USA offers separate courses for adults and youth, each single day sessions running from five to seven hours. |

### *Population of Focus*

Although studies of gatekeeper trainings often include students, staff, and faculty on college campuses, the typical participant group included in the studies in this review consisted of resident assistants (RAs).[4-7] RAs, often students themselves, live and work within the residence halls on college and university campuses and, thus, share living space with college students. This proximity gives the RAs more opportunity than most other campus staff to identify stress and anxiety in students.[8] Only one review study included campus staff.[4] Although participants across all five studies were predominantly females and predominantly White, these trainings can be adapted to meet the needs of ethnic/ racial communities, wherein they are used.[9]

Although not applicable to any study included in this review, Kognito trainings do offer a version catering particularly to the needs and experiences of the LGBTQ+ community on a college campus.

### *Practitioner Types*

Although staff in health and behavioral healthcare settings particularly benefit from gatekeeper trainings, any campus community member can get trained and certified in implementing these programs. Most gatekeeper trainings included in this review (QPR, ASIST, Campus Connect, and MHFA) offer train-the-trainer models.

The gatekeeper trainings included in this review were delivered by professionals, trained and certified in those specific trainings.[4, 6] Since the Kognito trainings include self-administered, web-based modules, live trainers were not involved in that study.

### *Intensity and Duration of Treatment*

Most gatekeeper trainings are delivered in a single training event, which varies from one to five hours and includes either in-person or online sessions.[4, 6-7] Kognito trainings are delivered via 40-45-minute pre-recorded, online sessions or simulations. Some gatekeeper trainings require periodical renewals or recertifications.

## Outcomes

Studies that contributed to the strong evidence rating of this intervention demonstrated gatekeeper trainings with college students and staff had the following outcomes:

- Decrease in gatekeeper reluctance to intervene[6]
- Increase in participant's likelihood to intervene[6]
- Increase in participant's general self-efficacy[5-7]
- Increase in gatekeeper preparedness[5]
- Increase in participant's knowledge about mental health[7]
- Increase in participant's confidence,[4, 7] comfort, and competence[4] in helping at-risk students

# Clinical Mental Health Interventions for College Students

## Mindfulness-Based Stress Reduction

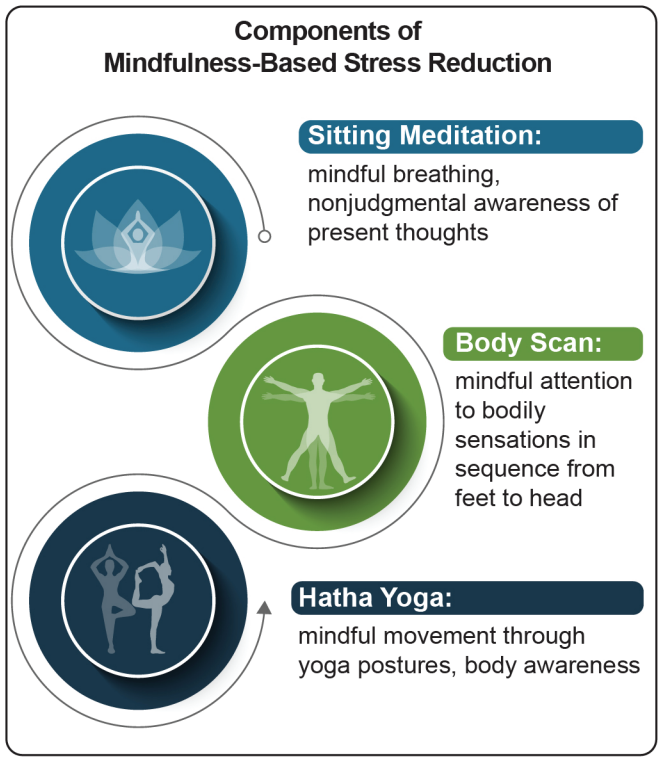
**Strong Evidence**

### *Overview*

Mindfulness-Based Stress Reduction (MBSR) is a program that uses mindfulness meditation to reduce stress and anxiety and manage emotions.

Through the three MBSR activities, individuals become attentive to bodily sensations while practicing nonjudgmental awareness of their thoughts.[10] By incorporating MBSR principles into their daily lives, individuals can manage physical and mental symptoms of illness and difficult emotional situations. This process can reduce anxiety and stress and improve mental health.[10-11]

Five studies of MBSR were eligible for review. Of these studies, one rated high and four rated moderate, giving the intervention an overall rating of "strong support for causal evidence."




**Source:** Sharma, M., & Rush, S. E. (2014). Mindfulness-based stress reduction as a stress management intervention for healthy individuals: A systematic review. *Journal of Evidence-Based Complementary & Alternative Medicine, 19(4)*, 271-286.

### *Population of Focus*

MBSR was originally designed to relieve suffering in patients with stress and pain.[12] It has since been used with a variety of populations in clinical and non-clinical settings, including cancer patients[13] and employees in the workplace.[14]

Studies included in this evidence review focused on the general college student population, as well as students with depressive symptoms[15] or seeking stress reduction.[16]

Participants across the five studies were predominantly female and predominantly White.[15-19]

### *Practitioner Types*

Online and in-person trainings for certification in MBSR, ranging from 8 to 10 weeks, are available at https://www.mindfulleader.org/. Several studies included in this review utilized certified facilitators to deliver the intervention;[17] at least one other study included doctoral-level graduate student therapists.[15] In another study, the professor of a health course delivered MBSR as part of the class curriculum.[18] In yet another study, students practiced MBSR individually via self-help "bibliotherapy," which involves reading through an MBSR workbook on their own and engaging in digital mindfulness exercises.[16]

### *Intensity and Duration of Treatment*

The standard MBSR program consists of interactive online learning environment, eight weeks of live instructor-led sessions, and a daylong retreat after the sixth week. Participants may also complete at-home exercises for individual practice.

Two studies included in this review utilized a brief version of MBSR, comprising only four weekly sessions.[15, 19] Another study allotted 10 weeks for students to complete the bibliotherapy.[1]

### Outcomes

Studies that contributed to the strong rating of this intervention demonstrated that MBSR with college students had the following outcomes:

- Decrease in depressive symptoms[15-16]
- Decrease in symptoms of anxiety[16]

# Acceptance and Commitment Therapy

**Strong Evidence**

## *Overview*

Acceptance and Commitment Therapy (A&CT) aims to increase psychological flexibility. Psychological flexibility is the ability to comprehend current thoughts and emotions and continue or change one's behavior, depending on the situation and one's values.

Eight A&CT studies were eligible for inclusion in this review. Five studies rated high for study design, of which two had statistically significant positive outcomes, and three rated low for study design, giving the intervention an overall rating of "strong support for causal evidence."

## *Population of Focus*

A&CT can be used with a wide variety of populations and age groups to reduce negative behaviors and improve mental health. Populations of focus often include individuals with substance use disorders (SUDs)[20] and people experiencing chronic pain.[21]

Studies included in this evidence review focused on the general college student population, as well as students seeking services from their college counseling centers.[22-23]

Of the studies reviewed, one did not report demographic information of participants.[24] Of the seven studies that did, at least two-thirds of the participants were female in six,[22-23, 25-28] and about half of participants were female in the other.[29] Participants across all seven studies reporting demographics were predominantly White and in four of these studies 10-16 percent of participants were Hispanic or Latino/a.[23, 25, 27-28]

## *Practitioner Types*

Typically, a provider trained in individual or group A&CT implements the treatment. Recent adaptations include using an online, self-guided format, either as standalone or in conjunction with provider-led, in-person sessions.[30-32]

Some studies included in this review delivered A&CT through a self-guided, web-based platform.[27] One study used an in-person, group format led by a facilitator.[23]

## *Intensity and Duration of Treatment*

The duration of A&CT can vary widely, but it is desirable to hold enough sessions to cover the six core principles. One study instructed participants to complete six web-based sessions over four weeks,[27] while another study delivered A&CT more frequently but with briefer sessions (12 biweekly, web-based sessions, each taking 15–30 minutes to complete).[28]

**Core Processes of Acceptance and Commitment Therapy (A&CT)**

**1 ACCEPTANCE:** Embracing of one's own experiences, thoughts, and feelings rather than avoidance

**SELF AS CONTEXT:** Being aware of what one is thinking, feeling, doing, and sensing in any moment **2**

**3 COGNITIVE DEFUSION:** Diminishing the strength of negative thoughts by separating or distancing oneself from these thoughts or memories

**VALUES:** Knowing what matters and is important; choosing behaviors aligned with those values **4**

**5 BEING PRESENT:** Consciously paying attention, engaging, and connecting with what is happening in the moment

**COMMITTED ACTION:** Taking action and achieving concrete goals consistent with personal values **6**

**Source:** Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and Commitment Therapy: Model, processes and outcomes. *Behaviour Research and Therapy, 44*, 1-25.

### Outcomes

Studies that contributed to the strong rating of this intervention demonstrated that A&CT with college students had the following outcomes:

- Decrease in distress[27, 28]
- Decrease in social anxiety[27]

# Cognitive Behavioral Therapy (CBT)

**Strong Evidence**

## *Overview*

Cognitive behavioral therapy (CBT) is a short-term, goal-oriented psychotherapy treatment enabling individuals to understand their current problems, challenges, and experiences and change patterns of thinking or behaviors. It is commonly used to address depressive and distortive thoughts associated with depression, generalized anxiety disorders, suicidal ideation, eating disorders, and SUD.

CBT helps clients develop accurate assessments of circumstances and their feelings so they can develop realistic strategies to address them. With the CBT approach, clients are trained to evaluate inaccurate thoughts, actions, and negative feelings that may contribute to their depression, anxiety, suicidal ideation, and/or other mental distress.[33]

CBT treatment usually draws on a variety of strategies to try to change clients' thinking and behavioral patterns. These strategies might include building awareness of one's thoughts, identifying negative or inaccurate thoughts, developing a greater sense of confidence, facing one's fears, positive self-talk, and stress management techniques, among others.[34-37]

CBT is available in a variety of forms, including individual therapy, group therapy, and computerized or Internet-guided delivery. These modalities all draw on the foundational principles and goals of CBT described above. However, they can vary widely on several characteristics, including format, duration, and delivery. For each modality, there are also different manuals and implementation protocols.

Twenty-five studies of CBT met the criteria for evidence review. Of these, seven were rated high and four were rated moderate. Fourteen were rated low because they were pre-post design studies or reviewers identified weaknesses in their study designs.

The 11 high and moderate studies gave CBT an overall rating of "strong support for causal evidence." All 11 studies included either group CBT or computerized CBT for the population of focus. Evidence reviewers did not find any studies for individual CBT for this population (i.e., college students) that were rated moderate or high. However, individual CBT is known to be evidence-based, with a solid research base for diverse populations and, hence, is included in this guide.

### *Population of Focus*

The populations of focus were different for the three modalities of CBT. For the studies included in this review:

- **Individual CBT** was used with students who had body image concerns and/or eating disorders,[34-35] attention deficit hyperactivity disorder (ADHD),[36] and depressive symptoms.[37-38] Of the five individual CBT studies reviewed, participants in four studies were more than three-fourths female.[38-42] In three studies, more than 60 percent of participants were White.[39-40, 42] In one study, 40 percent of participants were Black[38], while one study included a sample that was one-third Hispanic[42], and another had a sample that was about one-third Asian.[41]
- **Group CBT** was used with students with ADHD,[43-44] with or at-risk for depression,[34, 36-37, 45-47] with social anxiety disorder (SAD),[31] with public speaking anxiety,[24] and with maladaptive perfectionism.[48] Most of the studies reviewed had predominantly female samples.[24, 34, 36-37, 43,45-47] Two studies had samples that were one-half female.[35, 48] In six studies, more than 60 percent of participants were White.[35, 43,45-47] In one study, more than 90 percent of participants were racial/ethnic minorities.[36] Three studies did not present racial/ethnic demographics for their samples.[24, 34, 36]
- **Computerized CBT** interventions were used with general student populations,[49-51] students at-risk for or diagnosed with an eating disorder,[52-53] and students with symptoms of anxiety and depression.[54] All six studies of computerized CBT interventions had samples that were predominantly female.[49-54] In five of these studies samples were also predominantly White[49-51, 53-54]. In the other study half of particants were White, about 20 percent were Asian, and the remaining 30 percent were other racial/ethnic minorities.[52]

### *Practitioner Types*

Individual CBT is implemented in different ways and various manuals for this intervention exist. Consequently, the particular training and/or certification required to deliver this therapy also varies. In the reviewed studies, individual CBT was typically delivered by trained psychologists and/or therapists.[41-42] In one study, doctoral students in clinical psychology delivered individual CBT to students.[39]

There is also a myriad of manuals for variants of group CBT, and training and/or certification for each variant may differ. In the reviewed studies, trained psychologists and/or therapists typically delivered group CBT.[37, 44-45, 47] However, several studies also relied on trained graduate or doctoral students to facilitate or co-facilitate group CBT sessions.[24, 35, 43, 46, 48]

As the name suggests, computerized CBT is delivered to students via computer or mobile app-based platforms. Typically, these platforms present CBT content through video modules or other tools and are therefore self-guided. However, in two of the studies included in this review, online materials were supplemented with limited personal contact; in one study, this comprised scripted support messages sent by program staff, while the other study included weekly motivational messages and up to two phone calls with coaches, who were trained post-secondary students.[50, 53]

### *Intensity and Duration of Treatment*

There is no standard length or prescribed number of sessions for individual CBT.[55] The overall intensity and duration of treatment depends on the kind and severity of problems experienced by the student. However, individual CBT is generally considered to be a shorter-term therapeutic approach.[56] In the reviewed studies, individual CBT was typically delivered once a week, with overall duration varying from 3 to 12 weeks.[38-39, 41]

Group CBT is typically more structured than individual therapy. However, treatment intensity and length may still vary depending on the specific protocol practitioners use and the kinds of problems they treat. In the reviewed studies, group CBT was typically delivered once a week for one to two hours, with overall duration varying from four[24, 47] to eight or more sessions.[35-36, 43-44] One study used a single, multi-hour group workshop approach,[48] though this is not typical for group CBT delivery.

The intensity, duration, and structure of computerized CBT treatments vary, depending on the specific program. In the reviewed studies, some programs set weekly schedules for the content they wanted users to cover, while others provided full access to the platform and allowed users to work at their own pace. For more structured platforms, the overall length of treatment ranged from 2 to 10 weeks.[52, 54]

### Outcomes

Studies of individual CBT with a college student sample did not contribute to the high rating of this intervention, so the outcomes from those studies are not included. However, in general population studies, individual CBT is associated with reduction in anxiety[54] and depression.[55]

Studies that contributed to the high rating of this intervention demonstrated that use of group CBT with college students had the following outcomes:

- Decreases in overall depressive symptoms[36-37, 45, 59]
- Decreases in overall anxiety symptoms[36-37]
- Reduction in negative thinking[59]
- Reduction in levels of worry[37]
- Improvements in self-esteem[59]
- Improvements in life satisfaction and happiness ratings[36]

Studies that contributed to the high rating in this evidence review demonstrated that use of computerized CBT interventions with college students had the following outcomes:

- Decreases in overall depressive symptoms[53-54]
- Decreases in eating disorder symptomology,[53] binge eating frequency,[53] and compensatory behaviors (e.g., excessive exercise)[53]

# Dialectical Behavior Therapy (DBT)

**Moderate Evidence**

## *Overview*

Dialectical behavior therapy (DBT) is a psychotherapy treatment originally developed by Dr. Marsha Linehan to treat individuals at-risk for suicide[60] and/or those with borderline personality disorder (BPD).[61] DBT is commonly used to address depressive symptoms, SUDs, post-traumatic stress disorders, and a wide range of other disorders. It focuses on dialectical or opposing strategies of acceptance and change.[61]

DBT has been primarily studied with BPD populations, for which it has been effective at reducing suicidal behaviors and non-suicidal self-injury (NSSI).[62-64] It also has proven efficacy at treating NSSI and depression in adolescents.[64]

Research is limited on DBT's specific effects on college-aged populations. Of the 10 studies eligible for this review, 3 were rated high. Seven were rated low because they were pre-post design studies or reviewers identified weaknesses in their study designs. Of the three highly rated studies, one showed statistically significant positive outcomes. These findings give the DBT intervention an overall rating of "moderate support for causal evidence."


**Source:** Behavioral Tech (n.d.) What is Dialectical Behavior Therapy (DBT)?. https://behavioraltech.org/resources/faqs/dialectical-behavior-therapy-dbt/

### *Population of Focus*

While DBT was originally designed for use with BPD populations, it has since been used with a wide variety of populations to treat an array of mental health concerns. In the studies included in this review, DBT was used for students with test anxiety, with attention-deficit/hyperactivity disorder (ADHD), who reported serious problems with emotion regulation, with symptoms of mood disorders, and those seeking other treatment recommended by college counseling centers.[65-70]

Of the ten studies reviewed, six included samples that were predominantly female.[68, 70-75] Two studies had samples that were slightly more than half female,[65-66] one study was slightly more than half male,[67] and one study did not report any demographic data.[69] Participants in four studies were predominantly White[68, 70-71, 74] while two studies had samples that were about half White,[67, 72] and one study was predominantly composed of racial/ethnic minority students.[72-73] Three studies did not report on the racial/ethnic backgrounds of participants.[65-66, 69] In one study, about 30 percent of students identified as LGBTQ+.[75]

### *Practitioner Types*

DBT practitioners typically undergo intensive training to obtain certification. Certification is offered through the DBT-Linehan Board of Certification (DBT-LBC) to licensed mental health professionals. It requires practitioners to complete 40 hours of didactic training and complete a written exam.[76] In the reviewed studies, DBT was usually delivered by teams including at least one therapist who had undergone certification training, as well as other facilitators, such as counseling center staff, clinical psychology graduate students, and/or nurse practitioners who participated in shorter training modules.[70-72]

### *Intensity and Duration of Treatment*

DBT typically has a duration of about 24 weeks, consisting of weekly skills training groups in addition to hour-long weekly individual therapy sessions. DBT's phone coaching component permits clients to call their therapist between sessions to receive in-the-moment coaching and care. However, of the studies included in this review, several used adapted DBT models, which consisted predominantly of the DBT skills training group component.[65-68, 70, 72-74] These skills group-based therapies varied in duration from 4 to 13 weeks.

### Outcomes

Studies that contributed to the moderate rating in this evidence review demonstrated that DBT with college students had the following outcomes:

- Reductions in suicidal ideation[75]
- Reductions in overall depressive symptoms[75]
- Decreased number of non-suicidal self-injury events[75]
- Improvements in social adjustment[75]

# Summary of Evidence Review

The guide's evidence review provides support for five practices for prevention and treatment of anxiety, depression, and suicidal thoughts and behaviors among college students, which are summarized below.

| Intervention | Gatekeeper training | MBSR | A&CT | CBT | DBT |
|---|---|---|---|---|---|
| **Review rating for use with college students** | Strong evidence | Strong evidence | Strong evidence | Strong evidence | Moderate evidence |
| **Scope** | Non-clinical | Clinical | Clinical | Clinical | Clinical |
| **Care continuum** | Prevention | Treatment | Treatment | Treatment | Treatment |
| **Intensity and duration of treatment** | A single training event | Eight weekly group sessions, lasting 2.5 hours each, and a daylong retreat after the sixth week | As many sessions as required to cover the six core principles | No standard length or prescribed number of CBT sessions | Typical duration is 24 weeks, consisting of weekly individual and group sessions |
| **Specific training available** | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Web-based version available** | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Can be practiced by peers** | ✓ | - | - | - | - |

# Reference List


1 Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C., & Wilens, T. (2015). College students: Mental health problems and treatment considerations. *Academic Psychiatry, 39*(5), 503-511. https://doi.org/10.1007/s40596-014-0205-9

2 Webel, A. R., Okonsky, J., Trompeta, J., & Holzemer. W. L. (2010). A systematic review of the effectiveness of peer-based interventions on health-related behaviors in adults. *American Journal of Public Health, 100*(2), 247-253. https://doi.org/10.2105/AJPH.2008.149419

3 Suicide Prevention Resource Center. (2020). *Selecting and implementing a gatekeeper training*. https://www.sprc.org/sites/default/files/Selecting%20and%20Implementing%20a%20Gatekeeper%20Training.pdf

4 Shannonhouse, L., Lin, Y.-W. D., Shaw, K., Wanna, R., & Porter, M. (2017). Suicide intervention training for college staff: Program evaluation and intervention skill measurement. *Journal of American College health, 65*(7), 450-456. https://doi.org/10.1080/07448481.2017.1341893

5 Coleman, D., Black, N., Ng, J., & Blumenthal, E. (2019). Kognito's avatar-based suicide prevention training for college students: Results of a randomized controlled trial and a naturalistic evaluation. *Suicide and Life-Threatening Behavior, 49*(6), 1735-1745. https://doi.org/10.1111/sltb.12550

6 Tompkins, T. L., & Witt, J. (2009). The short-term effectiveness of a suicide prevention gatekeeper training program in a college setting with residence life advisers. *The Journal of Primary Prevention, 30*(2), 131-149. https://doi.org/10.1007/s10935-009-0171-2

7 Lipson, S. K., Speer, N., Brunwasser, S., Hahn, E., & Eisenberg, D. (2014). Gatekeeper training and access to mental health care at universities and colleges. *Journal of Adolescent Health, 55*(5), 612-619. https://doi.org/10.1016/j.jadohealth.2014.05.009

8 Swanbrow Becker, M. A. (2013). *The Impact of Suicide Prevention Gatekeeper Training on Resident Assistants* [Doctor of Philosophy Dissertation, University of Texas]. http://hdl.handle.net/2152/21630

9 Suicide Prevention Resource Center (2020). Guidance for Culturally Adapting Gatekeeper Trainings. Education Development Center. https://www.sprc.org/sites/default/files/Guidance%20 for%20Culturally%20Adapting%20Gatekeeper%20Trainings.pdf

10 Sharma, M., & Rush, S. E. (2014). Mindfulness-based stress reduction as a stress management intervention for healthy individuals: A systematic review. *Journal of Evidence-Based Complementary & Alternative Medicine, 19*(4), 271-286. https://doi.org/10.1177/2156587214543143

11 Fjorback, L. O., Arendt, M., Ørnbøl, E., Fink, P., & Walach, H. (2011). Mindfulness-based stress reduction and mindfulness-based cognitive therapy–A systematic review of randomized controlled trials. *Acta Psychiatrica Scandinavica, 124*(2), 102-119. https://doi.org/10.1111/j.1600-0447.2011.01704.x

12 Kabat-Zinn, J. (2003). Mindfulness-based stress reduction (MBSR). *Constructivism in the Human Sciences, 8*(2), 73.

13 Smith, J. E., Richardson, J., Hoffman, C., & Pilkington, K. (2005). Mindfulness-based stress reduction as supportive therapy in cancer care: Systematic review. *Journal of Advanced Nursing, 52*(3), 315-327. https://doi.org/10.1111/j.1365-2648.2005.03592.x

14 Janssen, M., Heerkens, Y., Kuijer, W., Van Der Heijden, B., & Engels, J. (2018). Effects of mindfulness-based stress reduction on employees' mental health: A systematic review. *PloS one, 13*(1), e0191332. https://doi.org/10.1371/journal.pone.0191332

15 McIndoo, C. C., File, A., Preddy, T., Clark, C., & Hopko, D. (2016). Mindfulness-based therapy and behavioral activation: A randomized controlled trial with depressed college students. *Behaviour Research and Therapy, 77*, 118-128. https://doi.org/10.1016/j.brat.2015.12.012

16 Hazlett-Stevens, H., & Oren, Y. (2017). Effectiveness of mindfulness-based stress reduction bibliotherapy: A preliminary randomized controlled trial. *Journal of Clinical Psychology, 73*(6), 626-637. https://doi.org/10.1002/jclp.22370

17 Seppälä, E. M., Bradley, C., Moeller, J., Harouni, L., Nandamudi, D., & Brackett, M. A. (2020). Promoting mental health and psychological thriving in university students: A randomized controlled trial of three well-being interventions. *Frontiers in Psychiatry, 11*, 590. https://doi.org/10.3389/fpsyt.2020.00590

18 Bergen-Cico, D., Possemato, K., & Cheon, S. (2013). Examining the efficacy of a brief mindfulness-based stress reduction (brief MBSR) program on psychological health. *Journal of American College Health, 61*(6), 348-360. https://doi.org/10.1080/07448481.2013.813853

19 Hunt, M., Al-Braiki, F., Dailey, S., Russell, R., & Simon, K. (2018). Mindfulness training, yoga, or both? Dismantling the active components of a mindfulness-based stress reduction intervention. *Mindfulness, 9*(2), 512-520. https://doi.org/10.1007/s12671-017-0793-z

20 Lee, E. B., An, W., Levin, M. E., & Twohig, M. P. (2015). An initial meta-analysis of Acceptance and Commitment Therapy for treating substance use disorders. *Drug and Alcohol Dependence, 155*, 1-7. https://doi.org/10.1016/j.drugalcdep.2015.08.004

21 Öst, L.-G. (2014). The efficacy of Acceptance and Commitment Therapy: An updated systematic review and meta-analysis. *Behaviour Research and Therapy, 61*, 105-121. https://doi.org/10.1016/j.brat.2014.07.018

22 Levin, M. E., Pistorello, J., Hayes, S. C., Seeley, J. R., & Levin, C. (2015). Feasibility of an acceptance and commitment therapy adjunctive web-based program for counseling centers. *Journal of Counseling Psychology, 62*(3), 529. https://doi.org/10.1037/cou0000083

23 Mull, A. A., Cleveland, C., Robinette, R., & Dixon, L. H. (2020). Pathways: An innovation in the delivery of college counseling services. *Journal of College Student Psychotherapy, 34*(1), 40-58. https://doi.org/10.1080/87568225.2018.1523698

24 Block, J. A., & Wulfert, E. (2000). Acceptance or change: Treating socially anxious college students with ACT or CBGT. *The Behavior Analyst Today, 1(2)*, 3. https://psycnet.apa.org/fulltext/2014-43418-002.pdf

25 Krafft, J., Potts, S., Schoendorff, B., & Levin, M. E. (2019). A Randomized Controlled Trial of Multiple Versions of an Acceptance and Commitment Therapy Matrix App for Well-Being. *Behavior Modification, 43(2)*, 246–272. https://doi.org/10.1177/0145445517748561

26 Levin, M. E., Hayes, S. C., Pistorello, J., & Seeley, J. R. (2016). Web-Based Self-Help for Preventing Mental Health Problems in Universities: Comparing Acceptance and Commitment Training to Mental Health Education. *Journal of Clinical Psychology, 72(3)*, 207–225. https://doi.org/10.1002/jclp.22254

27 Levin, M. E., Haeger, J. A., Pierce, B. G., & Twohig, M. P. (2017). Web-based acceptance and commitment therapy for mental health problems in college students: A randomized controlled trial. *Behavior Modification, 41*(1), 141-162. https://doi.org/10.1177/0145445516659645

28 Levin, M. E., Krafft, J., Hicks, E. T., Pierce, B., & Twohig, M. P. (2020). A randomized dismantling trial of the open and engaged components of acceptance and commitment therapy in an online intervention for distressed college students. *Behaviour Research and Therapy, 126*, 103557. https://doi.org/10.1016/j.brat.2020.103557

29 Levin, M., Pistorello, J., Seeley, J., & Hayes, S. (2014). Feasibility of a Prototype Web-Based Acceptance and Commitment Therapy Prevention Program for College Students. *Journal of American College Health, 62(1)*, 20–30. https://doi.org/10.1080/07448481.2013.843534

30 Lappalainen, P., Langrial, S., Oinas-Kukkonen, H., Tolvanen, A., & Lappalainen, R. (2015). Web-based Acceptance and Commitment Therapy for depressive symptoms with minimal support: A randomized controlled trial. *Behavior Modification, 39*(6), 805-834. https://doi.org/10.1177/0145445515598142

31 Viskovich, S., & Pakenham, K. I. (2020). Randomized controlled trial of a web-based Acceptance and Commitment Therapy (ACT) program to promote mental health in university students. *Journal of Clinical Psychology, 76*(6), 929-951. https://doi.org/10.1002/jclp.22848

32 Räsänen, P., Lappalainen, P., Muotka, J., Tolvanen, A., & Lappalainen, R. (2016). An online guided ACT intervention for enhancing the psychological well-being of university students: A randomized controlled clinical trial. *Behaviour Research and Therapy, 78*, 30-42. https://doi.org/10.1016/j.brat.2016.01.001

33 American Psychology Association. (2017). *What is Cognitive Behavioral Therapy?* https://www.apa.org/ptsd-guideline/patients-and-families/cognitive-behavioral

34 Peden, A. R., Hall, L. A., Rayens, M. K., & Beebe, L. L. (2000). Reducing negative thinking and depressive symptoms in college women. *Journal of Nursing Scholarship, 32*(2), 145-151. https://doi.org/10.1111/j.1547-5069.2000.00145.x

[35] Bjornsson, A. S., Bidwell, L. C., Brosse, A. L., Carey, G., Hauser, M., Mackiewicz Seghete, K. L., Schulz-Heik, R. J., Weatherley, D., Erwin, B. A., & Craighead, W. E. (2011). Cognitive–behavioral group therapy versus group psychotherapy for social anxiety disorder among college students: A randomized controlled trial. *Depression and Anxiety, 28*(11), 1034-1042. https://doi.org/10.1002/da.20877

[36] Seligman, M. E. P., Schulman, P., & Tryon, A. M. (2007). Group prevention of depression and anxiety symptoms. *Behaviour Research and Therapy, 45*(6), 1111-1126. https://doi.org/10.1016/j.brat.2006.09.010

[37] Mokrue, K., & Acri, M. (2013). Feasibility and effectiveness of a brief cognitive behavioral skills group on an ethnically diverse campus. *Journal of College Student Psychotherapy, 27*(3), 254-269. https://doi.org/10.1080/87568225.2013.766114

[38] Cash, T. F., & Hrabosky, J. I. (2003). The effects of psychoeducation and self-monitoring in a cognitive-behavioral program for body-image improvement. *Eating Disorders: The Journal of Treatment & Prevention, 11*(4), 255-270. https://doi.org/10.1080/10640260390218657

[39] Zandberg, L. J., & Wilson, G. T. (2013). Train-the-trainer: Implementation of cognitive behavioural guided self-help for recurrent binge eating in a naturalistic setting. *European Eating Disorders Review, 21*(3), 230-237. https://doi.org/10.1002/erv.2210

[40] Eddy, L. D., Canu, W. H., Broman-Fulks, J. J., & Michael, K. D. (2015). Brief cognitive behavioral therapy for college students with ADHD: A case series report. *Cognitive and Behavioral Practice, 22*(2), 127-140. https://doi.org/10.1016/j.cbpra.2014.05.005

[41] Farabaugh, A., Nyer, M. B., Holt, D. J., Fisher, L., Cheung, J. C., Anton, J., Petrie, S. R., Pedrelli, P., Bentley, K., Shapero, B. G., Baer, L., Fava, M., & Mischoulon, D. (2019). CBT delivered in a specialized depression clinic for college students with depressive symptoms. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 37*(1), 52-61. https://doi.org/10.1007/s10942-018-0300-z

[42] Nyer, M. B., Cassiello-Robbins, C., Nock, M. K., Petrie, S. R., Holt, D. J., Fisher, L. B., Jaeger, A., Pedrelli, P., Baer, L., & Farabaugh, A. (2015). A case series of individual six-week cognitive behavioral therapy with individually tailored manual-based treatment delivery for depressed college students with or without suicidal ideation. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 33*(2), 134-147. https://doi.org/10.1007/s10942-015-0206-y

[43] Anastopoulos, A. D., Langberg, J. M., Eddy, L. D., Silvia, P. J., & Labban, J. D. (2021). A randomized controlled trial examining CBT for college students with ADHD. *Journal of Consulting and Clinical Psychology, 89*(1), 21-33. https://doi.org/10.1037/ccp0000553

[44] Anastopoulos, A. D., King, K. A., Besecker, L. H., O'Rourke, S. R., Bray, A. C., & Supple, A. J. (2020). Cognitive-Behavioral Therapy for college students with ADHD: Temporal stability of improvements in functioning following active treatment. *Journal of Attention Disorders, 24*(6), 863-874. https://doi.org/10.1177/1087054717749932

[45] Rohde, P., Stice, E., Shaw, H., & Gau, J. M. (2016). Pilot trial of a dissonance-based cognitive-behavioral group depression prevention with college students. *Behaviour Research and Therapy, 82*, 21-27. https://doi.org/10.1016/j.brat.2016.05.001

[46] Rohde, P., Stice, E., Shaw, H., & Gau, J. M. (2014). Cognitive-behavioral group depression prevention compared to bibliotherapy and brochure control: Nonsignificant effects in pilot effectiveness trial with college students. *Behaviour Research and Therapy, 55*, 48-53. https://doi.org/10.1016/j.brat.2014.02.003

[47] Buchanan, J. L. (2013). Translating research into practice: Targeting negative thinking as a modifiable risk factor for depression prevention in the college student population. *Archives of Psychiatric Nursing, 27*(3), 130-136. https://doi.org/10.1016/j.apnu.2013.02.002

[48] LaSota, M. T., Ross, E. H., & Kearney, C. A. (2017). A cognitive-behavioral-based workshop intervention for maladaptive perfectionism. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 35*(3), 314-328. https://doi.org/10.1007/s10942-017-0261-7

[49] Melnyk, B. M., Amaya, M., Szalacha, L. A., Hoying, J., Taylor, T., & Bowersox, K. (2015). Feasibility, acceptability, and preliminary effects of the COPE online cognitive-behavioral skill-building program on mental health outcomes and academic performance in freshmen college students: A randomized controlled pilot study. *Journal of Child & Adolescent Psychiatric Nursing, 28*(3), 147-154. https://doi.org/10.1111/jcap.12119

[50] Pescatello, M. S., Pedersen, T. R., & Baldwin, S. A. (2020). Treatment engagement and effectiveness of an internet-delivered cognitive behavioral therapy program at a university counseling center. *Psychotherapy Research*. https://doi.org/10.1080/10503307.2020.1822559

[51] Santucci, L. C., McHugh, R. K., Elkins, R. M., Schechter, B., Ross, M. S., Landa, C. E., Eisen, S., & Barlow, D. H. (2014). Pilot implementation of computerized cognitive behavioral therapy in a university health setting. *Administration and Policy in Mental Health and Mental Health Services Research, 41*(4), 514-521. https://doi.org/10.1007/s10488-013-0488-2

[52] Taylor, C. B., Kass, A. E., Trockel, M., Cunning, D., Weisman, H., Bailey, J., Sinton, M., Aspen, V., Schecthman, K., Jacobi, C., & Wilfley, D. E. (2016). Reducing eating disorder onset in a very high risk sample with significant comorbid depression: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 84*(5), 402-414. https://doi.org/10.1037/ccp0000077

[53] Fitzsimmons-Craft, E. E., Taylor, C. B., Graham, A. K., Sadeh-Sharvit, S., Balantekin, K. N., Eichen, D. M., Monterubio, G. E., Goel, N. J., Flatt, R. E., Karam, A. M., Firebaugh, M., Jacobi, C., Jo, B., Trockel, M. T., & Wilfrey, D. E. (2020). Effectiveness of a digital cognitive behavior therapy–guided self-help intervention for eating disorders in college women: A cluster randomized clinical trial. *JAMA Network Open, 3*(8), e2015633-e2015633. https://doi.org/10.1001/jamanetworkopen.2020.15633

[54] Fitzpatrick, K. K., Darcy, A., & Vierhile, M. (2017). Delivering cognitive behavior therapy to young adults with symptoms of depression and anxiety using a fully automated conversational agent (Woebot): A randomized controlled trial. *JMIR Mental Health, 4*(2), e19. https://doi.org/10.2196/mental.7785

[55] InformedHealth.org. (2016, September 8). *Cognitive behavioral therapy*. National Center for Biotechnology Information, U.S. National Library of Medicine. https://www.ncbi.nlm.nih.gov/books/NBK279297/

[56] Mayo Clinic. (2019). *Cognitive behavioral therapy*. https://www.mayoclinic.org/tests-procedures/cognitive-behavioral-therapy/about/pac-20384610

[57] Sizoo, B. B., & Kuiper, E. (2017). Cognitive behavioural therapy and mindfulness based stress reduction may be equally effective in reducing anxiety and depression in adults with autism spectrum disorders. *Research in Developmental Disabilities, 64*, 47-55. https://doi.org/10.1016/j.ridd.2017.03.004

[58] Flynn, H. A., & Warren, R. (2014). Using CBT effectively for treating depression and anxiety. *Current Psychiatry, 13*(6), 45-53. https://cdn.mdedge.com/files/s3fs-public/Document/September-2017/045_0614CP_Flynn_FINAL_02.pdf

[59] Peden, A. R., Rayens, M. K., Hall, L. A., & Beebe, L. H. (2001). Preventing depression in high-risk college women: A report of an 18-month follow-up. *Journal of American College Health, 49*(6), 299-306. https://doi.org/10.1080/07448480109596316

[60] Panos, P. T., Jackson, J. W., Hasan, O., & Panos, A. (2014). Meta-analysis and systematic review assessing the efficacy of dialectical behavior therapy (DBT). *Research on Social Work Practice, 24*(2), 213-223. https://doi.org/10.1177/1049731513503047

[61] Center for Behavioral Technology, University of Washington. (n.d.). *Dialectical Behavior Therapy*. https://depts.washington.edu/uwbrtc/about-us/dialectical-behavior-therapy/

[62] Kliem, S., Kröger, C., & Kosfelder, J. (2010). Dialectical behavior therapy for borderline personality disorder: A meta-analysis using mixed-effects modeling. *Journal of Consulting and Clinical Psychology, 78*(6), 936-951. https://doi.org/10.1037/a0021015

[63] DeCou, C. R., Comtois, K. A., & Landes, S. J. (2019). Dialectical behavior therapy is effective for the treatment of suicidal behavior: A meta-analysis. *Behavior Therapy, 50*(1), 60-72. https://doi.org/10.1016/j.beth.2018.03.009

[64] Cook, N. E., & Gorraiz, M. (2016). Dialectical behavior therapy for nonsuicidal self-injury and depression among adolescents: Preliminary meta-analytic evidence. *Child and Adolescent Mental Health, 21*(2), 81-89. https://doi.org/10.1111/camh.12112

[65] Lothes II, J. E., & Mochrie, K. (2017). The "what" and "hows" of mindfulness: Using DBT's mindfulness skills to reduce test anxiety. *Building Healthy Academic Communities Journal, 1*(2), 10-20. http://dx.doi.org/10.18061/bhac.v1i2.6029

[66] Lothes, I. J., Mochrie, K., Wilson, M., & Hakan, R. (2019). The effect of dbt-informed mindfulness skills (what and how skills) and mindfulness-based stress reduction practices on test anxiety in college students: A mixed design study. *Current Psychology*, 1-14. https://doi.org/10.1007/s12144-019-00207-y

[67] Fleming, A. P., McMahon, R. J., Moran, L. R., Peterson, A. P., & Dreessen, A. (2015). Pilot randomized controlled trial of dialectical behavior therapy group skills training for ADHD among college students. *Journal of Attention Disorders, 19*(3), 260-271. https://doi.org/10.1177/1087054714535951

[68] Rizvi, S. L., & Steffel, L. M. (2014). A pilot study of 2 brief forms of dialectical behavior therapy skills training for emotion dysregulation in college students. *Journal of American College Health, 62*(6), 434-439. https://doi.org/10.1080/07448481.2014.907298

[69] Engle, E., Gadischkie, S., Roy, N., & Nunziato, D. (2013). Dialectical behavior therapy for a college population: Applications at Sarah Lawrence College and beyond. *Journal of College Student Psychotherapy, 27*(1), 11-30. https://doi.org/10.1080/87568225.2013.739014

[70] Muhomba, M., Chugani, C. D., Uliaszek, A. A., & Kannan, D. (2017). Distress tolerance skills for college students: A pilot investigation of a brief DBT group skills training program. *Journal of College Student Psychotherapy, 31*(3), 247-256. https://doi.org/10.1080/87568225.2017.1294469

[71] Panepinto, A. R., Uschold, C. C., Olandese, M., & Linn, B. K. (2015). Beyond borderline personality disorder: Dialectical behavior therapy in a college counseling center. *Journal of College Student Psychotherapy, 29*(3), 211-226. https://doi.org/10.1080/87568225.2015.1045782

[72] Lee, S., & Mason, M. (2019). Effectiveness of brief DBT-informed group therapy on psychological resilience: A preliminary naturalistic study. *Journal of College Student Psychotherapy, 33*(1), 25-37. https://doi.org/10.1080/87568225.2018.1425646

[73] Uliaszek, A. A., Hamdullahpur, K., Chugani, C. D., & Tayyab, R. (2018). Mechanisms of change in group therapy for treatment-seeking university students. *Behaviour Research and Therapy, 109*, 10-17. https://doi.org/10.1016/j.brat.2018.07.006

[74] Uliaszek, A. A., Rashid, T., Williams, G. E., & Gulamani, T. (2016). Group therapy for university students: A randomized control trial of dialectical behavior therapy and positive psychotherapy. *Behaviour Research and Therapy, 77*, 78-85. https://doi.org/10.1016/j.brat.2015.12.003

[75] Pistorello, J., Fruzzetti, A. E., MacLane, C., Gallop, R., & Iverson, K. M. (2012). Dialectical behavior therapy (DBT) applied to college students: A randomized clinical trial. *Journal of Consulting and Clinical Psychology, 80*(6), 982. https://doi.org/10.1037/a0029096

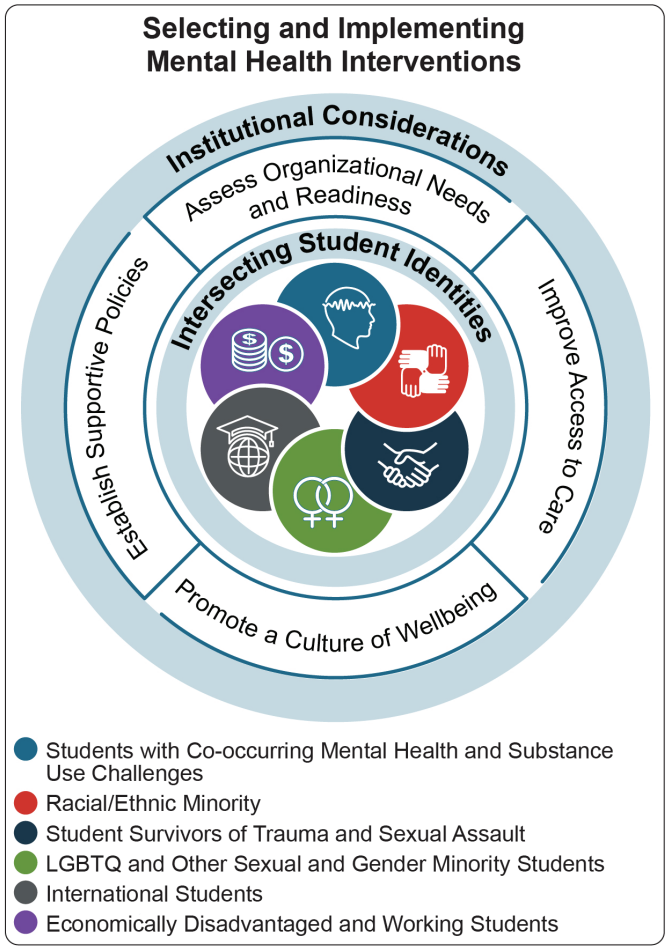
[76] Behavioral Tech. (n.d.). Prepare for DBT Certification. https://behavioraltech.org/training/ prepare-for-dbt-certification/

CHAPTER

3

# Guidance for Selecting and Implementing Practices

This chapter provides information for clinicians, counselors, program or college administrators, and other stakeholders interested in implementing an evidence-based intervention to address college students' mental health needs.




The chapter first discusses student-level considerations for practitioners to consider when developing strategies to engage and treat students. Understanding the potential challenges particular student groups have or may experience in their lives allows practitioners and administrators to select and implement the most appropriate practices to meet students' needs.

This chapter also identifies specific strategies colleges can employ at the institutional level to promote student well-being and mitigate implementation challenges.

## Considerations When Implementing Mental Health Services for Students

Each student seeking help at a counseling center and/or initiating treatment will present with a unique set of symptoms, experiences, and identities. However, certain groups may exhibit particular characteristics related to their mental health, including common stressors, factors influencing service utilization, and treatment preferences.[1] Special issues and considerations for diverse student populations are presented below, along with strategies for management or implementation of mental health treatment services.

While diversity topics are presented separately, it is important to note that they are intertwined and intersecting. Further, this is not an exhaustive list of diversity parameters or student identities. Finally, while making therapy decisions, practitioners should consider each student the expert on themselves and their identities.[2]

Campus counseling professionals should use a trauma-informed approach while working with students. This approach includes integrating principles of safety, trustworthiness, transparency, peer support, collaboration, mutuality, empowerment, language access, and cultural competency.[3] Practitioners may refer to the Substance Abuse and Mental Health Services Administration's (SAMHSA's) Treatment Improvement Protocol (TIP) on Trauma-Informed Care in Behavioral Health Services for more guidance on implementing a trauma-informed lens when delivering treatment services.

Additionally, colleges should consider using a trauma-informed design when creating the physical space for a counseling center. These designs create spaces that are welcoming and safe, while respecting privacy, identity, and dignity and promoting empowerment.[4]

## Students With Co-occurring Mental Health and/or Substance Use Concerns

### *Consideration:*

Students exhibiting common mental health symptoms, such as anxiety or depression, may also have or show symptoms of co-occurring conditions, such as eating disorders, substance use disorders (SUD), and/or serious mental illness (SMI).

### *Strategies:*

- Practitioners treating students with co-occurring conditions should consider the full range of services available on campus and work with the student to plan comprehensive treatment. They can provide students with wraparound care by coordinating across multiple entities (e.g., counseling centers, academic departments, housing, and residential life offices). Students with alcohol misuse and/or substance use disorders, for example, may benefit from campus-based 12-step programs, substance-free housing, or sober social events.[5] Practitioners can help students gain access to available services on campus.
- In addition to care on campus or through college treatment centers, practitioners might consider referring students with co-occurring disorders to off-campus providers. Off-campus treatment providers may offer advantages like more advanced training, familiarity with specific conditions, anonymity for the student, or more in-depth and/or diverse treatment options. These advantages must be balanced with the potential cost, insurance availability, and transportation barriers before making service decisions.

## Student Survivors of Trauma and Sexual Assault

### *Consideration:*

Students experiencing mental health challenges may also have experienced previous trauma, including sexual assault. Survivors may avoid treatment because of fear of stigma, concerns about confidentiality, or a desire to avoid traumatic memories.

### *Strategies:*

- Students who display symptoms of anxiety and depression may also have needs related to trauma. These students may need referral to and treatment from a specialist who is trained in treating young adults who have experienced trauma. Counseling centers should establish protocols and workflows to ensure practitioners screen each student for potential specialized services with partnering agencies on- or off-campus. It is best practice to establish memorandums of understanding (MOUs) and/or strong consultative relationships with area specialists in trauma to facilitate continuity of care and continued academic success.
- In addition to referrals to off-campus specialists, all college counseling clinical staff should be trained in appropriate interventions. College counseling centers should also consider supporting professional development and training opportunities for at least two onsite specialists.
- Practitioners and other stakeholders should carefully anticipate and avoid clinical procedures or unintended triggering events that might re-traumatize students. These could undermine trust and slow treatment progress. Campus awareness-raising and advocacy events should be vetted by counseling staff for triggers and/or appropriate trigger warnings.

## LGBTQ and Other Sexual and Gender Minority Students

### *Consideration:*

Students belonging to a sexual or gender minority may believe that available services will not support their sexual or gender identity and may avoid seeking help as a result.[6]

### *Strategies:*

- Practitioners should take steps to make services inclusive of all students, including sexual and gender minorities. For example, practitioners should address students using their preferred names and pronouns to affirm their identities (even if legal name and sex assigned at birth are required for administrative purposes).[1] The Association for Lesbian, Gay, Bisexual, and Transgender Issues in Counseling's (ALGBTIC) Competencies for Counseling LGBQIQA and Competencies for Counseling Transgender Clients present a number of steps practitioners can take to improve their counseling approach and produce a safe, supportive, and caring environment for individuals.
- Practitioners should take particular care to ensure confidentiality and assure students that their personal information, including sexual orientation and gender identity, will never be disclosed.[1]
- Practitioners should inquire about microaggressions when treating students to gain a clearer picture of their stressors. They should also examine their own potential microaggressions and seek education opportunities for themselves and other counseling staff to address these issues.[7] Practitioners should be well-versed in policies and procedures necessary to file bias complaints should a student report issues related to discrimination in the classroom. They should also be trained in offering supportive resources without forcing or coercing a student into reporting.

## Racial/Ethnic Minority Students

### *Consideration:*

Because of stigma, cultural mistrust, and lack of racial/ethnic representation in counseling centers, students who are Black, Indigenous, and people of color (BIPOC) may underutilize mental health services compared to their White peers.[8]

### *Strategies:*

- Colleges should consider diversifying staff who provide mental health services. The racial and ethnic composition of counseling center staff predicts the likelihood of help-seeking for some student populations. For example, the greater the percentage of African American therapists at a counseling center, the more African American students will seek help.[9] There should be organizational processes in place that allow students to select practitioners with shared identity, whenever available.
- Colleges and practitioners should provide culturally sensitive settings for students. This includes acknowledging minority students' experiences of racism and oppression,[10] encouraging students to become active in cultural groups and opportunities,[11] asking students whether they observe any religious or traditional customs that may be helpful in their treatment, and creating safe spaces for student discussion or race-related issues.[10] The Steve Fund and JED Foundation's Equity in Mental Health Framework provides guidance to colleges aiming to better support the mental health needs of minority students.
- When a practitioner identifies their own privileges and biases, both internally in their own clinical training and as appropriate to their clients, it can improve the therapeutic relationship and affirm their clients' identities and experiences.[2] Colleges should consider implementing staff trainings to develop skills, knowledge, and attitudes related to providing care for and understanding the challenges faced by students of color.

## International Students

### *Consideration:*

International students may experience challenges related to their cultural concepts of well-being and mental health.[12] Additionally, they are likely to be farther away from their support network of family and friends back home compared to their peers.

### *Strategies:*

- International students may not be aware of mental health support services available on campus, based on experiences in their home country. Focused outreach efforts to international students will help increase awareness of these services.
- Practitioners should consider referring students whose native language is not English and who are not fluent in English to an outside provider who speaks their language. International students may also prefer working with a provider of the same cultural background as themselves. Further, if these services are not available, they should arrange for a professional interpreter (not a family member) when there is a language barrier.

## Economically Disadvantaged and Working Students

### *Consideration:*

Students from lower socioeconomic backgrounds and working students may face challenges in seeking and receiving treatment while in college, such as concerns about paying for services and scheduling difficulties.[13]

### *Strategies:*

- Colleges should educate students on services that are already fully or partially covered by tuition and fees.
- Counseling centers should publicize their hours of operation and offer extended and/or flexible hours for treatment when possible.[14-15] Virtual services may also be useful for students with scheduling constraints.[1] Special efforts should be made to accommodate students who have urgent care needs.
- When relevant, practitioners may also provide or refer students to case management or other services to assist them with financial, housing, relational, or other issues.[14]

# Institutional Considerations for Implementing Mental Health Services

Implementing mental health practices on campus requires institutional support. There is tremendous variation across institutions of higher education, and each institution will face a unique set of challenges. Colleges need to explore ways in which they can adapt programs/strategies to meet their needs and constraints while still implementing the core components of the intervention.

Before a college implements a new intervention or service, it is important to consider a range of factors. Institutions must ensure that there is appropriate space, technology, training, support, and financial and human resources to implement and sustain new mental health services. The following section provides strategies colleges might consider using when establishing a new mental health program.

## Strategies to Assess Organizational Needs and Readiness

Prior to implementing new or expanding upon existing college mental health programs, institutions and counseling centers should conduct a needs assessment to explore the following factors:

- **Identifying available internal resources and local factors:** Colleges need to begin by identifying internal resources (e.g., staffing, technology, space) and local factors (e.g., geography, type of college, availability of transportation and services in the community for referrals) that could affect service delivery and/or be leveraged for implementation. They should use available data to determine whether counseling centers and other campus health services can sufficiently handle caseloads and to identify program gaps. Finally, colleges should assess the "readiness" of the institution to implement a new program successfully.[16]
- **Reviewing existing protocols:** Colleges should review existing protocols related to mental health services provision, such as those for crisis management, confidentiality, and medical leave, and determine if any revisions are needed for the new program(s) (e.g., additional cybersecurity protocols for implementation of an online cognitive behavioral therapy intervention).
- **Exploring financial implications:** Colleges should determine the costs of implementing and sustaining new mental health programs. Administrators should make decisions about whether current resources are sufficient or whether additional funds need to be raised, for example through increasing student health fees, charging fees for use of specific services,

reallocating funds from other campus priorities, or working with insurance companies to seek reimbursement.[1, 17] It is important to note that program investments may pay dividends in the future through improved academic performance, retention, and graduation rates.[18]

- **Considering characteristics of the student population:** Colleges would benefit from identifying the characteristics of student populations for whom new programs would be implemented, such as unique risk factors, cultures and identities, and barriers to care and making adaptations to facilitate program implementation. Practitioners should use a trauma-informed care approach for therapy with students. Whenever possible, students should be involved in making decisions about their own mental health support services.

Based on results of the needs assessment, institutional leaders should work with their student health teams, administrators, student representatives, and other stakeholders to create an implementation plan that includes the following:

1. Institutional priorities, staffing and/or technology needs, necessary changes to existing policies or systems, and training needs
2. Plans to address equity in delivery of the program
3. Quality improvement plans and expected short- and long-term outcomes with a strategy for measuring them
4. Logic model illustrating the required inputs, planned program activities, and how they will produce desired outcomes (W.K. Kellogg Foundation's logic model development guide can help teams create their logic models)

## Strategies to Improve Access to Care

When considering new interventions to support students' well-being, institutions should decide how students will access those interventions. Potential strategies to improve access include:

- **Integrating care where possible:** Integrated care (creating a unified healthcare model) enhances access to services, facilitates timeliness and follow-through on referrals, improves service quality, utilization, and efficiency, and, ultimately, improves student outcomes.[19-21] Schools can integrate care by:
  - *Promoting a "No Wrong Door" approach:* Colleges may have multiple campus organizations, such as the campus counseling center or the healthcare center, that provide mental health screening and counseling services. Regardless of where they enter the campus mental health system, students should be assured that they will receive thoughtful care and be directed to the most appropriate services.[22]
  - *Considering use of electronic medical records (EMRs) or electronic health records:* EMRs and EHRs improve coordination of services and facilitate communication between different providers on campus.
  - *Integrating off-campus providers:* At times, staff may lack the expertise or capacity to appropriately serve students, such as those with chronic mental health needs.[22] In such cases, it may be appropriate to integrate on-campus care with off-campus healthcare providers. Investing in case management and resource navigation staff can help students access appropriate services within an integrated care system.
- **Mitigating structural barriers to care:** Students may face barriers such as a lack of time, financial constraints, or transportation issues when seeking care.[1, 13] Strategies to mitigate these barriers include:
  - *Using technology to overcome scheduling or transportation barriers*: Providing online resources, virtual self-guided programs, or telehealth options can reduce these barriers and increase access to care for all students. The Higher Education Mental Health Alliance (HEMHA) developed a guide for implementing telemental services in college settings.
  - *Considering the academic calendar and planning accordingly:* School breaks may result in problems related to continuity of care. If possible, counseling centers should establish services during break periods for students remaining on campus and identify strategies for continuing care with students who will be away from campus. With the student's consent, counselors can work with parents to help students continue care

if going home. At a minimum, counseling centers should provide information on their websites about what to do when centers are closed. Practitioners may also be able to make use of the previously discussed strategies around integrating with off-campus providers and telehealth.

- *Educating students on available services and their costs:* Many campuses offer no or low-cost mental health treatment services on campus, but students are not always aware of the actual costs involved (or lack thereof).[23] Counseling and administrative staff should inform the students via center websites about services that are already covered by student health fees and/or insurance or are free.
- *Increasing staff:* Limited capacity to serve help-seeking students continues to be a significant barrier to care. Hiring additional counselors, clinicians, case managers, or other staff is a direct way to increase institutional capacity to meet students' help-seeking needs and can serve as a long-term investment in mental health service capacity.
- *Creating a behavioral intervention team (BIT) to detect risk factors in student behaviors:* Colleges should consider creating a BIT to collect data and collaborate in identifying and mitigating risk factors in student behaviors across the campus. Colleges should ensure that varied partners across the campus, beyond student health agencies, are invited to be a part of these teams.

## Strategies to Promote a Culture of Well-Being

Stigma continues to be a major barrier to students seeking help for mental health needs.[13, 24] Colleges should develop and maintain a culture of inclusivity and support to reduce stigma and normalize help-seeking. Potential strategies include:

- **Integrating the importance of health and well-being into all policies, practices, and discussions on campus across both administrative and academic operations:** Colleges can refer to existing guides, such as the Okanagan Charter and others listed at the end of this chapter to implement this strategy.
- **Increasing visibility about the importance of mental health by engaging department chairs, faculty, staff, mentors, and students in discussions of mental health issues:** Colleges may want to create a high-level task force of staff that typically have contact with students, such as resident advisors and academic counselors, or establish a "campus team" to improve coordination and communication across campus departments about mental health issues and potential crises.
- **Promoting active and supportive social relationships:** Colleges can develop smaller "living and learning communities" to foster social groups formed on academic majors or other interests, or otherwise encourage students to join or form campus organizations.[16] Mental health information should also be disseminated to parents to help them recognize stress in their children and foster strong familial relationships.
- **Promoting campus wide mental health:** Colleges can implement trainings and offer support to reduce stress and promote well-being across the campus. All staff interacting directly with students should also understand the role of campus counseling centers and when and how to refer students for care. They should help normalize help-seeking behaviors, promote the de-stigmatization of mental health treatment, and promote self-care and counseling as sustaining measures for well-being.
- **Educating campus community members:** Colleges can help staff, faculty, and students on campus identify and respond to mental health warning signs, both for themselves and others. This preventive measure can be implemented by providing periodic training on mental health issues and responding to individuals in distress. In a recent survey, most faculty members indicated that they feel responsible to help students dealing with mental health concerns and that they would appreciate receiving training on how to support them.[25]

## Legal Considerations

At the federal level, three main pieces of legislation are pertinent to colleges' delivery of mental health services:

**The Family Educational Rights and Privacy Act (FERPA):** FERPA is a federal law that protects students' educational records, including treatment records for care provided on campus at student health or counseling centers. Under FERPA, students' treatment records are only available to professionals providing treatment to the student or other professionals of the student's choice.

**The Health Insurance Portability and Accountability Act (HIPAA):** HIPAA is a federal law that creates national standards for the protection of personal health information. Typically, FERPA supersedes HIPAA for care provided on campus. However, HIPAA regulations will apply to information kept by community healthcare providers to whom students may be referred or who may provide integrated care.

**Title IX:** Title IX is a federal law protecting individuals in education programs/activities from discrimination based on sex and applies to any institution receiving federal funding from the U.S. Department of Education. With respect to student mental health services, Title IX has important implications when it comes to sexual assault disclosures. This legislation grants protections to those reporting sex discrimination, including sexual violence. It also obligates some employees to report incidents and trigger an investigation. Colleges should clearly explain the reporting obligations of all employees, and make sure students know where they can find confidential support services.

Colleges should always consult with their general counsel offices regarding their approach to the above legislation. In addition, colleges should be aware that state/local regulations may also apply and need to be considered.

## Policies to Support Students' Mental Health and Education

Poorly designed mental health policies, particularly those for medical leave, can create barriers to students seeking help.[26] Institutions can shape their campuses by establishing policies that support students' mental health decisions by:

- **Standardizing and implementing fair policies:** Colleges should develop transparent and standardized medical leave policies that are flexible, focused on student wellness, and developed with student participation. Additionally, the policies should be easy to access, no more rigorous or punitive than those for other medical absences, and explicit in terms of financial and academic consequences.[27]
- **Designing specific protocols:** Colleges should design crisis protocols specifically for acutely distressed or suicidal students, including risk assessments, safety plans, emergency contact notification procedures, and policies guiding involuntary and voluntary leave and/or hospitalization.
- **Establishing clear privacy guidelines:** If necessary, colleges should develop institutional release of information forms with off-campus providers to set up communication protocols and policies for sharing student health information.
- **Establishing and enforcing policies for co-occurring conditions:** Colleges should take measures to reduce alcohol and substance use, such as eliminating alcohol sponsorship of athletic events or other campus activities and alcohol advertising in college publications.[28] Colleges should also consider implementing medical amnesty policies (laws or acts protecting those who seek medical attention from liability as a result of illegal actions), as they address issues like underage drinking or possession of alcohol.

# Resources

Numerous resources are available to help health practitioners and administrators implement new mental health programs in a college setting.

## Overall Frameworks and Guides for Campus Health

- The Okanagan Charter provides colleges with a common language and set of principles to become a "health and well-being promoting campus."
- The Steve Fund and the JED Foundation's Equity in Mental Health Framework provides institutions with action-oriented recommendations and strategies to strengthen mental health supports for students of color.
- The JED Foundation's Comprehensive Approach to Mental Health Promotion and Suicide Prevention describes strategic areas that should be addressed in community efforts to support mental health and address substance misuse.
- The JED Foundation's Campus Mental Health Action Planning Guide provides readers with a set of principles and recommendations to guide development of a comprehensive plan for mental health promotion on campus.
- The American College Health Association's Trauma Informed Care on College Campus provides a framework for implementing the approach specifically on college campuses.

## Tools and Guidance for Implementation

### *Overall Implementation Guidance*

- HEMHA published College Counseling From a Distance: Deciding Whether and When to Engage in Telemental Health Services, a guide focusing on topics for campuses considering implementing telehealth options for students.
- HEMHA's Balancing Safety and Support on Campus guide summarizes literature on "campus teams" and helps colleges make decisions about how these teams should be structured, what they should be tasked with, and how they should operate.
- The JED Foundation's Framework for Institutional Protocols for Acutely Distressed or Suicidal College Students guides administrators seeking to develop or revise protocols for crisis management.
- Center for Collegiate Mental Health's (CCMH) Clinical Load Index provides a distribution of staffing levels that can be used to inform decisions about the resourcing of mental health services in colleges and universities.

### *Screening Tools*

- California Community College Mental Health Screening Tools and an article published by California Community Colleges' Health and Wellness Center provide an overview of screening tools that can be implemented on college campuses.

### *Treating Particular Populations*

- SAMHSA's TIP 57 on Trauma-Informed Care in Behavioral Health Services helps practitioners understand the impact of trauma and develop models of trauma-informed care to support recovery.
- SAMHSA's TIP 59 on Improving Cultural Competence helps practitioners understand the role of culture in service delivery and discusses racial, ethnic, and cultural considerations.
- The Council of National Psychological Associations for the Advancement of Ethnic Minority Interests published a brochure on Psychological Treatment of Ethnic Minority Populations containing guidance for practitioners working with minority patients.
- The Steve Fund's report provides strategies to promote mental health and emotional well-being of young people of color.
- ALGBTIC's Competencies for Counseling LGBQIQA and Competencies for Counseling Transgender Clients present steps practitioners can take to improve their counseling approach and produce a safe, supportive, and caring environment for sexual and gender minority individuals.

### *Implementation Tools*

- The American Foundation for Suicide Prevention's Interactive Screening Program is an online program for campuses that connects students to brief mental health screening and allows them to communicate with counselors and learn about available services.

- The Community Toolbox is a free online resource providing hundreds of training videos on topics related to building healthier communities.
- Campus leaders can use the Healthy Minds Return-on-Investment (ROI) tool to estimate the potential returns on new investments in student mental health.
- The W.K. Kellogg Foundation's logic model development guide helps teams create logic models for their programs.
- The Jed Foundation and the Clinton Foundation's Help a Friend in Need guide can help students identify signs of emotional distress in social media posts and content.
- The Association of College and University Educators' Creating a Culture of Caring provides practical approaches for college and university faculty to support student well-being and mental health.

### *Substance Use Prevention*

- The National Institute on Alcohol Abuse and Alcoholism's College AIM tool can help college leaders identify effective alcohol and drug misuse prevention strategies.
- The Drug Enforcement Administration's Strategic Planning Guide for Preventing Drug Misuse Among College Students provides colleges with a robust framework to implement drug misuse interventions.

## Background Literature

- SAMHSA's Behavioral Health Among College Students Information and Resource Kit discusses the prevalence and consequences of substance misuse among college students and provides readers with summaries of current knowledge, links, and directions that make it easier to locate prevention materials.
- The National Academies of Sciences, Engineering, and Medicine published Mental Health, Substance Use, and Well-Being in Higher Education, a consensus study report outlining a variety of possible approaches and recommendations to support delivery of mental health and substance use services and meet students' needs.
- The SAMHSA white paper Promoting Mental Health and Preventing Suicide in College and University Settings describes literature on suicide and suicide prevention on campuses and some prevention efforts.
- The American College Health Association developed a module for colleges to review FERPA and HIPAA legislation.
- The Bringing Theory to Practice's volume Well-Being and Higher Education: A Strategy for Change and the Realization of Education's Greater Purposes is a collection of essays exploring the connections between higher education and mental health and calling on institutions to take an active role in promoting well-being.

# Reference List


1 National Academies of Sciences, Engineering, and Medicine. (2021). *Mental Health, Substance Use, and Well-being in Higher Education: Supporting the Whole Student.* The National Academies Press. https://www.nap.edu/catalog/26015/mental-health-substance-use-and-wellbeing-in-higher-education-supporting

2 Ryu, D., & Thompson, A. (2018). Students of color. In L. W. Roberts (Ed.), *Student Mental Health: A Guide for Psychiatrists, Psychologists, and Leaders Serving in Higher Education* (pp. 399-403). American Psychiatric Publishing Association.

3 Substance Abuse and Mental Health Services Administration. (2014). *SAMHSA's concept of trauma and guidance for a trauma-informed approach*. HHS Publication No.(SMA) 14-4884. https://store.samhsa.gov/product/SAMHSA-s-Concept-of-Trauma-and-Guidance-for-a-Trauma-Informed-Approach/SMA14-4884

4 Farrell, J. & Weeks, R. (2019). *Trauma-Informed Spaces & Places* [Presentation]: Vermont Office of Economic Opportunity Conference. https://dcf.vermont.gov/sites/dcf/files/OEO/training/2019/Trauma-Informed.pdf

5 Perron, B. E., Grahovac, I. D., Uppal, J. S., Granillo, T. M., Shutter, J., & Porter, C. A. (2011). Supporting students in recovery on college campuses: Opportunities for student affairs professionals. *Journal of Student Affairs Research and Practice, 48*(1), 45-62. https://doi.org/10.2202/1949-6605.6226

6 Williams, K. A., & Chapman, M. V. (2011). Comparing health and mental health needs, service use, and barriers to services among sexual minority youths and their peers. *Health & social work, 36*(3), 197-206. https://doi.org/10.1093/hsw/36.3.197

7 Seelman, K. L., Woodford, M. R., & Nicolazzo, Z. (2017). Victimization and microaggressions targeting LGBTQ college students: Gender identity as a moderator of psychological distress. *Journal of Ethnic & Cultural Diversity in Social Work, 26*(1-2), 112-125. https://doi.org/10.1080/15313204.2016.1263816

8 Miranda, R., Soffer, A., Polanco-Roman, L., Wheeler, A., & Moore, A. (2015). Mental health treatment barriers among racial/ethnic minority versus white young adults 6 months after intake at a college counseling center. *Journal of American College Health, 63*(5), 291-298. https://doi.org/10.1080/07448481.2015.1015024

9 Hayes, J. A., Youn, S. J., Castonguay, L. G., Locke, B. D., McAleavey, A. A., & Nordberg, S. (2011). Rates and predictors of counseling center use among college students of color. *Journal of College Counseling, 14*(2), 105-116. https://doi.org/10.1002/j.2161-1882.2011.tb00266.x

10 Ingram, L., & Wallace, B. (2018). "It Creates Fear and Divides Us:" Minority College Students' Experiences of Stress from Racism, Coping Responses, and Recommendations for Colleges. *Journal of Health Disparities Research and Practice, 12*(1), 6. https://digitalscholarship.unlv.edu/jhdrp/vol12/iss1/6

11 Guiffrida, D., & Douthit, K. (2006). The African American student experience at predominantly White colleges: Implications for school and college counselors. *Journal of Counseling & Development, 88*(3), 311-318. http://hdl.handle.net/1802/3071

12 Hyun, J., Quinn, B., Madon, T., & Lustig, S. (2007). Mental health need, awareness, and use of counseling services among international graduate students. *Journal of American College Health, 56*(2), 109-118. https://doi.org/10.3200/JACH.56.2.109-118

13 Healthy Minds Network. (2020). The Healthy Minds Study Fall 2020 Data Report: Healthy Minds Network. https://healthymindsnetwork.org/wp-content/uploads/2021/02/HMS-Fall-2020-National-Data-Report.pdf

14 Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C., & Wilens, T. (2015). College students: Mental health problems and treatment considerations. *Academic Psychiatry, 39*(5), 503-511. https://doi.org/10.1007/s40596-014-0205-9

15 Wang, R. S., & J., S.V. (2018). First-generation college students. In L. W. Roberts (Ed.), *Student Mental Health: A Guide for Psychiatrists, Psychologists, and Leaders Serving in Higher Education*: American Psychiatric Publishing Association.

16 The Jed Foundation. (2011). A Guide to Campus Mental Health Action Planning *CampusMHAP*: The Jed Foundation. https://www.jedfoundation.org/campus-mental-health-action-planning-jed-guide-pdf/

[17] Wesley, A. (2019). Strategies for Addressing Mental Health Support on Campus. NASPA Policy and Practice Series. Issue No. 4. *NASPA-Student Affairs Administrators in Higher Education*. https://eric.ed.gov/?id=ED605772

[18] Ketchen Lipson, S., Abelson, S., Ceglarek, P., Phillips, M., & Eisenberg, D. (2019). *Investing in Student Mental Health: Opportunities & Benefits for College Leadership.* American Council on Education. https://www.acenet.edu/Documents/Investing-in-Student-Mental-Health.pdf

[19] Masters, K. S., Stillman, A. M., Browning, A. D., & Davis, J. W. (2005). Primary care psychology training on campus: Collaboration within a student health center. *Professional Psychology: Research and Practice, 36*(2), 144. https://doi.org/10.1037/0735-7028.36.2.144

[20] Tucker, C., Sloan, S. K., Vance, M., & Brownson, C. (2008). Integrated care in college health: A case study. *Journal of College Counseling, 11*(2), 173-183. https://doi.org/10.1002/j.2161-1882.2008.tb00033.x

[21] Westheimer, J. M., Steinley-Bumgarner, M., & Brownson, C. (2008). Primary care providers' perceptions of and experiences with an integrated healthcare model. *Journal of American College health, 57*(1), 101-108. https://doi.org/10.3200/JACH.57.1.101-108

[22] Mowbray, C. T., Mandiberg, J. M., Stein, C. H., Collins, K., Kopels, S., Curlin, C., & Lett, R. (2006). Campus mental health services: Recommendations for change. *American Journal of Orthopsychiatry, 76*(2), 226-237. https://doi.org/10.1037/0002-9432.76.2.226

[23] Eisenberg, D., Golberstein, E., & Gollust, S. E. (2007). Help-seeking and access to mental health care in a university student population. *Medical Care*, 594-601. https://doi.org/10.1097/MLR.0b013e31803bb4c1

[24] Salzer, M. S., Wick, L. C., & Rogers, J. A. (2008). Familiarity with and use of accommodations and supports among postsecondary students with mental illnesses. *Psychiatric Services, 59*(4), 370-375. https://doi.org/10.1176/ps.2008.59.4.370

[25] Lipson, S. K., Talaski, A., & Cesare, N. (2021). *The role of faculty in student mental health*. Boston University School of Public Health; Mary Christie Foundation; Hazelden Betty Ford Foundation; The Healthy Minds Network. https://marychristieinstitute.org/wp-content/uploads/2021/04/The-Role-of-Faculty-in-Student-Mental-Health.pdf

[26] Drum, D. J., Brownson, C., Burton Denmark, A., & Smith, S. E. (2009). New data on the nature of suicidal crises in college students: Shifting the paradigm. *Professional Psychology: Research and Practice, 40*(3), 213. https://doi.org/10.1037/a0014465

[27] Active Minds. (2017). Active Minds Position Statement: Recommendations for Leave of Absence and Return from Absence Policies for Mental Health Concerns at Higher Education Institutions [Press release]. https://www.activeminds.org/wp-content/uploads/2018/04/ActiveMinds_PositionStatement_LeaveofAbsence_May2017.pdf

[28] National Institute on Alcohol Abuse and Alcoholism. (2021). *CollegeAIM: Environmental-Level Strategies.* https://www.collegedrinkingprevention.gov/CollegeAIM/EnvironmentalStrategies/default.aspx

Photos are for illustrative purposes only.
Any person depicted in a photo is a model.

Publication No. PEP21-06-05-002

SAMHSA
Substance Abuse and Mental Health Services Administration

SAMHSA's mission is to reduce the impact of substance abuse and mental illness on America's communities.
1-877-SAMHSA -7 (1-877-726-4727) • 1-800-487-4889 (TDD) • www.samhsa.gov