



## Suicidal Tendency among College Students: A Comprehensive Review of Risk Factors, Psychological Impacts, and Preventive Strategies

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### Abstract

Suicide is a critical public health issue among college students, exacerbated by academic pressures, social challenges, and emotional distress. Key risk factors include depression, anxiety, financial stress, social isolation, and limited mental health resources, all of which negatively impact academic performance through declining grades and increased absenteeism.

Prevention strategies such as counseling services, peer support programs, and crisis helplines show promise but face barriers like stigma, accessibility issues, and institutional shortcomings. A multi-faceted approach—combining psychological support, community engagement, and policy reforms—is essential for effective prevention. Future research should prioritize culturally sensitive interventions, early detection, and the role of faculty and peers in mitigating risk. Strengthening institutional policies and promoting mental health awareness are crucial steps toward reducing suicide rates and enhancing student well-being.

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**Keywords:** suicide, college students, mental health, academic stress, prevention, risk factors

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## 1. Introduction

### 1.1 Background and Significance

Suicide among college students is a major public health concern worldwide, with alarming statistics highlighting its growing prevalence. According to the World Health Organization (WHO, 2022), suicide is the second leading cause of death among individuals aged 15–29, a demographic that includes a significant proportion of college students. Studies indicate that mental health disorders, academic stress, financial burdens, and social isolation contribute significantly to suicidal tendencies in students (Arnett, 2020). In the United States, data from the American College Health Association (ACHA, 2023) reveal that approximately 14% of college students report serious thoughts of suicide, with 2–3% having made a suicide attempt in the past year.

In India, the issue is particularly concerning, as student suicides have been rising at an alarming rate. The National Crime Records Bureau (NCRB, 2022) reported 13,089 student suicides in 2021 alone, marking a 4.5% increase from the previous year and a significant rise over the past decade. The pressures of academic competition, parental expectations, and limited access to mental health resources contribute to this crisis (Kumar & Tiwari, 2021). Research also suggests that societal stigma surrounding mental health prevents many students from seeking timely support (Patel *et al.*, 2020).

Given this growing crisis, universities and educational institutions have a critical role in suicide prevention. Implementing comprehensive mental health initiatives, such as counseling services, peer support programs, and faculty training, can significantly mitigate suicide risks among students (Gunnell *et al.*, 2020). However, addressing this issue requires an interdisciplinary approach that integrates psychology, public health, education, and policy reforms to ensure a holistic support system for students. Developing evidence-based interventions and fostering an environment where students feel safe to seek help are crucial steps toward suicide prevention in academic settings.

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## 1.2 Research Objectives

- To evaluate psychological, social, academic, and economic risk factors for suicidal tendencies in college populations.
- To determine the impact of suicidal ideation on academic outcomes and psychosocial functioning.
- To assess the effectiveness of current prevention strategies and institutional support systems.
- To identify critical research gaps to inform future intervention development.

## 1.3 Methodology of Review

This systematic review followed PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to synthesize literature on suicidal tendencies among college students. A comprehensive search was conducted across PubMed, PsycINFO, Scopus, and Google Scholar (2010–March 2024), using keywords such as suicide, college students, mental health, academic stress, and prevention. Manual searches of reference lists from key articles and policy documents (e.g., WHO, NCRB reports) supplemented the database results. Inclusion criteria prioritized peer-reviewed empirical studies (quantitative, qualitative, or mixed-methods) focusing on college populations (ages 18–29), while excluding non-student samples, editorials, and non-peer-reviewed works. Initial screening identified 1,248 records; after removing 312 duplicates and excluding 654 irrelevant studies via title/abstract review, 282 full-text articles were assessed for eligibility. Of these, 178 were excluded for not meeting inclusion criteria (e.g., lacking empirical data), yielding 104 studies (88 empirical, 16 policy/theoretical) for final synthesis. Data extraction captured sample characteristics, risk factors, interventions, and outcomes, categorized thematically into psychological/social determinants (Sections 2.2–2.6), theoretical frameworks (Section 2.7), and prevention strategies (Section 4). Study quality was evaluated using the Newcastle-Ottawa Scale for cohort studies and CASP checklists for qualitative research. To ensure transparency, a PRISMA flowchart (Figure 1) summarizes the selection process, and a supplementary table (Table 1) highlights key studies, including longitudinal (e.g., Mortier *et al.*, 2018) <sup>[36]</sup>, cross-sectional (e.g., Lipson *et al.*, 2019), and meta-analytic works (e.g., Ribeiro *et al.*, 2018).

## 2. Literature Review

### 2.1 Prevalence and Epidemiology

Suicide among college students is a growing global concern, with recent data highlighting alarming trends. According to the World Health Organization (WHO), suicide is the second leading cause of death among individuals aged 15–29 years worldwide, including college students (WHO, 2023). The prevalence of suicidal ideation among university students varies significantly across regions, with studies indicating rates between 10% and 30% in different countries (Mortier *et al.*, 2018; NIMH, 2022) <sup>[36]</sup>. A meta-analysis by Li *et al.* (2022) found that approximately 12.7% of university students globally reported past-year suicidal ideation. Demographic variations, including age and gender, significantly influence suicidal tendencies among students. Research suggests that female students report higher rates of suicidal ideation, while male students have a higher likelihood of attempting suicide (Liu *et al.*, 2023). Additionally, first-year students and those experiencing academic stress, financial burdens, or social

isolation are particularly vulnerable (Eisenberg *et al.*, 2019). In India, suicide rates among young adults have been increasing, with the National Crime Records Bureau (NCRB) reporting that student suicides rose from 10,159 in 2019 to 13,089 in 2021, marking a 28% increase (NCRB, 2022). The high-pressure academic environment, competitive exams, and mental health stigma contribute significantly to suicidal behaviors among Indian students (Kumar & Bhardwaj, 2021). A survey conducted in India found that approximately 15.8% of college students experienced suicidal ideation in the past year (Gupta *et al.*, 2020). The rising suicide rates among students underscore the urgency of targeted prevention efforts, mental health support systems, and institutional interventions to mitigate these risks.

### 2.2 Psychological risk factors

Suicidal tendencies in college students are strongly linked to mood disorders (depression, anxiety, bipolar disorder), cognitive distortions, impulsivity, and personality disorders. Major depressive disorder (MDD) is particularly significant, present in 60% of suicide cases (WHO, 2019), while anxiety disorders and bipolar disorder contribute through stress sensitivity and mood instability (Gonzalez *et al.*, 2020; Malhi *et al.*, 2019). Cognitive distortions, such as hopelessness and catastrophizing, exacerbate vulnerability during academic or social stress (Beck *et al.*, 2021; Liu *et al.*, 2020). Impulsivity and emotional dysregulation further increase risk, especially in students with self-harm tendencies (Anestis *et al.*, 2018; Klonsky *et al.*, 2019). Among personality disorders, borderline personality disorder (BPD) carries the highest suicide risk (10% mortality) due to chronic emotional instability (APA, 2021; Crowell *et al.*, 2018). Targeted interventions addressing these factors are critical for prevention.

### 2.3 Academic and institutional pressures

Academic pressures—including high expectations, competitive environments, exam stress, and financial burdens—significantly elevate suicide risk among college students. Approximately 40% of students experience severe academic stress (Beiter *et al.*, 2015), with exam periods and financial insecurity (e.g., student debt) exacerbating distress (NCRB, 2021; Walsemann *et al.*, 2015). Institutional neglect compounds these issues, as only 20–30% of affected students seek help due to stigma and inadequate resources (Lipson *et al.*, 2019) <sup>[34]</sup>. Addressing these systemic factors through curriculum reforms, financial support, and expanded mental health services is critical for prevention.

### 2.4 Social and interpersonal influences

Social isolation, relationship conflicts, cyberbullying, and mental health stigma significantly increase suicide risk among college students. Students lacking strong social connections are twice as likely to experience suicidal ideation (WHO, 2021), with relationship breakups and family conflicts being key triggers (Liu *et al.*, 2019; Wang *et al.*, 2022). Cyberbullying and social media pressures further exacerbate distress through negative self-comparisons (Hinduja & Patchin, 2019; Twenge *et al.*, 2021) <sup>[43]</sup>. Stigma remains a critical barrier, with only 30% of distressed students seeking help (Eisenberg *et al.*, 2021) <sup>[14]</sup>. Universities must combat these factors through peer support programs, anti-stigma campaigns, and inclusive environments.

## 2.5 Substance use and maladaptive coping mechanisms

Substance abuse and self-harm significantly elevate suicide risk among college students. Binge drinking increases suicidal ideation fivefold (Arria *et al.*, 2019)<sup>[2]</sup>, while illicit drug use heightens impulsivity (Ashrafioun *et al.*, 2017). In India, 8% of student suicides involve substance use (NCRB, 2021). Self-harm triples suicide attempt risk (Klonsky *et al.*, 2020) and often co-occurs with substance abuse (Wilcox *et al.*, 2019). Peer environments further exacerbate these risks, with substance-using social circles increasing distress (Hefner & Eisenberg, 2020)<sup>[23]</sup>. Universities must implement targeted prevention programs and accessible counseling to address these interconnected risks.

## 2.6 Cultural and societal determinants

Cultural and socioeconomic factors significantly influence suicide risk among college students. Cross-national variations reveal elevated rates in high-pressure academic cultures (e.g., 20/100,000 in South Korea; Lee *et al.*, 2020) compared to communities with strong social support (Shah, 2019). In India, 13,000 student suicides in 2021 reflected cultural stigma and limited mental health access (NCRB, 2022; Banerjee *et al.*, 2023). Religious beliefs shape help-seeking behaviors, with conservative traditions often discouraging professional treatment (Koenig *et al.*, 2019; Verma *et al.*, 2022). Socioeconomic disparities double suicide risk for disadvantaged students (Reddy *et al.*, 2022), while gender norms lead to differential manifestations - women report more ideation but seek help, whereas men show higher completion rates (Canetto & Sakinofsky, 2019; Singh & Ghosh, 2022). These determinants necessitate culturally adapted interventions addressing religious, economic, and gender-specific barriers to care.

## 2.7 Theoretical frameworks in suicide research

The study of suicide has been grounded in various psychological and sociological theories that help explain the underlying causes and risk factors associated with suicidal behavior. Among the most influential theories are Joiner's Interpersonal Theory of Suicide (IPTS), Durkheim's Sociological Model, and Beck's Cognitive Model, each of which provides a unique perspective on suicidal ideation and attempts. These frameworks contribute to a deeper understanding of the mechanisms driving suicidal thoughts and behaviors, offering insights for prevention and intervention strategies.

### 2.7.1 Joiner's Interpersonal Theory of Suicide (IPTS)

Thomas Joiner's Interpersonal Theory of Suicide (IPTS) (2005) is a widely accepted model explaining why individuals attempt suicide, identifying two key psychological states: perceived burdensomeness, the belief that one is a burden to others and that their death holds more value than their life, and thwarted belongingness, a deep sense of loneliness or social disconnection leading to alienation. Joiner argues that lethal suicide attempts occur when individuals develop a capability for self-harm due to repeated exposure to pain, self-injury, or trauma (Joiner, 2005). Studies validate this model in student populations, showing that social isolation, academic failure, and lack of emotional support increase suicide risk (Van Orden *et al.*,

2010; Hill & Pettit, 2019). Ribeiro *et al.* (2018) found that students experiencing both perceived burdensomeness and thwarted belongingness face a significantly higher risk of suicide attempts, emphasizing the need for social support in academic settings. IPTS has been widely applied in suicide prevention programs, focusing on fostering community connections, encouraging help-seeking, and addressing negative self-perceptions (Czyz *et al.*, 2020)<sup>[11]</sup>.

### 2.7.2 Durkheim's Sociological Model of Suicide

Émile Durkheim's sociological theory of suicide (1897) remains fundamental in understanding suicide as a social phenomenon, emphasizing how social integration and regulation influence suicide rates. He identified four types: Egoistic Suicide, caused by low social integration, occurs when individuals feel isolated, as seen in students lacking peer support or family connection (Pescosolido & Georgianna, 2019). Altruistic Suicide results from excessive integration, where individuals believe their death benefits the community, observed in extreme academic pressure or honor-driven cultures (Stack, 2020). Anomic Suicide stems from societal instability or sudden change, affecting students facing academic burnout, unexpected failure, or career uncertainty (Wray *et al.*, 2016). Fatalistic Suicide arises from excessive regulation, where individuals feel trapped by strict academic or authoritarian family expectations (Thorlindsson & Bjarnason, 2021). Durkheim's model highlights social integration as a protective factor, with research showing that students engaged in extracurricular activities, faith groups, or community networks have lower suicidal tendencies (Pescosolido *et al.*, 2020). This theory underscores the need for institutional policies that foster social engagement and belonging to reduce suicidal ideation.

### 2.7.3 Beck's cognitive model of suicide

Beck's Cognitive Model explains suicidal ideation through negative thought patterns and cognitive distortions (Beck *et al.*, 1979). It posits that individuals with suicidal tendencies develop a negative cognitive triad, viewing themselves as worthless, the world as hostile, and the future as hopeless. These distorted beliefs lead to pessimism, self-criticism, and impaired problem-solving, increasing suicide risk (Beck *et al.*, 2020)<sup>[5]</sup>. Research shows that students experiencing academic failure, social rejection, or personal loss often develop automatic negative thoughts, reinforcing feelings of helplessness and despair (Holliday *et al.*, 2022). Additionally, cognitive rigidity—the inability to see alternative solutions—worsens suicidal ideation, as individuals feel trapped in their circumstances (Liu & Bettis, 2019). Studies indicate that cognitive restructuring techniques and therapeutic interventions help students challenge these negative perceptions, improving resilience and reducing suicide risk (Turner *et al.*, 2022). Beck's model highlights the importance of early cognitive interventions, such as counseling and mental health programs, in preventing suicidal tendencies among students.

### 2.7.4 Comparative analysis of theories

Each of these frameworks contributes unique insights into suicidal behaviors among students:

Table 1

Theory	Key Focus	Risk Factors Addressed	Prevention Strategies
Joiner's IPTS	Psychological & interpersonal factors	Social isolation, perceived burdensomeness, and habituation to self-harm	Strengthening social connections, reducing self-perceived burdensomeness
Durkheim's Sociological Model	Social integration and regulation	Lack of social ties, excessive academic pressure, rapid life changes	Promoting community engagement, reducing academic stress
Beck's Cognitive Model	Thought patterns & hopelessness	Negative self-perception, cognitive rigidity, depressive thinking	Cognitive restructuring, therapy-based interventions (CBT)

While IPTS focuses on interpersonal perceptions, Durkheim's model highlights societal influences, and Beck's framework emphasizes cognitive distortions. An integrated approach incorporating social, psychological, and cognitive interventions is necessary for effective suicide prevention among students.

Theoretical models such as Joiner's IPTS, Durkheim's Sociological Model, and Beck's Cognitive Theory provide essential frameworks for understanding suicidal behaviors among students. While IPTS emphasizes perceived burdensomeness and social disconnection, Durkheim's theory highlights the role of social integration, and Beck's model underscores cognitive distortions and hopelessness. Combining insights from these theories can enhance suicide prevention efforts, guiding interventions that target social support, cognitive restructuring, and institutional engagement.

### 3. Psychological and emotional consequences of suicidal tendencies

#### 3.1 Impact on cognitive functioning

Suicidal tendencies impair cognitive functioning, affecting attention, memory, decision-making, and academic engagement. Students struggle with mental fatigue, cognitive distortions, and impaired executive function, disrupting daily tasks. Attention deficits hinder learning, as suicidal students exhibit lower focus and increased distractibility (Smith *et al.*, 2020). Neurobiological research links these difficulties to prefrontal cortex and limbic system dysregulation (Williams *et al.*, 2019). Memory impairments, linked to hippocampal dysfunction, exacerbate academic struggles (Miller *et al.*, 2020). Suicidal ideation impairs decision-making, increasing impulsivity and maladaptive choices due to ventromedial prefrontal cortex deficits (Dombrovski *et al.*, 2021; Klonsky *et al.*, 2022). A decline in academic motivation leads to procrastination and disengagement (Garlow *et al.*, 2020). Suicidal students are 2.5 times more likely to drop out (Eisenberg *et al.*, 2021) <sup>[14]</sup>. Depressive symptoms worsen concentration and energy, hindering assignments (Turner *et al.*, 2022). Beck's Cognitive Model (Beck *et al.*, 2020) <sup>[5]</sup> suggests suicidal students perceive efforts as futile. Low persistence and bleak future outlook reduce aspirations (Liu & Bettis, 2019). These challenges increase dropout risk, requiring early interventions, academic accommodations, and counseling (Holliday *et al.*, 2022).

#### 3.2 Effects on academic performance

Suicidal tendencies severely impact academic performance, causing poor attendance, declining grades, disengagement, and dropout. Psychological distress impairs concentration, memory, and motivation, hindering academic responsibilities (Eisenberg *et al.*, 2021) <sup>[14]</sup>. Students with suicidal ideation frequently miss classes, leading to poor outcomes (Mortier *et al.*, 2018) <sup>[36]</sup>. Severe mental distress increases the likelihood

of failing grades by 25-30% (Lipson *et al.*, 2019). Low energy, emotional distress, and hopelessness further reduce GPA (Arria *et al.*, 2021) <sup>[2]</sup>. Suicidal thoughts double the risk of college dropout (Bruffaerts *et al.*, 2019) <sup>[6]</sup>. Disengagement manifests in missed assignments, withdrawn participation, and academic pressure (Garlow *et al.*, 2020; Eisenberg *et al.*, 2021). Mental health concerns contribute to over 20% of student dropouts (Kumar & Sarin, 2022). Cognitive impairments hinder focus, problem-solving, and executive function (Thompson & Richardson, 2021; Smith *et al.*, 2020). Chronic stress and sleep disturbances worsen academic productivity (Liu & Bettis, 2019). Addressing these issues through mental health support, academic accommodations, and counseling is essential for student success.

#### 3.3 Long-term psychological consequences

Suicidal tendencies in college students lead to chronic mental health disorders, increased suicide risk, and social withdrawal. Without intervention, these effects persist into adulthood, worsening emotional and academic challenges. Individuals with suicidal ideation are at higher risk of major depressive disorder (MDD), generalized anxiety disorder (GAD), and post-traumatic stress disorder (PTSD) (Franklin *et al.*, 2017). Studies show that untreated ideation leads to recurrent depression, mood disorders, and dysregulated stress responses (Kessler *et al.*, 2019; Turecki & Brent, 2016). Suicide attempts often result in chronic hopelessness, low self-esteem, and maladaptive coping (Ribeiro *et al.*, 2018). A history of suicidal ideation strongly predicts repeated self-harm and future attempts, with unresolved tendencies reinforcing learned helplessness (Large *et al.*, 2018; Bryan *et al.*, 2019) <sup>[7]</sup>. Research indicates that past suicide attempts increase future risk by 50% (Nock *et al.*, 2020). Social withdrawal further exacerbates these challenges, causing isolation, academic disengagement, and professional struggles (Van Orden *et al.*, 2020; King *et al.*, 2019) <sup>[32]</sup>. Stigma and shame prevent individuals from seeking help, leading to long-term impairments in relationships and employment (Hom *et al.*, 2017; Chu *et al.*, 2021). Addressing these risks requires early intervention, peer support, and sustained mental health services to promote student well-being.

### 4. Preventive strategies and interventions

#### 4.1 Role of university or college counseling services

University and college counseling centers play a crucial role in suicide prevention by offering mental health support, crisis intervention, and preventive strategies for at-risk students. With the rising prevalence of suicidal ideation, institutions must strengthen their resources to ensure early identification and intervention. Counseling centers provide individual and group therapy, psychoeducation, and campus-wide prevention initiatives, significantly reducing suicide risk (Xiao *et al.*, 2017). Research shows that students utilizing

these services experience lower rates of suicidal ideation and self-harm (Eisenberg *et al.*, 2021). Additionally, mental health counseling fosters openness, reduces stigma, and enhances crisis response through faculty and staff training (Bruffaerts *et al.*, 2018). Evidence-based therapies like Cognitive Behavioral Therapy (CBT) and Dialectical Behavior Therapy (DBT) help students develop coping mechanisms, with studies showing a 40% reduction in suicidal thoughts among those receiving CBT-based interventions (Brown *et al.*, 2018). Group therapy and peer support initiatives further mitigate isolation (Wilcox *et al.*, 2020). Universities implementing telehealth services have improved accessibility, addressing barriers linked to stigma (Gorczynski *et al.*, 2021) <sup>[20]</sup>. Integrating structured suicide prevention programs such as Gatekeeper Training, crisis helplines, and awareness campaigns strengthens intervention efforts (Tompkins & Witt, 2019). Institutions that incorporate mental health screenings, resilience-building workshops, and 24/7 crisis intervention teams report improved prevention outcomes (Czyz *et al.*, 2021). Strengthening these services with a focus on accessibility, affordability, and stigma reduction is essential to fostering a mentally healthy academic environment.

#### 4.2 Cognitive-behavioral and mindfulness-based interventions

Cognitive-Behavioral Therapy (CBT), Dialectical Behavior Therapy (DBT), and Mindfulness-Based Stress Reduction (MBSR) are effective interventions for reducing suicidal ideation in college students by addressing maladaptive thought patterns, emotional dysregulation, and ineffective coping mechanisms (Franklin *et al.*, 2017; Hofmann *et al.*, 2022) <sup>[17, 26]</sup>. CBT restructures negative cognitive biases, enhancing resilience and problem-solving skills, with studies showing a 42% reduction in suicidal ideation (Hetrick *et al.*, 2022) <sup>[25]</sup>. Universities implementing CBT workshops report declines in psychological distress (Jobes *et al.*, 2019). DBT, adapted for at-risk students, focuses on mindfulness, distress tolerance, emotion regulation, and interpersonal effectiveness, reducing suicide attempts by 50% (McMain *et al.*, 2020). A 12-week DBT program has been shown to lower self-harm behaviors and suicidal ideation (Mehlum *et al.*, 2019). MBSR techniques like meditation and deep breathing reduce rumination and stress-related suicidal thoughts by 35% (Farb *et al.*, 2020) <sup>[16]</sup>, with mindfulness programs improving student well-being (Schuman-Olivier *et al.*, 2020). Universities should integrate these evidence-based therapies into mental health programs to enhance emotional well-being, academic success, and suicide prevention.

#### 4.3 Importance of peer support and community engagement

Peer support and community engagement are crucial in university suicide prevention, as students often seek help from peers before professionals (Czyz *et al.*, 2018) <sup>[11]</sup>. Student organizations promote mental health awareness, offer peer support, and facilitate early intervention through mentoring programs and initiatives like "Active Minds" and "The Jed Foundation" (Hunt & Eisenberg, 2019) <sup>[14]</sup>. Trained student ambassadors identify at-risk peers and guide them toward professional resources (Condon & Curtin, 2020) <sup>[10]</sup>. Campus-wide awareness campaigns, including World Suicide Prevention Day and "Question, Persuade, and Refer" (QPR) training, reduce stigma and promote early intervention

(Cimini *et al.*, 2021). Social media and storytelling initiatives further engage students (Naslund *et al.*, 2020). Open discussions, student-led forums, and safe-space programs like "Talk to a Friend" foster emotional resilience and social connectedness (Jorm *et al.*, 2018) <sup>[30]</sup>. Additionally, universities must implement Psychological First Aid (PFA) training for students to equip them with crisis response skills, ensuring early peer intervention and emotional support. A collaborative approach between students, faculty, and mental health professionals creates an inclusive, supportive environment, reducing social isolation and suicidal ideation (Burns & Rapee, 2022).

#### 4.4 Technological innovations in suicide prevention

Technological advancements have revolutionized suicide prevention, making mental health support more accessible and proactive. Mobile apps like Woebot and Sanvello use AI-driven cognitive behavioral therapy (CBT) to help students manage stress and anxiety, while AI-powered chatbots provide 24/7 crisis intervention and predictive models identify at-risk individuals (Firth *et al.*, 2021; Morales *et al.*, 2020). Online support communities, such as 7 Cups and TalkLife, offer peer support, reducing isolation, while teletherapy services like BetterHelp and Talkspace provide accessible professional counseling (Lattie *et al.*, 2019; Wind *et al.*, 2020) <sup>[33, 44]</sup>. Social media monitoring, through AI algorithms and partnerships like Facebook's Crisis Text Line, detects suicidal language and alerts crisis helplines (Schroeder & Gresenz, 2021). Despite privacy concerns, these innovations complement traditional counseling, ensuring immediate, personalized, and scalable mental health support. Future research should enhance data security, ethical AI use, and engagement strategies to maximize digital interventions' impact on student suicide prevention.

#### 4.5 Institutional policy recommendations

Universities play a crucial role in suicide prevention by implementing comprehensive policies and interventions that address students' mental health needs. A multi-pronged institutional approach, including suicide prevention training for faculty and staff, mandatory mental health screenings, crisis intervention teams, and academic policy reforms, enhances early detection, reduces stressors, and fosters a supportive educational environment (Mortier *et al.*, 2018). Faculty and staff serve as first-line responders, and suicide prevention training equips them with skills to recognize warning signs and intervene appropriately (Lipson *et al.*, 2019) <sup>[36]</sup>. Gatekeeper training programs like Question, Persuade, Refer (QPR) and Mental Health First Aid (MHFA) increase awareness, reduce stigma, and improve faculty confidence in addressing mental health concerns (Gorczynski *et al.*, 2021) <sup>[20]</sup>. Implementing mandatory faculty training on risk factors, referral procedures, compassionate communication, and crisis de-escalation ensures timely intervention (Arria *et al.*, 2020; Tomasello *et al.*, 2022) <sup>[2, 42]</sup>. Routine mental health screenings during orientation and periodically throughout the academic year are crucial for early identification of at-risk students (Eisenberg *et al.*, 2021). Online screening tools like the Patient Health Questionnaire (PHQ-9) and Generalized Anxiety Disorder Scale (GAD-7) help identify students needing intervention, with university health services providing immediate follow-up care (Keyes *et al.*, 2019; Nyer *et al.*, 2013) <sup>[37]</sup>. These screenings should be paired with outreach initiatives to

normalize help-seeking behaviors. Dedicated crisis intervention teams (CITs) composed of mental health professionals, trained faculty, and campus security can provide immediate support in suicide-related emergencies, while widely promoted 24/7 suicide hotlines ensure students know where to seek help (Swanbrow Becker *et al.*, 2018; Drum *et al.*, 2017; Stanley *et al.*, 2021) <sup>[41, 13, 40]</sup>. Integration with national crisis helplines further enhances support access (Robinson *et al.*, 2018) <sup>[38]</sup>. Additionally, reducing academic pressures through flexible grading policies, pass/fail options, grade forgiveness, alternative testing formats, extended deadlines, and mental health leave provisions can significantly alleviate stress (Dimitrov & Owens, 2019; Chan *et al.*, 2020; Morris *et al.*, 2021) <sup>[12, 8, 35]</sup>. Academic workload monitoring systems can identify students at risk of burnout and provide timely support (Galante *et al.*, 2018) <sup>[18]</sup>. A holistic, proactive approach, incorporating these policies and continuously adapting them based on student needs, emerging research, and professional feedback, ensures universities effectively prevent suicides and create a culture of care, resilience, and support.

## 5. Future research directions and policy implications

### 5.1 Need for longitudinal studies on suicide risk in college students

Longitudinal studies are essential for understanding the evolving suicide risk among college students, as most research is cross-sectional and lacks long-term insights. Tracking mental health trends over time helps distinguish temporary distress from persistent challenges and assess campus policies' effectiveness (Mortier *et al.*, 2018; Bruffaerts *et al.*, 2019) <sup>[36, 6]</sup>. Continuous monitoring enables universities to implement proactive, data-driven interventions (Eisenberg *et al.*, 2021) <sup>[14]</sup>. Additionally, assessing early interventions' long-term effects is crucial, as limited research examines their lasting impact on suicidal tendencies (King *et al.*, 2020) <sup>[32]</sup>. These studies can reveal how mental health challenges influence academic and career outcomes and whether students maintain well-being post-graduation (Zivin *et al.*, 2019; Kessler *et al.*, 2022). Future research should refine predictive models, enhance interventions, and ensure sustainable mental health support beyond university life.

### 5.2 Bridging the gap between research and policy

Bridging the gap between suicide research and policy is essential for improving student mental health. Despite extensive research on suicide prevention, many universities struggle to implement evidence-based interventions due to limited resources and policy support. Collaborative efforts between researchers, educators, and policymakers can help translate empirical findings into practical strategies, such as standardized mental health screenings, interdisciplinary prevention programs, and university-wide mental health education (Eisenberg *et al.*, 2021; Mortier *et al.*, 2018) <sup>[36]</sup>. Increased government funding for counseling centers, digital mental health platforms, and faculty training is crucial to ensuring accessible support for all students (Kessler *et al.*, 2022; Bruffaerts *et al.*, 2019) <sup>[6]</sup>. By prioritizing research-driven policies and sustainable funding, universities can move from crisis management to proactive mental health care, ensuring that no student struggling with suicidal thoughts is left without support.

### 5.3 Enhancing cultural and contextual sensitivity in suicide prevention programs

Culturally sensitive suicide prevention programs are crucial for addressing the diverse mental health needs of college students. Since many interventions are based on Western models, universities must tailor strategies to reflect cultural beliefs, stigma, religious influences, and social norms (Chu *et al.*, 2022; Moksony & Hegedűs, 2020). This includes integrating faith-based and indigenous approaches, multilingual counseling, and family-based interventions in collectivist cultures (Abdullah & Brown, 2021; Han & Pong, 2023) <sup>[22]</sup>. Additionally, research must expand beyond Western settings to include marginalized groups such as LGBTQ+, indigenous, refugee, and disabled students, ensuring inclusive policies and interventions (Kumar & Cavallaro, 2020; Díaz & Rojas, 2021). Participatory research and alternative therapy models like Narrative Therapy and ACT can enhance accessibility and effectiveness (Wong *et al.*, 2022; Gopalkrishnan, 2022). By prioritizing cultural competence in suicide prevention, universities can create inclusive, accessible, and impactful mental health support systems.

### 5.4 Investigating the impact of online learning on student mental health

The shift to online learning, especially during COVID-19, has increased stress, anxiety, and social isolation among students (Cao *et al.*, 2020). Digital fatigue, lack of structure, and reduced motivation heighten academic stress, while technical issues disproportionately affect low-income students (Chandratre, 2020; Fawaz & Samaha, 2021). Limited peer interaction leads to loneliness, depression, and a weaker sense of belonging (Aristovnik *et al.*, 2020; Tasso *et al.*, 2021). Cyberbullying adds to psychological distress (Barlett *et al.*, 2021). To address these challenges, universities should offer virtual mental health support, encourage peer engagement, and promote digital well-being (Liu *et al.*, 2021). Flexible policies, such as mental health leave and deadline extensions, can also reduce stress (Gonzalez-Ramirez *et al.*, 2021). Further research is needed to assess online learning's long-term mental health effects.

### 6. Limitations of this study

This review provides a comprehensive synthesis of suicidal tendencies among college students but has limitations. Excluding non-English literature and relying on Western-dominated databases (e.g., PsycINFO, PubMed) may introduce cultural biases, especially for low- and middle-income countries. The predominance of cross-sectional studies (67%) limits causal inferences, as longitudinal data are scarce. Methodological heterogeneity (e.g., varying definitions, assessment tools) complicates comparisons. The focus on institutional interventions may overlook macro-level factors (e.g., national policies, economic crises). While theoretical models (Joiner, Durkheim, Beck) were analyzed, their relevance to non-Western contexts needs further validation. These limitations highlight the need for standardized, longitudinal, and culturally diverse research.

### 7. Conclusion

Suicide among college students is a critical public health concern driven by psychological, academic, social, and institutional factors. This review highlights key contributors such as depression, anxiety, academic pressure, social

isolation, and substance abuse while emphasizing the role of institutional policies and support services in prevention. Addressing this issue requires a holistic approach integrating clinical interventions, university mental health programs, and culturally sensitive strategies. Universities must enhance counseling services, reduce stigma, strengthen peer support, and adopt flexible academic policies. Collaboration among institutions, policymakers, and mental health professionals is essential to developing effective, evidence-based interventions. Prioritizing mental well-being, fostering resilience, and encouraging help-seeking behaviors are crucial to reducing student suicide rates and ensuring a supportive academic environment.

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