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ORIGINAL ARTICLE

Help-Seeking and Disclosure in University Students with Suicidal Thoughts and Self-Harm: A Systematic Review

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Abstract

Suicide is a serious problem among university students. As suicidal thoughts and self-harm are predictive of completed suicide, students experiencing these problems would benefit from seeking support. This systematic review synthesised research on help-seeking in university students with suicidal thoughts and self-harm, including rates, sources, and associated factors. Searches were conducted in Medline, PsychINFO, and ERIC (inception to 10/11/2023) and grey literature databases PsycEXTRA and BASE (inception to 23/12/2023) for population-based epidemiological or qualitative studies. Findings were narratively synthesised. Twenty-two studies using 16 unique datasets were included. Most studies were US-based. Over half of the students with suicidal thoughts and self-harm did not seek or receive help for their mental health while at university, with lower rates in men and ethnic minority groups. Demographic, social and service-use influencing factors were identified. The low rates of help-seeking identified in this at-risk group highlight the need for research into interventions to improve help-seeking as part of suicide prevention efforts.

Keywords Suicide · Help-seeking · Students · University · Disclosure

Suicide is the fourth leading cause of death in young people aged 15–29 years (World Health Organization, 2021b). With increasing numbers of young people attending university (OECD, 2020), suicide is a significant public health issue (Schwartz, 2006; Universities UK & Papyrus, 2018). Despite comparatively lower numbers of students completing suicides than in the general population (Office for National Statistics, 2021; Schwartz, 2006), estimates suggest that approximately 10% of university students consider suicide every year, 3%

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make suicidal plans, and 1.2% attempt suicide (Mortier et al., 2018). Suicide attempts can be challenging to predict. Known risk factors include previous suicidal thoughts and behaviours (STB) and any self-harm (Hooley et al., 2020; Ribeiro et al., 2016), including acts intended to result in death (i.e., suicidal behaviour), those without suicidal intent (i.e., non-suicidal self-injury; NSSI), and those with mixed or unclear motivation (Hawton et al., 2016). The World Health Organisation (WHO) considers providing people at risk of suicide with the support they need to be a key intervention for suicide prevention (World Health Organization, 2021a). In practice, treatment and safety planning will vary for at-risk individuals, with coexisting mental health problems being one potential focus for intervention (National Collaborating Centre for Mental Health, 2004, 2012; NICE, 2022). There is also some evidence of the efficacy of interventions specifically focused on reducing self-harm for the general population (Hawton et al., 2016; Witt et al., 2021) although for students this is lacking (Barnett et al., 2021b).

Young people may be more likely to seek help from social networks such as peers (Michelmore & Hindley, 2012; Rowe et al., 2014; Simone & Hamza, 2020). This may have beneficial impacts through increased emotional support and encouragement to seek professional help (Simone & Hamza, 2020), however peers may be poorly equipped to provide helpful responses (McGillivray et al., 2022; Walsh et al., 2013), and access to appropriate professional support should be a priority (World Health Organization, 2021a). Stigma can also be particularly influential in preventing disclosure of STB or self-harm to social networks compared to other mental health problems (Simone & Hamza, 2020; Tickell et al., 2024). A large proportion of young people experiencing suicidal thoughts and behaviours or self-harm do not seek help from professional sources (National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (NCISH), 2017; Rowe et al., 2014), however university students are a unique population; they are older than adolescents, face different academic, financial, and social stressors (Campbell et al., 2022), with access to different types of social and professional networks and mental health services, which have been reported to be particularly difficult to navigate (Barnett et al., 2021a, Priestley et al., 2022; Tickell et al., 2024). Although these factors may impact uniquely on help-seeking, there is little available consensus on rates of help-seeking in this population specifically.

This systematic review aimed to address this gap by synthesising research on rates and sources of, and factors associated with, help-seeking and disclosure for STB or self-injury experienced while attending university. The results could influence future services and university-based interventions to promote help-seeking, to enhance prevention, early detection, and access to effective treatment.

Method

This systematic review was conducted in line with PRISMA and Synthesis Without Meta-Analysis (SWIM) guidelines (Page et al., 2021; Campbell et al. 2020). The review followed a prospectively registered protocol on PROSPERO (CRD42022301208) except for the following deviations:

1. Searches were conducted up to November 2023. An original search was conducted as part of a doctoral thesis (Tickell, 2022) in November 2021, however searches of all years were re-run and screened for the present review.

2. Citation and grey literature searches were conducted. We did not seek to exclude studies which were not published in peer reviewed journals.
3. All full text screening, data extraction and quality appraisal was double screened by blind reviewers.

Search Strategy

The search strategy used a combination of keyword and subject heading searches across Medline (OVID), PsycINFO (OVID), and ERIC (EBSCO) from inception to 10/11/2023. The search terms covered university students, STB, and help-seeking behaviour. Full search strategies are provided in Appendix 1. The search strategy was accompanied by a forward and backward citation search of all included studies, and searches of two grey literature databases (BASE and PsycINFO on 23/12/2023 (See Appendix 1)).

Inclusion Criteria

We included studies meeting the following criteria:

Participants

University students (including undergraduate and postgraduate students), of any age, who had experienced suicidal thoughts or had self-harmed on at least one occasion.

We considered self-harm to include all acts of self-poisoning (e.g., overdoses) or self-injury (e.g., self-cutting), irrespective of degree of suicidal intent. Thus, it includes acts intended to result in death (also known as 'suicidal behaviours' or 'attempted suicide'), those without suicidal intent (e.g., to communicate distress, to temporarily reduce unpleasant feelings), and those with mixed or unclear motivation.

Exclusion We excluded studies of people not studying at university, or university students who had not self-harmed or had STB. Studies using only clinical or help-seeking samples were not included, as these samples would be biased towards help-seeking, over-estimating help-seeking.

Exposure

Seeking help or support, or disclosing STB or self-harm while at university was the exposure of focus. We included disclosure and help-seeking from both professional services (health, mental health, education, social care, voluntary sector services) and social networks.

Exclusion We excluded studies examining only help-seeking intentions, attitudes, or styles, or help-seeking on behalf of others. We also excluded studies examining reactions

to disclosure by others, and help-seeking or disclosure which was not specifically while at university.

Outcomes

We included studies reporting on the number of students reporting seeking help or disclosure for STB or NSSI while at university, the sources of this help or disclosure, and any factors associated with help-seeking.

We separated information relating to disclosure to informal sources of support (e.g. friends and family) and access to formal mental health support (e.g. professionals who have a recognised role and training in providing help) which have been reported to differ substantially in research looking at younger student populations (Geulayov et al., 2022). It is also acknowledged that although an individual may seek help, they may not always receive or continue to engage with support. However, due to insufficient information in studies to determine level of engagement after initial service contact, we included any studies examining disclosure, seeking care, or accessing care.

Study Design

Population-based epidemiological studies or qualitative studies were included.

Exclusion We excluded reviews, commentaries, opinion pieces, conference abstracts, study protocols, experimental studies, case studies, and dissertations. We also excluded studies published in non-English languages where there was not an available researcher to translate information reliably.

Study Selection

All records identified were deduplicated using Endnote 20 (The Endnote Team, 2013). Titles and abstracts were screened using Rayyan (Ouzzani et al., 2016). Full texts of potentially relevant records were then reviewed, with reasons for exclusion noted for all studies (Appendix 2). 75% and 100% of records were double screened by two independent reviewers at the title and abstract stage and full text stage, respectively. There was 9.6% disagreement at the title and abstract stage. All conflicts were taken forward to the full text stage. All disagreements at the full text stage (ten of 82 studies screened) were resolved through discussion between reviewers and an additional reviewer until consensus was reached.

Data Extraction

Four reviewers conducted data extraction. Each study meeting inclusion criteria was extracted independently by two of the four reviewers into an Excel based form. Information extracted was then compared to reach consensus. Data extracted included: study characteristics (design, sampling procedures, condition studied, country of data location), sample characteristics (number, age, level of study, gender, ethnicity), and outcomes (prevalence of help/treatment

seeking, prevalence of disclosure, sources of help-seeking, people disclosed to, factors associated with disclosure or help-seeking, and self-reported barriers and facilitators to help-seeking.

Quality Assessment

The quality of studies identified was assessed using the QualSyst assessment tool (Kmet et al., 2004). Two separate questionnaires for assessing quantitative (14 items) and qualitative studies (10 items) were used. The degree to which the specific criteria were met were scored as "yes" = 2, "partial" = 1, or "no" = 0. Some were marked "n/a" if they were not applicable to a particular study design. A summary score was calculated for each study by summing the total score obtained across relevant items and dividing by the total possible score. These scores were calculated as a linear score from 0 to 100 and divided into three categories: low (≤ 49), moderate (50–74), or high (≥ 75) quality studies.

The quality of each study was assessed alongside data extraction by two of the four reviewers involved in data extraction, with decisions compared to reach consensus. Quality assessments were integrated into decisions about the certainty of the evidence for each outcome. Certainty of evidence for each outcome was assessed by one reviewer using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system, adapted for narrative synthesis (Murad et al., 2017), and further adapted according to important aspects of methodology relevant to this review.

Data Synthesis

Included studies showed significant variation in the information reported (e.g. only reporting percentages, without providing the overall number of students this related to), the conditions being studied (e.g. suicidal thoughts vs NSSI), and the timeframe of data collection. It was therefore unlikely that an average estimate across studies would be of clinical use (Barker et al., 2021). Furthermore, not all studies reported the necessary raw data or sample sizes required to compute effect sizes, or confirmed the independence of sub-groups (e.g. whether the percentage of students reporting suicide plans were also included in numbers relating to suicidal ideation). A narrative synthesis was therefore conducted.

Rates and sources of formal help-seeking and disclosure were grouped according to the condition (NSSI, suicidal ideation, suicide plans and suicide attempts) and timescale of the outcome. Reported rates of help-seeking in specific sub-groups were also tabulated. Factors associated with help-seeking and disclosure, and self-reported barriers and facilitators were narratively described. Informal disclosure and formal help-seeking (including both use of services and contact with services) are reported separately throughout, and where studies draw on the same dataset, these are combined and only unique outcomes are reported.

Results

The search returned 509 unique records from which 82 potentially relevant full-text articles were screened, with 20 meeting inclusion criteria. A further two studies were included through citation searching. In total, 22 studies using 16 unique datasets were included. Figure 1 shows the full search and screening process.

Study Characteristics

The 22 publications covered between one and 83 universities, with most being from the USA ($n = 18$). Additional publications were from Australia ($n = 1$), South Africa ($n = 2$), and multi-national samples ($n = 2$).

Two studies had outcomes reported in multiple publications. The National Research Consortium Survey of College Student Suicidality, administered in 2006 was used in six publications (original publication: Drum et al., (2009); subsequent publications: (Brownson et al., 2011, 2014; De Luca et al., 2014; Denmark et al., 2012; Wong et al., 2014)). The Healthy Minds dataset was used in an analysis by Downs and Eisenberg (Downs & Eisenberg, 2012), and Samlan and colleagues (Samlan et al., 2021) provided additional analysis. An additional two studies also reported analyses from the Healthy Minds Dataset (Aguilar & Lipson, 2021; Gollust et al., 2008), however these samples used years which did not overlap with other reported results. Two publications (Bantjes et al., 2020; Bruffaerts et al., 2019) used data from the WHO mental health international college student initiative, however samples did not overlap, and therefore these were considered as separate studies. We use the terms publication to denote papers (which may report on the same data) and study to denote original data collected, and therefore the combined publications using this data.

All except three studies were population-based epidemiological studies. Exceptions were one study which conducted a survey with follow-up interviews to answer further (quantitative) questions (Arria et al., 2011), and two studies which conducted a qualitative study (Castro-Ramirez et al., 2023; Denmark et al., 2012), although only quantitative information regarding the number of students reporting help-seeking from given sample statistics have contributed to this review in one instance (Castro-Ramirez et al., 2023).

Seven studies reported outcomes relating to students reporting any suicidal thoughts, plans or behaviours, three for NSSI, 12 for suicidal ideation specifically, six for suicide attempts and four for suicide plans (without attempt). In 16 publications, the population of interest was a subset of the total sample analysed, usually due to the survey being completed by the entire student population at universities as a more general mental health measure. Table 1 provides a full summary of study characteristics.

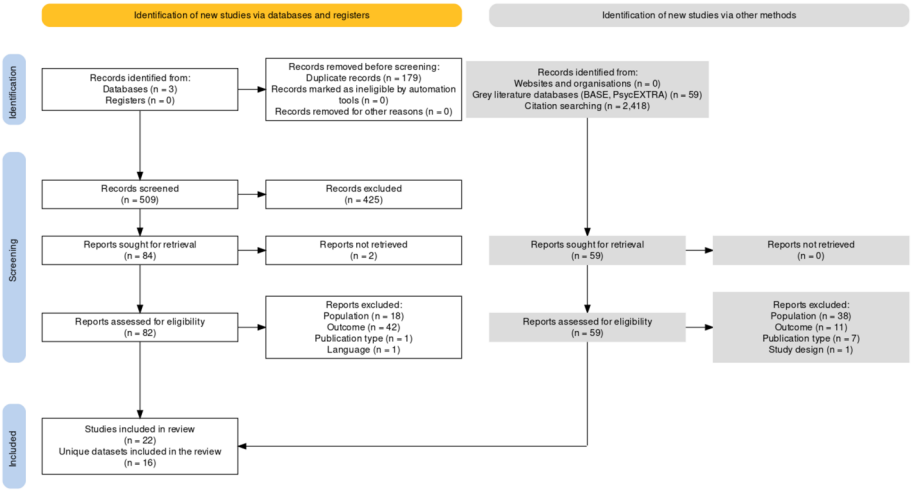

Fig. 1 PRISMA flow diagram

Quality Assessment

Fifteen of the publications were of high quality, six were moderate quality and one was rated low quality. Table 1 notes the quality rating for each study. There were few instances of scoring zero out of the possible two points per quality indicator across the studies, and most examples where studies did not score maximum points were the result of unclear reporting. Most publications described their research objective well, and used appropriate study designs to answer these. Few ($n=7$) scored maximum points on the method of subject selection description, as most did not adjust for differences between survey respondents and non-respondents. Seven also did not score maximum points for description of subject characteristics. This was usually due to the self-harm or STB group being a sub-group of the overall sample with little additional information describing them specifically. Other areas of weakness included statistical analysis plans which did not control for confounding or did not report variance measures (where relevant), and in some cases, the exposure (having self-harmed or engaged in STBs while at university) or outcome (disclosure or help-seeking) variables were not measured in an easily replicable way. Quality assessments fed into certainty of evidence ratings, and more detail on scores for each publication is provided in Appendix 3.

Certainty of Evidence

There are no formal guidelines for the use of certainty of evidence ratings in reviews of rates or prevalence. We used guidance from Murad et al. (Murad et al., 2017), and in line with previous narrative syntheses of similar proportional data (Ahmed et al., 2023), adapted areas of certainty. Appendix 4 details the operationalisation of the GRADE criteria, and reasons behind certainty ratings for each outcome (prevalence of help-seeking in students with NSSI, suicidal ideation, suicide plans, and suicide attempts). All outcomes were considered very low certainty or low certainty. Although most studies were of high methodological quality, this was usually due to (i) limited available evidence suggesting publication bias, (ii) indirectness of evidence as a result of different time-periods or definitions of formal help-seeking or (iii) large variations in reported rates. Therefore, in place of by-outcome certainty reporting, we chose to ensure differences in focus of studies are made sufficiently clear when reporting outcomes and also weight the certainty we placed on findings appropriately when discussing implications.

Rates of Help-Seeking and Disclosure

A total of 15 studies (18 publications) reported rates of help-seeking at university in students with STB or self-harm (Aguilar & Lipson, 2021; Arria et al., 2011; Bantjes et al., 2020, 2023; Brownson et al., 2011, 2014; Castro-Ramirez et al., 2023; Downs & Eisenberg, 2012; Furr et al., 2001; Garlow et al., 2008; Gollust et al., 2008; Han et al., 2016; Kisch et al., 2005; Nam et al., 2018; Reyes-Portillo et al., 2022; Samlan et al., 2021; Wong et al., 2014). Overall, 16–56% of students with STB or self-harm sought or received formal help for their mental health while at university. This range was 24–55% when considering only high-quality publications.

Studies varied with regards to the timeframe of help-seeking reported. 20–56% of students sought help while at college (Arria et al., 2011; Furr et al., 2001; Nam et al., 2018),

Table 1 Study characteristics

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
Healthy Minds Study 2018	Aguilar and Lipson, 2021	Aguilar and Lipson, 2021	Population-based epidemiological study	2016–2018	60 universities, USA	Undergraduate and graduate students	**Subset of total sample: non-suicidal self-injury, suicidal ideation or suicide attempt** Subgroups analysed in this publication: Students with registered disabilities N = NR Condition: Non-suicidal self-injury, suicidal ideation and suicidal attempt (Endorsed hurting self on purpose, without intending to kill self, having seriously thought about attempting suicide or attempting suicide) Mean age: NR % Female: NR Ethnicity: NR Comorbid mental health condition: NR Study level: NR	Formal help-seeking: Use of therapy and/ medication in the past 12 months Informal disclosure: NR	High

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
College life study (CLS)	Arria 2011	Arria 2011	Quantitative survey with follow up quantitative interviews	2004	One university, USA	Students responding to a year-wide survey reporting suicide ideation at least once on the Beck Depression Inventory (BDI) in years 1 through 4, lifetime suicide ideation in year 4, or both and agreed to a follow up interview	**Total study sample** N = 94 Condition: Suicidal ideation (Reporting suicide ideation on the BDI) Mean age: NR % Female: NR Ethnicity: NR Comorbid mental health condition: NR Study level: NR	Formal help-seeking: Any use of formal treatment (services provided by health professionals, counsellors, campus or community-based health or counselling centres, hospitals or other facilities, law enforcement officials, support groups, rehabilitation clinics, or hotlines), since starting college Informal disclosure: any use of informal help (talking to friends, family members, significant others or other trusted adults, conducting internet research, reading self-help books or engaging in prayer), since starting college	Moderate

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
WHO Mental Health International College Student Initiative (separate sample in South Africa only)	Bantjes 2020	Bantjes 2020	Population-based epidemiological study	NR	2 universities, South Africa	All first-year students	**Subset of total study sample: South Africa sample. students reporting suicidal ideation, plans or attempts** N = 429 Condition: Suicidal ideation (Thoughts of killing self), suicide plan (thoughts about how one might kill themselves), suicide attempt (hurting self with intent to die) Mean age: NR % Female: NR Ethnicity: NR Comorbid mental health condition: NR Study level: NR	Formal help-seeking: Accessed professional mental health treatment in the past 12 months Informal disclosure: NR	High

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
SA National Student Mental Health Survey	Bantjes et al. 2023	Bantjes et al. 2023	Population-based epidemiological study	2020	17 universities, South Africa	Undergraduate students	**Subset of total study sample: reporting suicidal thoughts and behaviours** N = 11233 Condition: Suicidal ideation (passive suicidal ideation e.g. wish you were dead or would go to sleep and never wake up), suicide plan (active suicidal ideation, e.g. think about how you might kill self), suicide attempt (e.g. purposefully hurt self with at least some intent to die), non-suicidal self-injury (e.g. doing something to hurt self on purpose, without wanting to die) Mean age: NR % Female: NR Ethnicity: NR Comorbid mental health condition: NR Study level: NR	Formal help-seeking: Accessed professional mental health treatment in the past 12 months Informal disclosure: NR	High

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
WHO Mental Health International College Student Initiative	Bruffaerts 2019	Bruffaerts 2019	Population-based epidemiological study	2014–2017	19 colleges and universities in eight countries (Australia, Belgium, Germany, Mexico, Northern Ireland, South Africa, Spain, and the USA)	Incoming Freshmen who were full time students and identified as male or female. Exclusion: missing information on gender or full-time status, not identifying as male or female, or reporting part-time status	**Subset of total study sample: students reporting suicidal ideation, plans or attempts** N = 2405 Condition: Suicidal thoughts and behaviours (Suicidal ideation, suicide plans or suicide attempts) Mean age: NR % Female: NR Ethnicity: NR Comorbid mental health condition: Any mental disorder in addition to any suicidal thoughts, plans or behaviours: 11.7% Study level: NR	Formal help-seeking: Accessed professional mental health treatment in the past 12 months Informal disclosure: NR	High

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
World Mental Health International College Student Survey	Castro Ramirez 2023	Castro Ramirez 2023	Qualitative study (quantitative sample statistics only are included in this review)	NR	4 universities in Mexico and Colombia	Students in Latin American universities meeting diagnostic criteria for major depressive disorder, generalized anxiety disorder, and/or indicated past-year suicidal thoughts and behaviours	**Subset of total sample: students reporting suicidal thoughts and behaviour** N = 38 Condition: Suicidal thoughts and behaviours (definition not recorded) Mean age: 21.84 % Female: Female: 71.1% Ethnicity: NR Comorbid mental health condition: NR Study level: 21.84	Formal help-seeking: received mental health services, received college counselling, or took psychiatric medication in the past 12 months Informal disclosure: NR	Moderate

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
The National Research Consortium Survey of College Student Suicidality	Drum 2009	Drum 2009	Population-based epidemiological study	2006	70 universities, USA	Undergraduate and graduate students	**Subset of total study sample: Students reporting suicidal ideation in the past 12 months** N = NR Condition: Suicidal ideation (Endorsed having seriously considered attempting suicide) Mean age: NR % Female: NR Ethnicity: NR Comorbid mental health condition: NR Study level: NR	Formal help-seeking: NR Informal disclosure: telling anyone about their suicidal thoughts at the time of their suicidal crisis (occurring in the past 12 months)	Moderate

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
		Brownson 2011	Population-based epidemiological study	2006	70 universities, USA	Undergraduate and graduate students	**Subset of total study sample: Students reporting suicidal ideation in the past 12 months** Subgroups analysed in this publication: Gender, level of study N = 1321 Condition: Suicidal ideation (Endorsed having seriously considered attempting suicide) Mean age: NR % Female: NR Ethnicity: NR Comorbid mental health condition: NR Study level: NR	Formal help-seeking: received mental health services, received college counselling, or took psychiatric medication at time of suicidal crisis (occurring in the past 12 months) Informal disclosure: NR	Moderate

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
		Burton Denmark 2012	Qualitative study	2006	70 universities, USA	(a) they indicated that they had seriously considered attempting suicide in the previous twelve months, (b) they indicated that they did not tell anyone about their suicidal thoughts, and (c) they responded to an open-ended question asking why they chose not to tell anyone about the suicidal thoughts	**Subset of total study sample: concealed suicidal ideation** N = 558 Condition: Suicidal ideation (Endorsed having seriously considered attempting suicide) Mean age: 24 % Female: Female: 60.4% Ethnicity: African American/Black: 4.1%, Alaska Native/American Indian: 0.9%, Asian American: 5.4%, Caucasian: 77.8%, Hispanic/Latino(a): 3.4%, International/foreign: 2.7%, multiple categories selected: 5.6% Comorbid mental health condition: NR Study level: 24	Formal help-seeking: NR Informal disclosure: telling anyone about their suicidal thoughts at the time of their suicidal crisis (occurring in the past 12 months)	High

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
		Brownson 2014	Population-based epidemiological study	2006	70 universities, USA	Undergraduate students	**Subset of total study sample: Students reporting suicidal ideation in past 12 months** Subgroups analysed in this publication: Different ethnic groups N = 14,738 Condition: Suicidal ideation (Endorsed having seriously considered attempting suicide) Mean age: NR % Female: NR Ethnicity: NR Comorbid mental health condition: NR Study level: NR	Formal help-seeking: received mental health services, received college counselling, or took psychiatric medication at time of suicidal crisis (occurring in the past 12 months) Informal disclosure: NR	High

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
		De Luca 2014	Population-based epidemiological study	2006	70 universities, USA	Undergraduate and graduate students who indicated that they had ideated suicide in the past 12 months	**Total sample** Subgroups analysed in this publication: Racial and ethnic minorities vs non-Latino White ethnicity N = 1321 Condition: Suicidal ideation (Endorsed having seriously considered attempting suicide) Mean age: 24 % Female: Female: 66.1% Ethnicity: Non-Hispanic white: 1,018/1321 = 77.1% Black: 64/1321 = 4.8% Asian: 74/1321 = 5.6% Latino: 84/1321 = 6.4% Other: 81/1321 = 6.1% Comorbid mental health condition: NR Study level: 24	Formal help-seeking: NR Informal disclosure: telling anyone about their suicidal thoughts at the time of their suicidal crisis (occurring in the past 12 months)	High

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
		Wong 2014	Population-based epidemiological study	2006	70 universities, USA	Undergraduate and graduate students who indicated that they had ideated suicide in the past 12 months	**Total sample** Subgroups analysed in this publication: Asian American vs White American N = 1045 Condition: Suicidal ideation (Endorsed having seriously considered attempting suicide) Mean age: 23.78 % Female: Female: 65% Ethnicity: 980/1045 = 93.8% White American, 65/1045 = 6.2% Asian American Comorbid mental health condition: NR Study level: 23.78	Formal help-seeking: received mental health services, received college counselling, or took psychiatric medication at time of suicidal crisis (occurring in the past 12 months) Informal disclosure: telling anyone about their suicidal thoughts at the time of their suicidal crisis (occurring in the past 12 months)	High

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
NA	Furr 2001	Furr 2001	Population-based epidemiological study	2001	4 universities in USA	Undergraduate and graduate students	**Subset of total study sample: Thought about or attempted suicide since coming to college** N = 125 Condition: Suicidal ideation, Suicide attempt (Endorsed having seriously considered attempting suicide and/ or a suicide attempt) Mean age: NR % Female: NR Ethnicity: NR Comorbid mental health condition: NR Study level: NR	Formal help-seeking: Use of therapy since starting college Informal disclosure: NR	Low

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
American Foundation for Suicide Prevention-sponsored College Screening Project at Emory University	Garlow 2008	Garlow 2008	Population-based epidemiological study	2002–2005	1 university, USA	Undergraduate students	**Subset of total study sample: Students reporting suicidal ideation in past 4 weeks** N = 81 Condition: Suicidal ideation (Endorsed having seriously considered attempting suicide) Mean age: NR % Female: NR Ethnicity: NR Comorbid mental health condition: NR Study level: NR	Formal help-seeking: received mental health services, received college counselling, or took psychiatric medication in past 4 weeks Informal disclosure: NR	Moderate

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
Healthy Minds Study 2005	Gollust 2008	Gollust 2008	Population-based epidemiological study	2005	1 university, USA	Undergraduate and graduate students	**Total sample** N = 201* Condition: Non-suicidal self-injury (endorsing any of a list of non-suicidal self-injury related behaviours) Mean age: NR % Female: NR Ethnicity: NR Comorbid mental health condition: Major depression: 15%; other depression: 17.4%; any depression: 32.5%; panic disorder: 7.5; generalized anxiety disorder: 10.6; any anxiety: 16.6%; both depression and anxiety: 10.8%; eating disorders: 25.9%; suicidal thoughts: 11.0% Study level: NR	Formal help-seeking: Receiving some type of treatment (e.g. therapy, medication) in the past year Informal disclosure: NR	High

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
National Surveys on Drug Use and Health	Han 2016	Han 2016	Population-based epidemiological study	2008–2013	NR	Non-institutionalised populations aged 18 and above; excluding those without a household address, active military duty, institutionalised persons	**Subset of total study sample: College Students** N = 6100 Condition: Suicidal ideation (Thoughts of killing self), suicide plan (thoughts about how one might kill themselves), suicide attempt (hurting self with intent to die) Mean age: NR % Female: NR Ethnicity: NR Comorbid mental health condition: NR Study level: NR	Formal help-seeking: Inpatient or outpatient treatment, or prescription medication Informal disclosure: NR	High

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
National College Health Assessment Survey American College Health Association	Kisch 2005	Kisch 2005	Population-based epidemiological study	1998	28 universities, USA	Undergraduate and graduate students	**Subset of total study sample: Suicidal ideation or suicide** N = 1464 Condition: Suicidal ideation, Suicide attempt (Endorsed having seriously considered attempting suicide and/ or a suicide attempt) Mean age: NR % Female: NR Ethnicity: NR Comorbid mental health condition: NR Study level: NR	Formal help-seeking: Use of therapy and/ medication at time of assessment (for suicidal ideation occurring in the last school year) Informal disclosure: NR	Moderate
NA	Nam 2018	Nam 2018	Population-based epidemiological study	2014	1 university, USA	Undergraduate	**Total sample** N = 190 Condition: Suicidal ideation Mean age: NR % Female: Female: 68.4% Ethnicity: White: 69.5% Comorbid mental health condition: NR Study level: NR	Formal help-seeking: Appointment with a psychiatrist, clinical psychologist or other mental health professional in the past 12 months Informal disclosure: NR	High

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
NA	Reyes-Portillo 2022	Reyes-Portillo 2022	Population-based epidemiological study	2019	1 university, USA	Undergraduate students aged below 30	**Subset of total study sample: reporting suicidal ideation** N = 182 Condition: Suicidal ideation (Scoring above 0 on either item 4 or 5 on the Beck Scale for Suicidal ideation or endorsement of thoughts they would be better off dead or of hurting self on item nine of the PHQ9) Mean age: NR % Female: Female: 139/181 (76.8%) Ethnicity: White: 57/171 (33.3%), Latinx: 66/171 (38.6%), Black: 28/171 (16.4%), Asian American Pacific Islander: 20/171 (11.7%) Comorbid mental health condition: NR Study level: NR	Formal help-seeking: Seeing a mental Health Professional (e.g., Psychologist, Social Worker, Counsellor), Primary Care or Other Medical Doctor, or Psychiatrist, or using an online Program for Mental Health, or Mental Health App in the past 12 months Informal disclosure: NR	High

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
Healthy Minds Study 2009, 2010, 2013	Samlan et al., 2021	Downs and Eisenberg 2012	Population-based epidemiological study	2009	15 universities, USA	Undergraduate and graduate students aged 18 or over	**Subset of total study sample: suicidal ideation** N = 543 Condition: Suicidal ideation (Endorsed having seriously considered attempting suicide) Mean age: NR % Female: Female: 66.3% Ethnicity: Asian: 10.7% Black: 7.4% Hispanic/LatinX: 6.1% Multiracial: 7.6% Other: 7.4% White: 61% Comorbid mental health condition: NR Study level: NR	Formal help-seeking: Receiving some type of treatment (e.g. therapy, medication) in the past year Informal disclosure: NR	High

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
		Samlan et al., 2021	Population-based epidemiological study	2009/2013	83 universities, USA	Undergraduate and graduate students aged 18 or over, Reporting suicidal ideation and not receiving treatment in the past 12 months	**Total sample** Subgroups analysed in this publication: Gender, Ethnicity N = 4031 Condition: Suicidal ideation (Endorsed having seriously considered attempting suicide) Mean age: NR % Female: (non-treatment seeking sample) Female: 52.1% Ethnicity: (Non-treatment seeking sample) Asian/Asian American: 16.5%, Black/African American: 9.9%, LatinX: 8.3%, White (Non-Hispanic): 65.3% Comorbid mental health condition: NR Study level: NR	Formal help-seeking: Receiving some type of treatment (e.g. therapy, medication) in the past year Informal disclosure: NR	High

Table 1 (continued)

Dataset	Primary paper	Author, Year	Study design	Study population			Characteristics of population reporting STB/NSSI	Outcome(s) reported	Study quality
				Data collection year(s)	Number and location of universities included in sample	Total study inclusion criteria			
NA	Shannon-house et al. 2020	Shannon-house et al. 2020	Population-based epidemiological study	2017	2 universities, USA	Undergraduate students	**Subset of total study sample: Students reporting suicidal ideation in past 12 months** N = 121 Condition: Suicidal ideation (measured using the Colombia-Suicide Severity Rating Scale) Mean age: NR % Female: NR Ethnicity: NR Comorbid mental health condition: NR Study level: NR	Formal help-seeking: NR Informal disclosure: telling anyone about their suicidal thoughts at the time of their suicidal crisis (occurring in the past 12 months)	High

NR, not recorded

18–55% in the past year (Bantjes et al., 2020, 2023; Brownson et al., 2011; Bruffaerts et al., 2019; Han et al., 2016; Kisch et al., 2005; Reyes-Portillo et al., 2022; Samlan et al., 2021), and 16–26% in the past 4 weeks (Garlow et al., 2008; Gollust et al., 2008).

When separately considering students reporting NSSI, suicidal ideation, suicide plans (without attempts), suicide attempts, or any STBs, there was no clear difference in reported rates of help-seeking. Rates of help-seeking for students reporting NSSI were 26.4% within the past four weeks (Gollust et al., 2008) and 37.5% in past 12 months (Bantjes et al., 2023). Formal help-seeking for suicidal ideation was reported by 16.1% of students in the past 4 weeks (Garlow et al., 2008), 56.4% since starting college (Arria et al., 2011), and between 18.3 and 54.9% in the past 12 months (Arria et al., 2011; Bantjes et al., 2020, 2023; Brownson et al., 2011; Bruffaerts et al., 2019; Garlow et al., 2008; Han et al., 2016; Kisch et al., 2005; Reyes-Portillo et al., 2022; Samlan et al., 2021). In studies reporting help-seeking in students reporting suicide plans (without attempts), 30–42% (Bantjes et al., 2020, 2023; Bruffaerts et al., 2019) reported access to or use of formal mental health support in the past 12 months. 24–53% of students who had attempted suicide (Bantjes et al., 2020; Bruffaerts et al., 2019; Kisch et al., 2005) reported formal help-seeking in the past 12 months. Finally, rates of formal help-seeking in samples of students reporting any suicidal thoughts or behaviours were 20–41.7% since starting college (Furr et al., 2001; Nam et al., 2018) and 26.3–35% in the past 12 months (Bantjes et al., 2020, 2023; Bruffaerts et al., 2019).

Only two studies reported rates of informal disclosure (Brownson et al., 2011; Drum et al., 2009; Shannonhouse et al., 2020), with between 48.8 and 52.3% of students reporting that they had disclosed their suicidal thoughts to someone in the past 12 months. However, the reported percentage rose from 48.8 to 78% when only considering students who reported experiencing suicidal thoughts at least three times in the past year in one of these studies (Shannonhouse et al., 2020).

Three studies included publications which reported rates of formal help-seeking or disclosure in sub-groups. These sub-groups included gender (Brownson et al., 2011), study status (full compared to part-time and undergraduate compared to postgraduate; Brownson et al., 2011; Drum et al., 2009; Han et al., 2016)) and ethnicity (Brownson et al., 2014; De Luca et al., 2014; Wong et al., 2014). There were no clear patterns of differences in reported rates of formal help-seeking between these groups (Table 2).

Sources of Help-Seeking and Disclosure

Nine studies (12 publications) examined the sources of help or people disclosed to by students (Aguilar & Lipson, 2021; Brownson et al., 2011; Castro-Ramirez et al., 2023; De Luca et al., 2014; Downs & Eisenberg, 2012; Drum et al., 2009; Garlow et al., 2008; Gollust et al., 2008; Han et al., 2016; Kisch et al., 2005; Reyes-Portillo et al., 2022; Wong et al., 2014). These indicated that the majority of students who had treatment received both medication and psychological therapy. The largest high-quality study comparing sources of help-seeking found that most students with suicidal thoughts or behaviours reported receiving medication (23.6–44.1%) or other outpatient mental health treatment (21–41%), while a smaller proportion received inpatient treatment (2–18%; (Han et al., 2016)). The same study found that students who had recently attempted suicide received inpatient treatment at a higher rate (18–20%) than those who reported suicidal ideation with no suicide attempts (2–3%). Only one study compared whether formal treatment was provided in-person or online (Reyes-Portillo et al., 2022), reporting that for students with suicidal ideation,

Table 2 Rates of help-seeking and disclosure across studies

Condition	Timeframe	Study	Overall rates of help-seeking or disclosure	Sources
Formal help-seeking				
Non-suicidal self-injury	Past 4 weeks	Healthy minds study 2005 (N publications: 1; Gollust 2008)	53/201* (26.4%)	Medication: 15.7% (of total population) Therapy: 19.9% (of total population)
	Past 12 months	South Africa National Student Mental Health Survey (N publications: 1; Bantjes et al. 2023)	850/2266 (37.5%)	NR
		Healthy Minds Study 2016–2018 (N publications: 1; Aguilar and Lipson, 2021)	NR	*Subgroups:* Medication: registered disabilities: 72.9%, no registered disabilities: 31.9% Counselling: Registered disabilities: 74.7%, no registered disabilities: 40.8%
Suicidal ideation	Past 4 weeks	College Screening Project (N publications: 1; Garlow 2008)	13/81 (16.05%)	Pharmacotherapy: 11/81 (13.6%) Psychotherapy: 10/81 (12.35%) Both forms of therapy: 8/81 (9.9%)
	Since starting college	Arria 2011 (N publications: 1)	53/94 (56.4%*)	NR

Table 2 (continued)

Condition	Timeframe	Study	Overall rates of help-seeking or disclosure	Sources
	Past 12 months	The National Research Consortium Survey of College Student Suicidality (N publications: 6; Drum 2009, Brownson 2011, Burton Denmark 2012, Brownson 2014, De Luca 2014, Wong 2014)	565/1321 (42.8%) (Brownson 2011) *Subgroups:* Female undergraduates: 305*/648* (47%), male undergraduates: 110*/281* (39%) (Brownson 2011) Female postgraduates: 143*/269* (53%), male undergraduates: 53*/137* (39%) (Brownson 2011) Undergraduate African American/Black students: 47%, Undergraduate Alaska Native/American Indian students, 49%, Undergraduate Asian American students, 35%, Undergraduate Caucasian/White students 47%, Undergraduate Hispanic American/Latino students, 42%, Undergraduate international/foreign students, 27%, Undergraduate Mixed race students, 32% (Sample size NR, Brownson 2014) Undergraduate and postgraduate Asian American students: 26*/65 (39%), Undergraduate and postgraduate White American students: 480*/980 (49%) (Wong 2014)	(Brownson 2011) Took medication: 25.7% *Subgroups:* Female undergraduates taking medication: 27%, male undergraduates taking medication: 26% Female postgraduates taking medication: 33%, male postgraduates taking medication: 19%
		Healthy minds study 2009/2013 (N publications: 2; Downs and Eisenberg 2012, Samlan et al., 2021)	2214/4031 (54.9%) (Samlan et al., 2021)	2009 data only (Downs and Eisenberg 2012) Therapy: 40.9% Medication: 35.8%
		National College Health Assessment Survey American College Health Association (N publications: 1; Kisch 2005)	268/1464 (18.3%)	Therapy: 196/1464 (13.4%), medication 220/1464 (15.0%)

Table 2 (continued)

Condition	Timeframe	Study	Overall rates of help-seeking or disclosure	Sources
		Reyes-Portillo 2022 (N publications: 1)	96/175 (54.9%)	In-person only treatment: 33.1% Combined online and in-person treatment: 16.6% Online only: 5.1%
		South Africa National Student Mental Health Survey (N publications: 1; Bantjes et al. 2023)	2886/10958 (26.3%)	NR
		Bantjes 2020, based on the WHO Mental Health International College Student Initiative survey instruments (N publications: 1)	109*/429 (25.4%)	NR
		WHO Mental Health International College Student Initiative (N publications: 1; Bruffaerts 2019)	234*/1175* (19.9%)	NR
		National Surveys on Drug Use and Health (N publications: 1; Han 2016)	*Subgroups:* Full time students: 31.28%, part time students: 32.87%	*Subgroups* Full time students: inpatient: 1.62%, outpatient: 20.97%, medication: 23.55% Part time students: inpatient: 3.13%, outpatient: 19.26%, medication: 22.11%
		Healthy Minds Study 2016–2018 (N publications: 1; Aguilar and Lipson, 2021)	NR	*Subgroups:* Medication: registered disabilities: 77.1%, no registered disabilities: 38.5% Counselling: Registered disabilities: 81.5%, no registered disabilities: 48.9%
Suicide plan (without attempt)	Past 12 months	South Africa National Student Mental Health Survey (N publications: 1; Bantjes et al. 2023)	1580/5181 (30.5%)	NR

Table 2 (continued)

Condition	Timeframe	Study	Overall rates of help-seeking or disclosure	Sources
		Bantjes 2020, based on the WHO Mental Health International College Student Initiative survey instruments (N publications: 1)	97*/233 (41.6%)	NR
		WHO Mental Health International College Student Initiative (N publications: 1; Bruffaerts 2019)	412/1091* (37.8%)	NR
		National Surveys on Drug Use and Health (N publications: 1; Han 2016)	*Subgroups:* Full time students: 44.01%, part time students: 51.41%	*Subgroups* Full time students: inpatient: 4.06%, outpatient: 32.06%, medication: 33.88% Part time students: inpatient: 7.12%, outpatient: 33.54%, medication: 41.16%
Suicide attempt	Past 12 months	Bantjes 2020, based on the WHO Mental Health International College Student Initiative survey instruments (N publications: 1)	18*/34 (52.9%)	NR
		WHO Mental Health International College Student Initiative (N publications: 1; Bruffaerts 2019)	63/140* (45.1%)	NR
		National College Health Assessment Survey American College Health Association (N publications: 1; Kisch 2005)	54/227 (23.8%)	Therapy: 41/218 (19.0%), medication: 45/218 (20.7%)
		South Africa National Student Mental Health Survey (N publications: 1; Bantjes et al. 2023)	487/1282 (38%)	NR

Table 2 (continued)

Condition	Timeframe	Study	Overall rates of help-seeking or disclosure	Sources
		National Surveys on Drug Use and Health (N publications: 1; Han 2016)	*Subgroups:* Suicidal ideation and attempt Full time students: 55.99%, part time students: NA Suicidal ideation, plan and attempt Full time students: 49.96%, part time students: 46.24%	*Subgroups:* Suicidal ideation and attempt Full time students: inpatient: 13.33%, outpatient: 40.85%, medication: 44.06% Part time students: NA Suicidal ideation, plan and attempt Full time students: inpatient: 18.19%, outpatient: 36.44%, medication: 37.10% Part time students: inpatient: 19.92%, outpatient: 28.50%, medication: 34.76%
		Healthy Minds Study 2016–2018 (N publications: 1; Aguilar and Lipson, 2021)	NR	*Subgroups:* Medication: registered disabilities: 82.1%, no registered disabilities: 50.8% Counselling: Registered disabilities: 87.4%, no registered disabilities: 62.1%
Any Suicidal thoughts or behaviours	Since starting college	Furr 2001 (N publications: 1)	25/125 (20%)	NR
		Nam 2018 (N publications: 1)	75/190 (41.7%)	NR
	Past 12 months	Bantjes 2020, based on the WHO Mental Health International College Student Initiative survey instruments (N publications: 1)	35%, (sample size NR)	NR
		WHO Mental Health International College Student Initiative (N publications: 1; Bruffaerts 2019)	709*/2405* (29.5%)	NR
		South Africa National Student Mental Health Survey (N publications: 1; Bantjes et al. 2023)	2955/11233 (26.3%)	NR
		World Mental Health International College Student Survey (N publications: 1; Castro Ramirez 2023)	NR	Counselling: 47.4% Medication: 13.2% Any other treatment: 10.5%

Table 2 (continued)

Condition	Timeframe	Study	Overall rates of help-seeking or disclosure	Sources
Disclosure				
Suicidal ideation	Past 12 months	The National Research Consortium Survey of College Student Suicidality (N publications: 6; Drum 2009, Brownson 2011, Burton Denmark 2012, Brownson 2014, De Luca 2014, Wong 2014)	46% of undergraduate and 47% graduate students chose not to tell anyone about their suicidal thoughts. (Drum 2009) 691/1321 (52.3%*) of ideators told someone about their suicidal thoughts (Brownson 2011) Non-Hispanic whites and racial and ethnic minority students reported similar disclosure rates (53.4% versus 53.6 (De Luca 2014))	Two thirds of those who disclosed their suicidal ideation first chose to tell a peer, such as a romantic partner, roommate, or friend. Almost no undergraduates and not a single graduate student confided in a professor. (Drum 2009) Males and females were similar in their choice of first informal confidant- with most choosing to first tell a friend or romantic partner. (Brownson 2011) Undergraduates were more likely than graduate students to first tell a friend, whereas graduate students were more likely to first tell a romantic partner or professional mental health provider. (Brownson 2011) Disclosure to: Family member 8.9% white, 6.5% racial ethnic minority. Romantic partner: 17.7% white, 19.1% racial ethnic minority. Friend 17% white, 19.8% racial ethnic minority. Mental health professional: 7.4% white, 6.1% racial ethnic minority. Other: 2.3% white, 2% racial ethnic minority. (De Luca 2014) Both Asian Americans and White Americans most frequently disclosed their suicide ideation to their friends. (Wong 2014)

Table 2 (continued)

Condition	Timeframe	Study	Overall rates of help-seeking or disclosure	Sources
Suicidal ideation, plans or behaviours		Shannonhouse et al. 2020 (N publications: 1)	48.8% (59/121) of students reporting recent suicidal ideation reported telling someone 79.3% (23/29) of students who reported suicidal thoughts at least 3 times during the past year reported telling someone	NR

* denotes calculated numbers from given information. NR: Not recorded

in-person only treatment was most common (33%), with 17% reporting a hybrid online and in-person treatment provision and 5% reporting online-only support.

Regarding informal disclosure, Drum et al. (Drum et al., 2009) found that two-thirds of students first chose to tell a peer, such as a romantic partner (30–41%), or a friend/roommate (25–36%). The next most common confidant was a family member (27–30%), followed by a professional (11–20%). They found that almost no undergraduates and no graduate students first confided in an academic staff member.

Table 2 details all reported rates of help-seeking and disclosure across studies according to population symptoms of self-harm or suicidality and timeframe of help-seeking.

Factors Associated with Seeking Help and Disclosure

Demographic Factors

Data from the National Research Consortium Survey of College Students suggested that there were no significant differences between ethnic groups in help-seeking for suicidal ideation in the past 12 months (Brownson et al., 2014). However, Asian American students were less likely to seek professional help than White American students (Wong et al., 2014). Data from the Healthy Minds study (Downs & Eisenberg, 2012) also reported that Asian or LatinX students were less likely to report having had treatment in the past year.

Data on associations between gender and help-seeking from one study suggested that being female was associated with both formal help-seeking (Brownson et al., 2011; Wong et al., 2014) and disclosure (Brownson et al., 2011; De Luca et al., 2014).

Social Factors

Advice from others to seek help was a significant predictor of mental health service use (Nam et al., 2018), and also mediated differences in help-seeking between Asian and White Americans, such that Asian Americans received less advice to seek professional help following disclosure to family (Wong et al., 2014). However, one study (Downs & Eisenberg, 2012) found that students reporting warm and trusting personal relationships were less likely to report using professional services in the past year. Having a partner, but not living with a roommate or family member, was associated with increased odds of disclosure in both white and ethnic minority students (De Luca et al., 2014).

Stigma had an unclear impact on help-seeking in students, with personal stigma (one's own stigmatizing attitudes) increasing, and perceived stigma (perceptions of others' attitudes) decreasing, the likelihood of treatment receipt (Downs & Eisenberg, 2012).

Perceived and Actual Need, and Previous Service Use Factors

Students who perceived a need for help for their self-harm/STBs (Downs & Eisenberg, 2012), and students reporting use of services during a previous childhood episode were also more likely to seek help at university (Arria et al., 2011). Furthermore, more students with disabilities reported receiving formal mental health support compared to students without disabilities (Aguilar & Lipson, 2021). Seeking and accessing treatment was also more likely in students with more severe suicidality. For example, one large high-quality study (Bantjes et al., 2023) reported that the likelihood of accessing treatment increased with level of suicidality when controlling for multiple other demographic and

illness severity factors, while another study (Bruffaerts et al., 2019) reported that treatment rates were higher in students who made a suicide attempt compared to those with suicidal thoughts only.

Further study-level results are available in Appendix 5.

Self-Reported Barriers

Four studies (five publications) asked students to report specific barriers to seeking help. A desire for privacy and autonomy (Denmark et al., 2012; Samlan et al., 2021) was commonly cited by students, as was a low perceived need of support (Drum et al., 2009; Samlan et al., 2021). Fear of poor treatment experience (Denmark et al., 2012; Drum et al., 2009; Samlan et al., 2021), stigma (Castro-Ramirez et al., 2023; Denmark et al., 2012; Drum et al., 2009; Samlan et al., 2021) and feeling that seeking support or disclosing would be unhelpful (Denmark et al., 2012; Samlan et al., 2021) were also cited by students as barriers to both accessing formal support and informal disclosure. Barriers perceived as specific to seeking formal support were lack of time and/or resources (such as feeling sessions would be too short, or students having a lack of time to attend treatment) (Samlan et al., 2021), and feeling that available support was not adequately adapted to suit cultural or sexual identity (Samlan et al., 2021) were barriers specific to accessing formal support, and a lack of available confidants (Denmark et al., 2012; Drum et al., 2009) was a barrier specific to disclosure.

One study reported gender and ethnicity differences as reasons for not seeking support (Samlan et al., 2021). Males were more likely to report preference for privacy and autonomy, and less likely to consider whether their needs were of sufficient severity, or fear poor outcomes. Regarding ethnicity, Asian/Asian American students were more likely to have a low perceived need for services, while both Asian and Black students were more likely to report feeling that nobody would understand their problems.

Discussion

This review expands on previous research into help-seeking for STB and self-harm, focusing on the university student population. As students make up a large proportion of young people in today's society (HESA, 2023; OECD, 2020), improving access to effective support in this group could contribute to a reduction in suicide attempts in young adults. Although heterogeneity in estimated rates of students seeking help for, or disclosing their STB or self-harm was high, even the highest estimates suggest that only around half of students seek help or disclose. Findings also suggest that most students who do receive formal treatment receive both medication and psychological therapy, although fewer receive inpatient mental health treatment, unless they have recently attempted suicide. Exploration of sources of heterogeneity through examination of specific STB, subgroups, and factors associated with help-seeking overall was not able to identify reasons for the high heterogeneity found in studies. It is therefore likely that variations represented differences in sampling strategies and phrasing of questions asked. However, as students who participate in research may have higher rates of help-seeking (Gollust et al., 2008), it is likely that actual rates in typical student populations may be even lower. It is therefore clear that more effective methods of encouraging help-seeking and indicating those who may be in need of more intensive support are needed.

Only two studies gathered information on informal disclosure, with only one exploring who students choose to disclose to (Drum et al., 2009). In line with studies of younger student populations (Geulayov et al., 2022), it was found that friends may be particularly important gatekeepers for students experiencing STB or self-harm. As advice from others to seek help predicted formal mental health help-seeking, this could be a key target for interventions. Support to facilitate forming social networks at university could be a solution to improve psychological treatment outcomes (Barnett et al., 2023), reduce psychological distress (Alsubaie et al., 2019; Siedlecki et al., 2014) and encourage professional help-seeking (Vogel et al., 2007), as well as improve wellbeing at university (Yıldırım & Tanrıverdi, 2021). As social isolation has been reported to be a common antecedent to suicide in students aged 18–19 (National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (NCISH), 2017), such interventions are an important and cost effective first step to encouraging help-seeking, particularly if peers are equipped with correct signposting information.

Given the number of potential complexities involved in relationships between students and academic staff, such as communication barriers, imbalances of power, and trust levels, there was minimal information on the role of academic staff in disclosure and subsequent help-seeking for STB or self-harm. Although one study suggested that few students choose to tell academic staff about their difficulties initially, it is not clear whether staff were informed at a later date (whether for academic allowances or provision of support). It has been reported that supporting students with complex mental health problems and a high level of risk is becoming an increasingly prominent part of academic staff roles (Hughes et al., 2018), leaving some feeling ill-equipped to adequately support such students (McAllister et al., 2014) due to lack of formal training or clarity about where their role sits within a wellbeing sphere (Broglia & Barkham, 2024; Gulliver et al., 2018; McAllister et al., 2014). For example, while it is generally agreed that academic staff should not replace formal mental health support for students, it has been acknowledged that they may play an important role as "gatekeepers" in identification and provision of signposting while maintaining the boundaries of their role (Gulliver et al., 2018). Understanding the rates and nature of help-seeking for STB or self-harm from academic staff would help to determine the level of support that may be required for staff to manage these situations safely and effectively.

Sources of formal mental health support were usually broadly defined as, for example, counselling or psychological treatment, or medication. Clarity on what this treatment may involve and whether this support is provided by the university or other health services is important as different sources may provide support at different levels of intensity. Repeated self-harm is a predictor of suicide attempts (Hooley et al., 2020; Ribeiro et al., 2016) and is therefore an important indicator of students in need of more intensive support. It is unclear whether short-term counselling is an effective treatment for self-harm in young people (Calati & Courtet, 2016), particularly in those cases also experiencing persistent or severe mental health presentations, although there is some evidence for effective psychological treatments which specifically target adults experiencing self-harm (Witt et al., 2021). Routine outcome measurement and student feedback could clarify effectiveness in students and impacts on future suicide attempts (Hughes & Spanner, 2019), alongside a well-defined process and means of referral to off-campus, high intensity support services (Broglia et al., 2023; Hughes & Spanner, 2019).

Severity of STB was found to be associated with help-seeking in two studies (Bantjes et al., 2020; Bruffaerts et al., 2019), including when other mental health disorders and demographic factors were controlled for (Bantjes et al., 2020). This contrasts with

evidence in adolescents where more severe suicidal ideation has been linked with lower rates of help-seeking (Hom et al., 2015; Wilson et al., 2010), suggesting that university students may be more aware of risks. Supporting this, a self-reported barrier to disclosing suicidal ideation was low self-perceived need of support (Drum et al., 2009; Samlan et al., 2021). Models of help-seeking in student populations (Biddle et al., 2007) have posited that students view distress as "normal" or "real", with the distinction being that only "real" distress requires (or is worthy of) help. However, this model also argued that students define "real" distress as an inability to cope, meaning that instances of coping, or self-perceived coping, act as personal barriers to seeking help (Biddle et al., 2007). This subjective criteria for seeking support could be prohibitive for some students as self-perceived risk can be influenced by stigma, coping behaviours of others or other mental health conditions (Dagani et al., 2023; Pescosolido et al., 1998) and also availability of appropriate services. From a preventative perspective, providing students with treatment before escalation of distress and risk of suicide attempts would be more effective and provide more coverage with lower intensity services (Arango et al., 2018). Therefore, further work should examine how to educate young people on when symptoms warrant additional support. Some universities have delivered educational programmes on mental health problems and treatment but few have assessed whether increases in awareness translate into help-seeking (Eisenberg et al., 2012; Shim et al., 2022). Furthermore, while repeated self-harm and STB are an important risk factor for suicide and should be considered key signals for clinicians to step-up support for an individual (Hooley et al., 2020; Ribeiro et al., 2016), most young people who harm themselves in some way do not attempt suicide (Geulayov et al., 2018), and therefore care is needed in planning public health messaging surrounding how best to support someone disclosing self-harm to avoid unintended and avoidable negative experiences.

Results suggested that women may be more likely to seek professional help or disclose their STB or self-harm informally, supporting previous work in non-student populations (Hom et al., 2015). This also follows a well-cited pattern of fewer men seeking mental health support more generally (Rice et al., 2021), and suggests that efforts may need to focus on normalising men sharing their mental health problems with others, such as through role models and psychoeducation, which have demonstrated efficacy in changing help-seeking attitudes in men (Sagar-Ouriaghli et al., 2019). Ethnic inequalities in access are widely reported across a wide range of mental health problems and services (Arundell et al., 2021), However, this review found mixed results with results from two studies (Downs & Eisenberg, 2012; Wong et al., 2014) suggesting that students from minority ethnic groups may be less likely to seek help than White students, while a third study did not (Brownson et al., 2014). Despite this, barriers to care such as stigma, and concerns that providers may not be culturally competent (Hom et al., 2015) suggest that in addition to provision of evidence-based, acceptable support, clear communication is needed to the student body which communicates what students can expect from support, and prevents poor perceptions of services from serving as barriers to access.

Alongside stigma, some social factors acted as barriers to help-seeking, such as desire for autonomy, belief that available support was unhelpful, and fears of poor treatment experiences such as forced hospitalisation. There is an urgent need to provide more effective support developed in collaboration with students with lived experience to ameliorate concerns and prevent negative experiences with ineffective care (Barnett et al., 2021a, 2021b). One facilitator appeared to be experience of accessing support services prior to the start of university (Arria et al., 2011). This has also been reported in qualitative research (Barnett

et al., 2021a, 2021b) and suggests that students without this experience may not be aware how to begin accessing support or may have more distrust of services, further highlighting the need for adequate signposting opportunities and clear communication. This may also be reflected in the finding that students with disabilities, who may have experience accessing other support offerings at university, were more likely to seek support (Aguilar & Lipson, 2021).

Limitations

Some limitations should be considered alongside the conclusions of this review. Most studies identified were US based, making generalisation to other countries problematic, with differences in university and health sector service configuration. Often, convenience samples were used, increasing risk of response bias, since students who participate in research show higher rates of help-seeking (Gollust et al., 2008). Research has also shown that older adolescents may choose not to self-report STB or self-harm via some self-report measures (Flores et al., 2024), and a similar pattern may exist in students. It is therefore possible that some students were not identified in the surveys utilised across most studies.

There was also heterogeneity between studies in the definition and measurement timeframe of STB and self-harm, alongside typically using a single item with a dichotomous (Yes/No) response option to assess for suicidal thoughts or self-harm, preventing assessment of the intensity, duration, or frequency of experiences. There may have been sources of formal and informal support that were not captured by this measurement approach, and studies did not measure whether students were seeking help for their suicidal thoughts/self-harm, or another concern. Finally, we excluded one potentially relevant, non-English article due to lack of available reviewers able to translate it. While one study is unlikely to have substantially changed the conclusions of this review, the risk of introduction of bias or reduced generalisability of results should be acknowledged.

Clinical Implications and Directions for Future Research

Although the range of reported rates of formal help-seeking and informal disclosure was broad, rates were low overall. Future research should therefore focus on evaluating the effectiveness of strategies targeting potentially modifiable moderators of help-seeking. Some promising avenues for intervention include stigma reduction and education (Eisenberg et al., 2012; Hom et al., 2015; Shim et al., 2022). However, both personal and public attitudes contribute to stigmatising attitudes (Vogel et al., 2007; Waqas et al., 2020), and as such one-off interventions may be of limited impact. Whole university approaches which involve shared responsibility across the university community to change attitudes about wellbeing and mental health alongside stronger ties with external health services (Hughes & Spanner, 2019) could facilitate implementation of multi-stranded interventions to change attitudes at the systemic level, which may be more effective than individual interventions (Hughes & Spanner, 2019; University of Sydney, 2020), although further clarity is needed on the precise nature of how mental health prevention and support responsibilities are shared between universities and other health services. Some groups such as those from ethnic minorities, and males, may also benefit from additional targeted approaches to encourage help-seeking where needed,

although mixed findings regarding variations in rates of help-seeking among these subgroups necessitates further research in this area.

Targeted, multisite investigations are needed, using consistent and reliable methods to identify students experiencing STB and self-harm who are and are not known to mental health services. This will allow for a better understanding of those who may be particularly at risk of going undetected. Future studies should also seek to directly compare relative rates of informal and formal disclosure and receipt of support, and further explore links between these concepts. Larger epidemiological studies across multiple contexts which include data less susceptible to response bias, such as university and health service routine monitoring data may provide a fuller picture of the true rates of help-seeking seen in university populations and identify further risk factors rarely recorded in self-report surveys, such as financial pressures.

Conclusion

Overall, evidence suggests that around half of students with STB or self-harm do not seek help for their mental health while at university. Peers may be important first confidants for those that do choose to disclose, and therefore interventions to facilitate forming social support networks at university are an important and cost effective first step to encourage help-seeking. Further investigation into formal and informal avenues of support utilised, and how best to make these accessible to students, particularly in males, and before distress escalates to the point of suicide risk is necessary. A number of factors can influence help-seeking, and, given the notably low rates of help-seeking identified, research should prioritize the identification of effective interventions that encourage students to seek support, and to effectively reduce STB and self-harm in those who do reach out to services.

Appendix 1. Summary of Systematic Review Search Strategy

Part a) published literature databases
Part b) grey literature search

Summary of records retrieved from each published literature database.

Name of database	Date search from	Date of search to:	Records retrieved
MEDLINE	1946	10/11/2023	196
PsycINFO	1806	10/11/2023	387
ERIC (EBSCO)	1972	10/11/2023	105
		Total	**688**
		De-duplicated	509

Ovid MEDLINE(R) ALL < 1946 to November 09, 2023 >

1 help-seeking behavior/1206
2 Disclosure/15557
3 Self Disclosure/7344
4 ("help seek* or help-seek* or helpseek* or health care util*" or "healthcare util*" or "health care use" or "healthcare use" or "health care seek*" or "healthcare seek*" or disclos* or self-disclos* or "self help" or self-help or (recei* adj4 (treatment or rate?))).mp.299428
5 (seek* adj2 (help or support or advice or treatment or therapy or counsel* or care or medic*)).mp.56799
6 (us* adj2 (mental health service* or mental health care or health care)).mp.21936
7 (util* adj2 (mental health service* or mental health care or health care)).mp.14854
8 (hid* or conceal* or withhold*).mp.106216
9 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 480791
10 Self Mutilation/3252
11 Self-Injurious Behavior/10044
12 Suicidal Ideation/13144
13 Suicide/ or Suicide, Completed/ or Suicide, Attempted/59353
14 ("self harm*" or self-harm* or selfharm* or "self suicide*" or self-mutilat* or self-injur* or "self injur*" or "self inflicted wound*" or "self-inflicted wound*" or "self poison*" or self-poison* or suicide* or "self cut*" or self-cut*).mp.116256
15 10 or 11 or 12 or 13 or 14 118770
16 (undergraduate* or under-graduate* or postgraduate* or post-graduate*).mp.96979
17 ((college or university or collegiate) adj3 (student* or wom?n or m?n or adult*)).mp.64185
18 ((higher or tertiary) adj2 education).mp.26015
19 16 or 17 or 18 175244
20 9 and 15 and 19 196

APA PsycInfo < 1806 to October Week 5 2023 >

1 health care utilization/18071
2 health care seeking behavior/ or help seeking behavior/12752
3 self-disclosure/8624
4 ("help seek* or help-seek* or helpseek* or health care util*" or "healthcare util*" or "health care use" or "healthcare use" or "health care seek*" or "healthcare seek*" or disclos* or self-disclos* or "self help" or self-help or (recei* adj4 (treatment or rate?))).mp.90942
5 (seek* adj2 (help or support or advice or treatment or therap* or counsel* or care or medic*)).mp.43528
6 (us* adj2 ("mental health service*" or "health care")).mp.9252
7 (util* adj2 ("mental health service*" or "health care")).mp.20670
8 (hid* or conceal* or withhold*).mp.36316
9 or/1–8 179757
10 exp self-destructive behavior/54404

11 suicidality/4114
12 suicide prevention/6447
13 ("self harm*" or self-harm* or selfharm* or suicide* or self-mutilat* or "self injur*" or self-injur* or "self inflicted wound*" or "self-inflicted wound*" or "self poison*" or self-poison* or "self cut*" or self-cut*).mp.82025
14 10 or 11 or 12 or 13 84982
15 Graduate Students/ or Dental Students/ or International Students/ or Nursing Students/ or Medical Students/ or College Students/ or Education Students/ or Postgraduate Students/ or Business Students/ or Law Students/ or Junior College Students/132566
16 (undergraduate* or under-graduate* or postgraduate* or post-graduate*).mp.134098
17 ((college or university) adj3 (student* or wom?n or m?n or adult*)).mp.242578
18 ((higher or tertiary) adj2 education).mp.43261
19 15 or 16 or 17 or 18 358854
20 9 and 14 and 19 387

ERIC (Ebsco) < inception to 10/11/2023 >

#	Query	Limiters/Expanders	Last Run Via	Results
S15	S6 AND S9 AND S14	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	105
S14	S10 OR S11 OR S12 OR S13	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	Display
S13	(undergraduate* or under-graduate* or postgraduate* or post-graduate*)	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	Display
S12	((higher or tertiary) N2 education)	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	Display
S11	((college or university or collegiate) N3 (student* or wom?n or m?n or adult*))	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	Display

#	Query	Limiters/Expanders	Last Run Via	Results
S10	DE "College Students" OR DE "College Freshmen" OR DE "College Seniors" OR DE "College Transfer Students" OR DE "First Generation College Students" OR DE "Graduate Students" OR DE "In State Students" OR DE "On Campus Students" OR DE "Out of State Students" OR DE "Preservice Teachers" OR DE "Two Year College Students" OR DE "Undergraduate Students" OR DE "College Freshmen" OR DE "College Seniors" OR DE "College Transfer Students" OR DE "First Generation College Students" OR DE "Graduate Students" OR DE "In State Students" OR DE "On Campus Students" OR DE "Out of State Students" OR DE "Preservice Teachers" OR DE "Two Year College Students" OR DE "Undergraduate Students"	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	Display
S9	S7 OR S8	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	Display
S8	("self harm*" or self-harm* or selfharm* or "suicide* or self-mutilat* or "self injur*" or self-injur* or "self inflicted wound*" or "self-inflicted wound*" or "self poison*" or self-poison* or "self cut*" or self-cut*)	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	Display
S7	DE "Suicide" OR DE "Self Destructive Behavior"	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	Display
S6	S1 OR S2 OR S3 OR S4 OR S5	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	Display

#	Query	Limiters/Expanders	Last Run Via	Results
S5	(hid* or conceal* or withhold*)	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	Display
S4	(((us* or util*) N2 ("mental health service*" or "health care"))	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	Display
S3	(seek* N2 (help or support or advice or treatment or therap* or counsel* or care or medic*))	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	Display
S2	("help seek*" or help-seek* or helpseek* or "health care util*" or "healthcare util*" or “health care use” or “healthcare use” or "health care seek*" or "healthcare seek*" or disclos* or self-disclos* or "self help" or self-help or (recei* N4 (treatment or (rate or rates))))	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	Display
S1	DE “Disclosure” OR DE “Self Disclosure (Individuals)”	Expanders—Apply equivalent subjects Search modes—Boolean/Phrase	Interface—EBSCOhost Research Databases Search Screen—Advanced Search Database—ERIC	Display

BASE Grey literature search conducted December 21.st 2023

Search term	Hits	Included
tit:students tit:self-harm tit:help-seeking	8	0
tit:student tit:suicidal tit:help-seeking	1	0
tit:student tit:ideation tit:disclosure	0	0
tit:student tit:ideation tit:help	1	0
tit:college tit:self-harm tit:help	0	0
tit:college tit:suicide tit:help	14	0

PsychEXTRA search conducted December 21.st 2023

As in PsycEXTRA search above. 35 results returned. None included.

Appendix 2. Reasons for Excluding Items Reviewed at Full Text

Study ID	Exclusion reason	Detail	Reference
Afsharnejad, 2023	Wrong population	No data for STB or self-harm population	Afsharnejad, B., Milbourn, B., Brown, C., Clifford, R., Foley, K. R., Logan, A., Lund, S., Machingura, T., McAuliffe, T., Mozolic-Staunton, B., Sharp, N., Hayden-Evans, M., Baker Young, E., Black, M., Zimmermann, F., Kacic, V., Bolte, S., & Girdler, S. (2023). Understanding the utility of "Talk-to-Me" an online suicide prevention program for Australian university students. Suicide & Life Threatening Behavior, 1, 01. https://doi.org/10.1111/sltb.12978
Ammerman, 2021	Wrong outcome	Help-seeking did not happen while at university	Ammerman, B. A., Wilcox, K. T., O'Loughlin, C. M., & McCloskey, M. S. (2021). Characterizing the choice to disclose nonsuicidal self-injury. Journal of Clinical Psychology, 77(3), 683–700. https://doi.org/10.1002/jclp.23045
Anchuri, 2020	Wrong outcome	No help-seeking outcome	Anchuri, K. M., Davoren, A. K., Shanahan, A., Torres, M., & Wilcox, H. C. (2020). Nonsuicidal self-injury, suicidal ideation, and suicide attempt among collegiate athletes: Findings from the National College Health Assessment. Journal of American College Health, 68(8), 815–823. https://doi.org/10.1080/07448481.2019.1616743
Anderson, 2020	Wrong population	No STB or self-harm	Anderson, A. H., Carter, M., & Stephenson, J. (2020). An On-Line Survey of University Students with Autism Spectrum Disorder in Australia and New Zealand: Characteristics, Support Satisfaction, and Advocacy. Journal of Autism and Developmental Disorders, 50(2), 440–454. https://doi.org/10.1007/s10803-019-04259-8
Andover, 2007	Wrong outcome	Help-seeking reported as a rating	Andover, M. S., Pepper, C. M., & Gibb, B. E. (2007). Self-mutilation and coping strategies in a college sample. Suicide & Life-Threatening Behavior, 37(2), 238–243.

Study ID	Exclusion reason	Detail	Reference
Armiento, 2014	Wrong outcome	Help-seeking did not happen while at university	Armiento, J. S., Hamza, C. A., & Willoughby, T. (2014). An examination of disclosure of nonsuicidal self-injury among university students. Journal of Community & Applied Social Psychology, 24(6), 518–533. https://doi.org/10.1002/casp.2190
Becker, 2018	Wrong outcome	Intentions to seek help only	Becker, S. P., Holdaway, A. S., & Luebbe, A. M. (2018). Suicidal Behaviors in College Students: Frequency, Sex Differences, and Mental Health Correlates Including Sluggish Cognitive Tempo. Journal of Adolescent Health, 63(2), 181–188. https://doi.org/10.1016/j.jadohealth.2018.02.013
Benjet, 2019	Wrong population	Combine reports of outcome for all mental health disorders	Benjet, C., Gutierrez-Garcia, R. A., Abrego-Ramirez, A., Borges, G., Covarrubias-Diaz, A., Duran, M. D. S., Gonzalez-Gonzalez, R., Hermosillo-de la Torre, A. E., Martinez-Martinez, K. I., Medina-Mora, M. E., Mejia-Zarazua, H., Perez-Tarango, G., Zavala-Berbena, M. A., & Mortier, P. (2019). Psychopathology and self-harm among incoming first-year students in six Mexican universities. Salud Publica de Mexico, 61(1), 16–26. https://doi.org/10.21149/9158%(Psicopatologia y autolesiones en alumnos de nuevo ingreso en seis universidades mexicanas
Bond, 2023	Wrong publication type	Dissertation	Bond, K. L. (2023). Factors associated with help-seeking intentions and behaviors among college students with suicidal thoughts and behaviors. Dissertation Abstracts International: Section B: The Sciences and Engineering, 84(1), No Pagination Specified.
Borgogna, 2023	Wrong outcome	Intentions to help a peer only reported	Borgogna, N. C., McDermott, R. C., Brasil, K. M., Berry, A. T., & Smith, T. (2023). An examination of college student helping intentions: Depression, suicidal, and homicidal presentations. Counselling Psychology Quarterly, 36(1), 153–168. https://doi.org/10.1080/09515070.2022.2073331

Study ID	Exclusion reason	Detail	Reference
Bornheimer, 2022	Wrong population	No data for STB or self-harm population	Bornheimer, L. A., Czyz, E., Koo, H. J., Li Verdugo, J., Eisenberg, D., Zheng, K., Pistorello, J., Albucher, R. C., Coryell, W., Favorite, T., & King, C. A. (2022). Suicide risk profiles and barriers to professional help-seeking among college students with elevated risk for suicide. Journal of Psychiatric Research, 152, 305–312. https://doi.org/10.1016/j.jpsychires.2022.06.028
Busby, 2021	Wrong outcome	Combine reports of outcome for all mental health disorders	Busby, D. R., Zheng, K., Eisenberg, D., Albucher, R. C., Favorite, T., Coryell, W., Pistorello, J., & King, C. A. (2021). Black college students at elevated risk for suicide: Barriers to mental health service utilization. Journal of American College Health, 69(3), 308–314. https://doi.org/10.1080/07448481.2019.1674316
Coduti, 2016	Wrong outcome	Help-seeking only reported in sample receiving mental health treatment	Coduti, W. A., Hayes, J. A., Locke, B. D., & Youn, S. J. (2016). Mental health and professional help-seeking among college students with disabilities. Rehabilitation Psychology, 61(3), 288–296. https://doi.org/10.1037/rep0000101
Czyz, 2013	Wrong population	Not all STB or self-harm at current	Czyz, E. K., Horwitz, A. G., Eisenberg, D., Kramer, A., & King, C. A. (2013). Self-reported barriers to professional help seeking among college students at elevated risk for suicide. Journal of American College Health, 61(7), 398–406. https://doi.org/10.1080/07448481.2013.820731
De Luca, 2020	Wrong outcome	Help-seeking reported as a rating	De Luca, S. M., Lytle, M. C., Yan, Y., & Brownson, C. (2020). Help-seeking behaviors and attitudes of emerging adults: How college students reporting recent suicidal ideation utilize the internet compared to traditional resources. Journal of American College Health, 68(3), 250–257. https://doi.org/10.1080/07448481.2018.1539397
Deane, 2001	Wrong outcome	Intentions to seek help only	Deane, F. P., Wilson, C. J., & Ciarrochi, J. (2001). Suicidal ideation and help-negation: Not just hopelessness or prior help. Journal of Clinical Psychology, 57(7), 901–914.

Study ID	Exclusion reason	Detail	Reference
Del Pilar, 2009	Wrong population	Help-seeking only reported in sample receiving mental health treatment	Del Pilar, J. A. (2009). Mental health and Latino/a college students: A psychological perspective and new findings. Journal of Hispanic Higher Education, 8(3), 263–281. https://doi.org/10.1177/1538192708328891
Ebert, 2019	Wrong outcome	Intentions to seek help only	Ebert, D. D., Mortier, P., Kaehlke, F., Bruffaerts, R., Baumeister, H., Auerbach, R. P., Alonso, J., Vilagut, G., Martinez, K. I., Lochner, C., Cuijpers, P., Kuechler, A. M., Green, J., Hasking, P., Lapsley, C., Sampson, N. A., & Kessler, R. C. (2019). Barriers of mental health treatment utilization among first-year college students: First cross-national results from the WHO World Mental Health International College Student Initiative. International Journal of Methods in Psychiatric Research, 28(2), e1782. https://doi.org/10.1002/mpr.1782
Edwards, 2021	Wrong outcome	Combine reports of outcome for all mental health disorders	Edwards, B., Froehle, A. W., & Fagan, S. E. (2021). Trends in College Student-Athlete Mental Health in the National College Health Assessment (NCHA), 2011–2019. Journal of Athletic Training, 13, 13. https://doi.org/10.4085/1062-6050-586-21
Ennis, 2019	Wrong population	Combine reports of outcome for all mental health disorders	Ennis, E., McLafferty, M., Murray, E., Lapsley, C., Bjourson, T., Armour, C., Bunting, B., Murphy, S., & O'Neill, S. (2019). Readiness to change and barriers to treatment seeking in college students with a mental disorder. Journal of Affective Disorders, 252, 428–434. https://doi.org/10.1016/j.jad.2019.04.062
Eskin, 2015	Wrong outcome	Help-seeking did not happen while at university	Eskin, M., Schild, A., Oncu, B., Stieger, S., & Voracek, M. (2015). A Cross-Cultural Investigation of Suicidal Disclosures and Attitudes in Austrian and Turkish University Students. Death Studies, 39(10), 584–591. https://doi.org/10.1080/07481187.2015.1037971

Study ID	Exclusion reason	Detail	Reference
Fitzgerald, 2017	Wrong outcome	Help-seeking did not happen while at university	Fitzgerald, J., & Curtis, C. (2017). Non-suicidal self-injury in a New Zealand student population: Demographic and self-harm characteristics. New Zealand Journal of Psychology, 46(3), 156–163.
Gaddis, 2018	Wrong outcome	No help-seeking outcome	Gaddis, S. M., Ramirez, D., Hern, & ez, E. L. (2018). Contextualizing public stigma: Endorsed mental health treatment stigma on college and university campuses. Social Science & Medicine, 197, 183–191. https://doi.org/10.1016/j.socscimed.2017.11.029
Garcia-Williams, 2014	Wrong outcome	Combine reports of outcome for all mental health disorders	Garcia-Williams, A., G., a., Moffitt, L., & Kaslow, N. J. (2014). Mental health and suicidal behavior among graduate students. Academic Psychiatry, 38(5), 554–560. https://doi.org/10.1007/s40596-014-0041-y
Heath, 2009	Wrong outcome	No help-seeking outcome	Heath, N. L., Ross, S., Toste, J. R., Charlebois, A., & Nedecheva, T. (2009). Retrospective analysis of social factors and nonsuicidal self-injury among young adults. Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement, 41(3), 180–186. https://doi.org/10.1037/a0015732
Hedman-Robertson, 2018	Wrong outcome	Help-seeking did not happen while at university	Hedman-Robertson, A. S. (2018). Undergraduate students' exposure, knowledge, utilization, and intended use of the national suicide prevention lifeline. Crisis: The Journal of Crisis Intervention and Suicide Prevention, 39(2), 110–118. https://doi.org/10.1027/0227-5910/a000480
Hom, 2017	Wrong outcome	No help-seeking outcome	Hom, M. A., Stanley, I. H., Podlogar, M. C., & Joiner, T. E., Jr. (2017). "Are You Having Thoughts of Suicide?" Examining Experiences With Disclosing and Denying Suicidal Ideation. Journal of Clinical Psychology, 73(10), 1382–1392. https://doi.org/10.1002/jclp.22440

Study ID	Exclusion reason	Detail	Reference
Janota, 2022	Wrong outcome	Combine reports of outcome for all mental health disorders	Janota, M., Kovess-Masfety, V., Gobin-Bourdet, C., & Husky, M. M. (2022). Use of mental health services and perceived barriers to access services among college students with suicidal ideation. Journal of Behavioral and Cognitive Therapy, 32(3), 183–196. https://doi.org/10.1016/j.jbct.2022.02.003
Kerr, 2013	Wrong population	No data for STB or self-harm population	Kerr, D. L., Santurri, L., & Peters, P. (2013). A Comparison of Lesbian, Bisexual, and Heterosexual College Undergraduate Women on Selected Mental Health Issues. Journal of American College Health, 61(4), 185–194. https://doi.org/10.1080/07448481.2013.787619
Ketchen, 2015	Wrong outcome	Combine reports of outcome for all mental health disorders	Ketchen Lipson, S., Gaddis, S. M., Heinze, J., Beck, K., & Eisenberg, D. (2015). Variations in Student Mental Health and Treatment Utilization Across US Colleges and Universities. Journal of American College Health, 63(6), 388–396. https://doi.org/10.1080/07448481.2015.1040411
King, 2021	Wrong outcome	Help-seeking did not happen while at university	King, N., Pickett, W., McNevin, S. H., Bowie, C. R., Rivera, D., Keown-Stoneman, C., Harkness, K., Cunningham, S., Milanovic, M., Saunders, K. E. A., Goodday, S., & Duffy, A. (2021). Mental health need of students at entry to university: Baseline findings from the U-Flourish Student Well-Being and Academic Success Study. Early intervention in psychiatry, 15(2), 286–295. https://doi.org/10.1111/eip.12939
Knorr, 2019	Wrong population	Help-seeking only reported in sample receiving mental health treatment	Knorr, A. C., Ammerman, B. A., Hamilton, A. J., & McCloskey, M. S. (2019). Predicting status along the continuum of suicidal thoughts and behavior among those with a history of non-suicidal self-injury. Psychiatry Research, 273, 514–522. https://doi.org/10.1016/j.psychres.2019.01.067

Study ID	Exclusion reason	Detail	Reference
Lipson, 2019	Wrong outcome	Combine reports of outcome for all mental health disorders	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
Lipson, 2022	Wrong outcome	Combine reports of outcome for all mental health disorders	Lipson, S. K., Zhou, S., Abelson, S., Heinze, J., Jirsa, M., Morigney, J., Patterson, A., Singh, M., & Eisenberg, D. (2022). Trends in college student mental health and help-seeking by race/ethnicity: Findings from the national healthy minds study, 2013–2021. Journal of Affective Disorders, 306, 138–147. https://doi.org/10.1016/j.jad.2022.03.038
Matsubara, 2021	Wrong outcome	Only completed suicides	Matsubara, T., Yamamoto, N., Chen, C., Okuya, S., & Nakagawa, S. (2021). A 26-year retrospective survey on suicide cases of students at Yamaguchi University (1992–2017): Risk factors and the role of the health administration center. Psychiatry Research, 295, 113566. https://doi.org/10.1016/j.psychres.2020.113566
McClay, 2020	Wrong outcome	Help-seeking did not happen while at university	McClay, M. M., Brausch, A. M., & O'Connor, S. S. (2020). Social Support Mediates the Association between Disclosure of Suicide Attempt and Depression, Perceived Burdensomeness, and Thwarted Belongingness. Suicide & Life-Threatening Behavior, 50(4), 884–898. https://doi.org/10.1111/sltb.12622
McLafferty, 2017	Wrong population	Combine reports of outcome for all mental health disorders	McLafferty, M., Brown, N., Brady, J., McLaughlin, J., McHugh, R., Ward, C., McBride, L., Bjourson, A. J., O'Neill, S. M., Walsh, C. P., & Murray, E. K. (2022). Variations in psychological disorders, suicidality, and help-seeking behaviour among college students from different academic disciplines. PLoS ONE [Electronic Resource], 17(12), e0279618. https://doi.org/10.1371/journal.pone.0279618

Study ID	Exclusion reason	Detail	Reference
McLafferty, 2022	Wrong outcome	Combine reports of outcome for all mental health disorders	McLafferty, M., Lapsley, C. R., Ennis, E., Armour, C., Murphy, S., Bunting, B. P., Bjourson, A. J., Murray, E. K., & O'Neill, S. M. (2017). Mental health, behavioural problems and treatment seeking among students commencing university in Northern Ireland. PLoS ONE Vol 12(12), 2017, ArtID e0188785, 12(12). https://doi.org/10.1371/journal.pone.0188785
McLaughlin, 2021	Wrong outcome	Only those who had received mental health support previously	McLaughlin, J. C., & Gunnell, D. (2021). Suicide Deaths in University Students in a UK City Between 2010 and 2018—Case Series. Crisis: Journal of Crisis Intervention & Suicide, 42(3), 171–178. https://doi.org/10.1027/0227-5910/a000704
Merlo, 2017	Wrong population	Combine reports of outcome for all mental health disorders	Merlo, L. J., Curran, J. S., & Watson, R. (2017). Gender differences in substance use and psychiatric distress among medical students: A comprehensive statewide evaluation. Substance Abuse, 38(4), 401–406. https://doi.org/10.1080/08897077.2017.1355871
Mirichlis, 2022	Wrong outcome	Help-seeking did not happen while at university	Mirichlis, S., Hasking, P., Lewis, S. P., & Boyes, M. E. (2022). Correlates of disclosure of non-suicidal self-injury amongst Australian university students. Journal of Public Mental Health, 21(1), 70–81. https://doi.org/10.1108/JPMH-07-2021-0089
Morrison, 2000	Wrong population	Only those who had received mental health support previously	Morrison, L. L., & Downey, D. L. (2000). Racial differences in self-disclosure of suicidal ideation and reasons for living: implications for training. Cultural Diversity & Ethnic Minority Psychology, 6(4), 374–386.
Muehlenkamp, 2013	Wrong outcome	No help-seeking outcome	Muehlenkamp, J., Brausch, A., Quigley, K., & Whitlock, J. (2013). Interpersonal features and functions of nonsuicidal self-injury. Suicide & Life-Threatening Behavior, 43(1), 67–80. https://doi.org/10.1111/j.1943-278X.2012.00128.x

Study ID	Exclusion reason	Detail	Reference
Ovuga, 1996	Wrong outcome	Intentions to seek help only	Ovuga, E. B., Buga, J. W., & Guwatudde, D. (1996). Prediction of self-destructive behaviour among Makerere University students. East African Medical Journal, 73(7), 448–452.
Pospos, 2019	Wrong population	No data for STB or self-harm population	Pospos, S., Tal, I., Iglewicz, A., Newton, I. G., Tai-Seale, M., Downs, N., Jong, P., Lee, D., Davidson, J. E., Lee, S. Y., Rubanovich, C. K., Ho, E. V., Sanchez, C., & Zisook, S. (2019). Gender differences among medical students, house staff, and faculty physicians at high risk for suicide: A HEAR report. Depression and Anxiety, 36(10), 902–920. https://doi.org/10.1002/da.22909
Qi, 2012	Not English Language		Qi, T., Xiao-Min, W., Rong-Hua, Z., Wei-Ping, C., Yi-Hong, Z., & Wan-Er, Z. (2012). Suicidal issues status in adolescents in Hangzhou City. Chinese Mental Health Journal, 26(3), 230–234.
Rosenrot, 2020	Wrong population	Lifetime STB or self-harm only	Rosenrot, S. A., & Lewis, S. P. (2020). Barriers and responses to the disclosure of non-suicidal self-injury: A thematic analysis. Counselling Psychology Quarterly, 33(2), 121–141. https://doi.org/10.1080/09515070.2018.1489220
Scheel, 2011	Wrong outcome	Intentions to seek help only	Scheel, K., Prieto, L., & Biermann, J. (2011). American Indian college student suicide: Risk, beliefs, and help-seeking preferences. Counselling Psychology Quarterly, 24(4), 277–289. https://doi.org/10.1080/09515070.2011.638444
Schweitzer, 1995	Wrong outcome	Data cannot be extracted	Schweitzer, R., Klayich, M., & McLean, J. (1995). Suicidal ideation and behaviours among university students in Australia. Australian & New Zealand Journal of Psychiatry, 29(3), 473–479.
Shaw, 2006	Wrong outcome	No help-seeking outcome	Shaw, S. N. (2006). Certainty, Revision, and Ambivalence: A Qualitative Investigation into Women's Journeys to Stop Self-Injuring. Women & Therapy, 29(1), 153–177. https://doi.org/10.1300/J015v29n01_08

Study ID	Exclusion reason	Detail	Reference
Tang, 2018	Wrong population	Combine reports of outcome for all mental health disorders	Tang, Y., & Masicampo, E. (2018). Asian American college students, perceived burdensomeness, and willingness to seek help. Asian American Journal of Psychology, 9(4), 344–349. https://doi.org/10.1037/aap0000137
Valenstein, 2022	Wrong outcome	Combine reports of outcome for all mental health disorders	Valenstein, M., Clive, R., Ganoczy, D., Garlick, J., Walters, H. M., West, B. T., Kim, H. M., Eisenberg, D., Bohnert, K. M., DesJardins, S. L., Zivin, K., Lepkowski, J., & Pfeiffer, P. N. (2022). A nationally representative sample of veteran and matched non-veteran college students: Mental health symptoms, suicidal ideation, and mental health treatment. Journal of American College Health, 70(2), 436–445. https://doi.org/10.1080/07448481.2020.1753751
Vasiliadis, 2022	Wrong population	Not a student sample	Vasiliadis, H. M., Leon, C., du Roscoat, E., & Husky, M. M. (2022). Predisposing, enabling and need factors associated with past-year health service use for mental health reasons in adults with suicidal ideation in France. Journal of Affective Disorders, 319, 62–69. https://doi.org/10.1016/j.jad.2022.09.039
Veron, 2020	Wrong population	No data for STB or self-harm population	Veron, L., Sauvade, F., & Le Barbenchon, E. (2020). Suicidal risk and depression: Going door-to-door to diagnose French students in residence. Psychologie Francaise, 65(1), 49–59. https://doi.org/10.1016/j.psfr.2018.12.001
Whitlock, 2006	Wrong outcome	Helpseeking did not happen while at university	Whitlock, J., Eckenrode, J., & Silverman, D. (2006). Self-injurious behaviors in a college population. Pediatrics, 117(6), 1939–1948.
Whitlock, 2007	Wrong outcome	Helpseeking did not happen while at university	Whitlock, J., & Knox, K. L. (2007). The relationship between self-injurious behavior and suicide in a young adult population. Archives of Pediatrics & Adolescent Medicine, 161(7), 634–640.

Study ID	Exclusion reason	Detail	Reference
Whitlock, 2011	Wrong outcome	Helpseeking did not happen while at university	Whitlock, J., Muehlenkamp, J., Purington, A., Eckenrode, J., Barreira, P., Baral Abrams, G., Marchell, T., Kress, V., Girard, K., Chin, C., & Knox, K. (2011). Nonsuicidal self-injury in a college population: General trends and sex differences. Journal of American College Health, 59(8), 691–698. https://doi.org/10.1080/07448481.2010.529626
Whitlock, 2015	Wrong outcome	Helpseeking did not happen while at university	Whitlock, J., Prussien, K., & Pietrusza, C. (2015). Predictors of self-injury cessation and subsequent psychological growth: results of a probability sample survey of students in eight universities and colleges. Child & Adolescent Psychiatry & Mental Health [Electronic Resource], 9, 19. https://doi.org/10.1186/s13034-015-0048-5
Wilcox, 2012	Wrong population	Helpseeking only reported in sample receiving mental health treatment	Wilcox, H. C., Arria, A. M., Caldeira, K. M., Vincent, K. B., Pinchevsky, G. M., & O'Grady, K. E. (2012). Longitudinal predictors of past-year non-suicidal self-injury and motives among college students. Psychological Medicine, 42(4), 717–726. https://doi.org/10.1017/S0033291711001814
Worley, 2008	Wrong outcome	No help-seeking outcome	Worley, L. L. (2008). Our fallen peers: A mandate for change. Academic Psychiatry, 32(1), 8–12. https://doi.org/10.1176/appi.ap.32.1.8
Wright, 2009	Wrong outcome	Help-seeking did not happen while at university	Wright, F., Bewick, B. M., Barkham, M., House, A. O., & Hill, A. J. (2009). Co-occurrence of self-reported disordered eating and self-harm in UK university students. British Journal of Clinical Psychology, 48, 397–410. https://doi.org/10.1348/014466509X410343
Zivin, 2009	Wrong outcome	Help-seeking reported as a rating	Zivin, K., Eisenberg, D., Gollust, S. E., & Golberstein, E. (2009). Persistence of mental health problems and needs in a college student population. Journal of Affective Disorders, 117(3), 180–185. https://doi.org/10.1016/j.jad.2009.01.001

Appendix 3 Quality ratings

Study	1	2	3	4	5	6	7	8	9	10	11	Total	Total possible score	Linear Score	Quality rating
Aguilar and Lipson, 2021	2	2	2	2	1	2	2	NA	0	2	2	17	20	77.27273	HIGH
Arria et al. 2011	2	1	1	2	1	0	1	0	0	1	1	10	22	45.45455	MODERATE
Bantjes et al. 2023	2	2	2	1	2	2	2	2	2	2	2	21	22	95.45455	HIGH
Bantjes et al. 2020	2	2	1	2	2	2	2	2	2	2	2	21	22	95.45455	HIGH
Brownson et al. 2011	2	2	1	1	1	1	2	0	1	2	2	15	22	68.18182	MODERATE
Browson et al. 2014	2	2	1	1	1	2	2	0	NA	2	2	15	20	75	HIGH
Bruffaerts et al. 2019	2	2	1	2	2	2	2	2	2	2	2	21	22	95.45455	HIGH
Castro Ramirez 2023	2	2	1	1	1	0	1	NA	0	2	2	12	20	54.54545	MODERATE
De Luca 2020	2	1	1	2	2	2	2	2	2	2	2	20	22	90.90909	HIGH
De Luca et al. 2014	2	2	1	2	2	2	2	2	2	2	2	21	22	95.45455	HIGH
Downs and Eisenberg, 2012	2	2	2	2	2	2	2	2	2	2	2	22	22	100	HIGH
Drum et al. 2009	1	2	1	2	1	2	0	0	NA	1	1	11	20	55	MODERATE
Furr et al. 2001	0	0	1	1	1	2	1	0	0	1	1	8	22	36.36364	LOW
Garlow et al. 2008	2	2	1	2	1	2	1	2	0	2	1	16	22	72.72727	MODERATE
Gollust et al. 2008	2	2	2	1	1	2	2	2	2	2	2	20	22	90.90909	HIGH
Han et al. 2016	2	2	2	2	2	2	2	2	2	2	2	22	22	100	HIGH
Kisch et al. 2005	2	1	1	2	1	2	0	0	2	2	2	15	22	68.18182	MODERATE
Nam et al. 2018	2	1	2	2	1	0	2	2	2	2	1	17	22	77.27273	HIGH
Reyes-Portillo 2022	2	1	1	2	2	2	2	NA	1	2	2	17	20	77.27273	HIGH
Samlan et al. 2021	2	2	2	1	2	2	2	2	2	2	2	21	22	95.45455	HIGH

Study	1	2	3	4	5	6	7	8	9	10	11	Total	Total possible score	Linear Score	Quality rating
Shannonhouse et al. 2020	2	2	1	2	1	1	2	2	0	2	2	17	22	77.27273	HIGH
Wong et al. 2014	2	2	1	2	2	2	2	2	1	2	2	20	22	90.90909	HIGH

1. Question/Objective sufficiently described?
2. Study design evident and appropriate?
3. Method of subject selection OR source of information/input variables described and appropriate?
4. Subject (and comparison group, if applicable) characteristics sufficiently described?
5. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/missclassification bias? Means of assessment reported?
6. Sample size appropriate?
7. Analytic methods described/justified and appropriate?
8. Some estimate of variance is reported for the main results?
9. Controlled for confounding?
10. Results reported in sufficient detail
11. Conclusions supported by the results?

Study	1	2	3	4	5	6	7	8	9	10	11	Total	Total possible score	Linear Score	Quality rating
Study			1	2	3	4	5	6	7	8	9	10			
Burton Denmark et al. 2012			2	2	2	2	2	2	2	2	2	0	18	90.0	HIGH
1. Question/Objective sufficiently described?															
2. Study design evident and appropriate?															
3. Context of the study clear?															
4. Connection to a theoretical framework/wider body of knowledge?															
5. Sampling strategy described, relevant and justified??															
6. Data collection methods clearly described and semantic?															
7. Data analysis clearly described and semantic?															
8. Use of verification procedure(s) to establish credibility?															
9. Conclusions supported by the results?															
10. Reflexivity of the account?															

The Grading of Recommendations Assessment, Development and Evaluation (GRADE) system (Guyatt et al., 2008), adapted for narrative synthesis according to (Murad et al., 2017) and according to methodological differences in research contributing to each research question was applied. Each GRADE domain could receive 'no concerns', 'borderline' or 'serious concerns' rating. In line with recommendations for the contributing study designs (Guyatt et al., 2008), the overall certainty for each outcome started as moderate and was downgraded for any 'serious concerns'. The GRADE domains were operationalized in the following way:

1) Study quality- "serious concerns" were noted if more than 50% of the contributing studies were of low quality and "no concern" if more than 50% were of high quality based on quality ratings
2) Inconsistency- consistency in reported outcomes (proportions of students reporting help-seeking or disclosure) was considered. 'No concerns' were noted when estimates of prevalence were similar for specific groups in the majority of cases. 'Serious concerns' were noted when there was significant variability in estimates of the proportions of students reporting the outcome.
3) Indirectness – a judgement was made on the degree of similarity of the research evidence with the research question of interest, reflecting on how directly the available evidence answered the specific research questions set out in the review. For example, measures of outcomes which were deemed less directly related to an outcome contributed to down-ratings for this domain.
4) Imprecision – a judgement was made based on the total number of contributing studies and their sample size. The sample size threshold used was 1000 participants. 'Serious concerns' were noted when there was only one contributing study, regardless of its sample size.
5) Publication bias – we considered if studies contributing to an outcome reported significant and non-significant results, or if publication bias was likely due to missing evidence. 'Serious concerns' were assigned if there were only two or less contributing studies.

No. of studies	Study quality	Concerns about certainty (serious concerns: > 50% of information is from studies at low risk of bias)	Inconsistency (concerns when more than 20% variation?)	Concerns about certainty	Indirectness [majority differences in help seeking definition]	Concerns about certainty	Imprecision < 1000 n	Concerns about certainty [borderline if some, concerns if more than half?]	Publication bias	Concerns about certainty	Certainty (high certainty ⊕⊕⊕⊕, moderate certainty ⊕⊕⊕O, low certainty ⊕⊕OO and very low certainty ⊕OOO)
Help-seeking prevalence (NSSI)											
2	2/2 studies were high quality	No concerns	Overall difference in estimates = 11.1%	Borderline	One looked at past 4 weeks, one looked at 12 months. Self report from students. One was postgraduate and undergraduate, and one was just undergraduate. Receipt/Accessed treatment	Major concerns	201 in one of the studies, however large sample in other studies	Borderline	Only two studies, publication bias expected	Major concerns	very low certainty ⊕OOO
Help-seeking prevalence (SI)											
10	6/10 studies were high quality	No concerns	Overall difference in estimates = 40.3%	Major concerns	one since starting college, one past 4 weeks, 8/10 past 12 months. 2/10 seeking treatment, remaining 8 = accessing some form of mental health treatment. One in FT/PT students but estimates within range and didn't differ much	Borderline	4/10 sample size < 1000	Major concerns	No publication bias suspected	No concerns	very low certainty ⊕OOO
Help-seeking prevalence (SP)											

No. of studies	Study quality	Concerns about certainty (serious concerns: > 50% of information is from studies at low risk of bias)	Inconsistency (concerns when more than 20% variation?)	Concerns about certainty	Indirectness [majority differences in help seeking definition]	Concerns about certainty	Imprecision < 1000 n	Concerns about certainty [borderline if some, concerns if more than half?]	Publication bias	Concerns about certainty	Certainty (high certainty ⊕⊕⊕⊕, moderate certainty ⊕⊕⊕O, low certainty ⊕⊕OO and very low certainty ⊕OOO)
4	4/4 studies were high quality	No concerns	Overall difference in estimates = 20.9%	Major concerns	all past 12 months, but one is only in subgroups, and this presents highest estimate	Borderline	1/4 sample size < 1000	Borderline	No publication bias suspected	No concerns	low certainty ⊕⊕OO
Help-seeking prevalence (SA)											
5	4/5 studies were high quality	No concerns	Overall difference in estimates = 32.2%	Major concerns	all in past 12 months, all accessed, received or used mental health treatment, one in subgroups but all with focus on suicide attempts	No concerns	3/5 sample size < 1000	Major concerns	No publication bias suspected	No concerns	very low certainty ⊕OOO
Help-seeking prevalence (STB)											
5	4/5 studies were high quality, 1/5 was low quality	No concerns	Overall difference in estimates = 21.7%	Major concerns	2 since starting college, 3 in past 12 months. One was appointment with psychiatrist rather than use of services, one use of counselling services only	Major concerns	4/5 sample size < 1000	Major concerns	No publication bias suspected	No concerns	very low certainty ⊕OOO
Disclosure prevalence (SI)											

No. of studies	Study quality	Concerns about certainty (serious concerns: > 50% of information is from studies at low risk of bias)	Inconsistency (concerns when more than 20% variation?)	Concerns about certainty	Indirectness [majority differences in help seeking definition]	Concerns about certainty	Imprecision < 1000 n	Concerns about certainty [borderline if some, concerns if more than half?]	Publication bias	Concerns about certainty	Certainty (high certainty ⊕⊕⊕⊕, moderate certainty ⊕⊕⊕O, low certainty ⊕⊕OO and very low certainty ⊕OOO)
1	Estimates based on 2 moderate quality and 1 high quality publications from study	Major concerns	Based on only one dataset	No concerns	Estimates available for 12 months, telling someone	No concerns	Based on one study	Major concerns	Only one study. Publication bias suspected	Major concerns	very low certainty ⊕OOO
Disclosure prevalence (STB)											
1	Estimates based on one high quality study	Borderline	Based on only one dataset	No concerns	Estimates available for 12 months, telling someone	No concerns	Based on one study	Major concerns	Only one study. Publication bias suspected	Major concerns	very low certainty ⊕OOO

Appendix 4. GRADE Operationalization and Ratings

The Grading of Recommendations Assessment, Development and Evaluation (GRADE) system (Guyatt et al., 2008), adapted for narrative synthesis according to (Murad et al., 2017) and according to methodological differences in research contributing to each research question was applied. Each GRADE domain could receive 'no concerns', 'borderline' or 'serious concerns' rating. In line with recommendations for the contributing study designs Guyatt et al., 2008), the overall certainty for each outcome started as moderate and was downgraded for any 'serious concerns'. The GRADE domains were operationalized in the following way:

1) Study quality- "serious concerns" were noted if more than 50% of the contributing studies were of low quality and "no concern" if more than 50% were of high quality based on quality ratings
2) Inconsistency- consistency in reported outcomes (proportions of students reporting help-seeking or disclosure) was considered. 'No concerns' were noted when estimates of prevalence were similar for specific groups in the majority of cases. 'Serious concerns' were noted when there was significant variability in estimates of the proportions of students reporting the outcome.
3) Indirectness – a judgement was made on the degree of similarity of the research evidence with the research question of interest, reflecting on how directly the available evidence answered the specific research questions set out in the review. For example, measures of outcomes which were deemed less directly related to an outcome contributed to down-ratings for this domain.
4) Imprecision – a judgement was made based on the total number of contributing studies and their sample size. The sample size threshold used was 1000 participants. 'Serious concerns' were noted when there was only one contributing study, regardless of its sample size.
5) Publication bias – we considered if studies contributing to an outcome reported significant and non-significant results, or if publication bias was likely due to missing evidence. 'Serious concerns' were assigned if there were only two or less contributing studies.

No. of studies	Study quality	Concerns about certainty (serious concerns: > 50% of information is from studies at low risk of bias)	Inconsistency (concerns when more than 20% variation?)	Concerns about certainty	Indirectness [majority differences in help seeking definition]	Concerns about certainty	Imprecision < 1000 n	Concerns about certainty [borderline if some, concerns if more than half?]	Publication bias	Concerns about certainty	Certainty (high certainty ⊕⊕⊕⊕, moderate certainty ⊕⊕⊕O, low certainty ⊕⊕OO and very low certainty ⊕OOO)
Help-seeking prevalence (NSSI)											
2	2/2 studies were high quality	No concerns	Overall difference in estimates = 11.1%	Borderline	One looked at past 4 weeks, one looked at 12 months. Self report from students. One was postgraduate and undergraduate, and one was just undergraduate. Receipt/Accessed treatment	Major concerns	201 in one of the studies, however large sample in other studies	Borderline	Only two studies, publication bias expected	Major concerns	very low certainty ⊕OOO
Help-seeking prevalence (SI)											

No. of studies	Study quality	Concerns about certainty (serious concerns: > 50% of information is from studies at low risk of bias)	Inconsistency (concerns when more than 20% variation?)	Concerns about certainty	Indirectness [majority differences in help seeking definition]	Concerns about certainty	Imprecision < 1000 n	Concerns about certainty [borderline if some, concerns if more than half?]	Publication bias	Concerns about certainty	Certainty (high certainty ⊕⊕⊕⊕, moderate certainty ⊕⊕⊕O, low certainty ⊕⊕OO and very low certainty ⊕OOO)
10	6/10 studies were high quality	No concerns	Overall difference in estimates = 40.3%	Major concerns	one since starting college, one past 4 weeks, 8/10 past 12 months. 2/10 seeking treatment, remaining 8 = accessing some form of mental health treatment. One in FT/PT students but estimates within range and didn't differ much	Borderline	4/10 sample size < 1000	Major concerns	No publication bias suspected	No concerns	very low certainty ⊕OOO
Help-seeking prevalence (SP)											
4	4/4 studies were high quality	No concerns	Overall difference in estimates = 20.9%	Major concerns	all past 12 months, but one is only in subgroups, and this presents highest estimate	Borderline	1/4 sample size < 1000	Borderline	No publication bias suspected	No concerns	low certainty ⊕⊕OO
Help-seeking prevalence (SA)											

No. of studies	Study quality	Concerns about certainty (serious concerns: > 50% of information is from studies at low risk of bias)	Inconsistency (concerns when more than 20% variation?)	Concerns about certainty	Indirectness [majority differences in help seeking definition]	Concerns about certainty	Imprecision < 1000 n	Concerns about certainty [borderline if some, concerns if more than half?]	Publication bias	Concerns about certainty	Certainty (high certainty ⊕⊕⊕⊕, moderate certainty ⊕⊕⊕O, low certainty ⊕⊕OO and very low certainty ⊕OOO)
5	4/5 studies were high quality	No concerns	Overall difference in estimates = 32.2%	Major concerns	all in past 12 months, all accessed, received or used mental health treatment, one in subgroups but all with focus on suicide attempts	No concerns	3/5 sample size < 1000	Major concerns	No publication bias suspected	No concerns	very low certainty ⊕OOO
Help-seeking prevalence (STB)											
5	4/5 studies were high quality, 1/5 was low quality	No concerns	Overall difference in estimates = 21.7%	Major concerns	2 since starting college, 3 in past 12 months. One was appointment with psychiatrist rather than use of services, one use of counselling services only	Major concerns	4/5 sample size < 1000	Major concerns	No publication bias suspected	No concerns	very low certainty ⊕OOO
Disclosure prevalence (SI)											

No. of studies	Study quality	Concerns about certainty (serious concerns: > 50% of information is from studies at low risk of bias)	Inconsistency (concerns when more than 20% variation?)	Concerns about certainty	Indirectness [majority differences in help seeking definition]	Concerns about certainty	Imprecision < 1000 n	Concerns about certainty [borderline if some, concerns if more than half?]	Publication bias	Concerns about certainty	Certainty (high certainty ⊕⊕⊕⊕, moderate certainty ⊕⊕⊕O, low certainty ⊕⊕OO and very low certainty ⊕OOO)
1	Estimates based on 2 moderate quality and 1 high quality publications from study	Major concerns	Based on only one dataset	No concerns	Estimates available for 12 months, telling someone	No concerns	Based on one study	Major concerns	Only one study. Publication bias suspected	Major concerns	very low certainty ⊕OOO
Disclosure prevalence (STB)											
1	Estimates based on one high quality study	Borderline	Based on only one dataset	No concerns	Estimates available for 12 months, telling someone	No concerns	Based on one study	Major concerns	Only one study. Publication bias suspected	Major concerns	very low certainty ⊕OOO

Appendix 5. Factors Associated

Factor	Type of help-seeking	Description	Sources
Ethnicity	Formal mental health support	There were no significant differences in the proportions of ethnic groups seeking professional help for suicidal ideation in the past 12 months	The National Research Consortium Survey of College Student Suicidality: Brownson 2014
	Formal mental health support	Asian American students had lower odds of seeking professional help than white American college students (B = −0.61, SE = −0.30, OR = 0.54, $p = 0.041$)	The National Research Consortium Survey of College Student Suicidality: Wong 2014
	Formal mental health support	Respondents who were Asian or LatinX were significantly less likely to have reported treatment in the past year (Asian: $p < 0.001$, LatinX: $p = 0.002$)	Healthy minds study 2009/2013: Downs and Eisenberg, 2012
	Disclosure	Asian Americans did not differ significantly from White Americans in the number of people to whom they disclosed their suicide ideation	The National Research Consortium Survey of College Student Suicidality: Wong 2014
Gender	Formal mental health support	Being female was significantly associated with seeking formal mental health support ($p < 0.001$)	The National Research Consortium Survey of College Student Suicidality: Brownson 2011
	Formal mental health support	Multiple regression analyses suggested that men had lower odds of seeking professional psychological help (B = −0.33, SE = 0.15, OR = 0.72, $p = 0.027$)	The National Research Consortium Survey of College Student Suicidality: Wong 2014
	Disclosure	Females were significantly more likely to disclose informally for suicidal ideation (57% vs 48% undergraduates reporting suicidal ideation in the past 12 months and 60% vs 43% graduates), $p < 0.001$	The National Research Consortium Survey of College Student Suicidality: Brownson 2011

Factor	Type of help-seeking	Description	Sources
	Disclosure	Controlling for gender, age, religion, living circumstances, being partnered, sexual orientation, being female was a significant predictor of disclosure in white students (OR: 1.51, 95% CI: 1.15, 1.99, $p < 0.01$) but not in racial and ethnic minority students ($p > 0.05$). Age, religion and being from a sexual minority did not predict disclosure	The National Research Consortium Survey of College Student Suicidality: De Luca 2014
Advice from others to seek help	Formal mental health support	Being encouraged to seek help by others was a strong and unique factor of actual mental health service utilization ($p < 0.001$)	Nam 2018
	Formal mental health support	Advice from others to seek professional help was a significant mediator of the differences between Asian American and White American students in seeking professional help- compared to White Americans, Asian Americans received advice from fewer people to seek professional help, which was in turn associated with lower odds of seeking professional psychological help for suicidal ideation. Post-hoc analyses demonstrated that while disclosure of suicidal ideation to specifically family members was not a mediator of professional help seeking, advice from family members to seek professional help was a significant mediator (mean estimate of indirect effect = −0.07, SE = 0.04, bias-corrected 95% CI = −0.1703, −0.0055)	The National Research Consortium Survey of College Student Suicidality: Wong 2014

Factor	Type of help-seeking	Description	Sources
Relationships and social influences	Formal mental health support	Students reporting warm and trusting relationships ($p = 0.008$) were also less likely to report using services in the past year	Healthy minds study 2009/2013: Downs and Eisenberg, 2012
Having a partner	Disclosure	Controlling for gender, age, religion, living circumstances, being partnered, sexual orientation, having a partner was a significant predictor of disclosure in both white (OR: 1.57, 95% CI: 1.18, 2.08, $p < 0.01$) and racial and ethnic minority students (OR: 1.90, 95% CI: 1.19, 3.02, $p < 0.01$). Living with a family member or roommate did not predict disclosure	The National Research Consortium Survey of College Student Suicidality: De Luca 2014
Perceived need for help	Formal mental health support	Students who reported perceiving a need for help ($p < 0.001$), and believed in treatment effectiveness ($p = 0.002$ for therapy and < 0.001 for medication), were significantly more likely to seek help	Healthy minds study 2009/2013: Downs and Eisenberg, 2012
Receipt of mental health support prior to starting university	Formal mental health support	Of those reporting suicidal ideation during both adolescence and young adulthood, those receiving treatment during their adolescent episode were more likely to receive treatment for a later episode (at university) compared to those whose adolescent episode was untreated (82% seeking treatment in young adulthood compared to 47%, $p = 0.001$)	Arria 2011
Disabilities	Formal mental health support	A higher percentage of students with disabilities reported service utilisation (for non-suicidal self-injury suicidal ideation and suicide attempts, no significance testing)	Healthy Minds Study 2016–2018: Aguilar and Lipson, 2021

Factor	Type of help-seeking	Description	Sources
Severity of suicidality	Formal mental health support	The likelihood of accessing treatment increased with the level of suicidality in a multivariate analysis, controlling for gender, ethnicity, sexual orientation, mental health condition, number of mental health disorders	Bantjes 2020
	Formal mental health support	Treatment rates for suicidal thoughts and behaviours were estimated in the 19.9–37.8% range for those with suicidal thoughts (i.e., suicide ideation or plan) but were higher (i.e., 45.1%) in those who made a suicide attempt	WHO Mental Health International College Student Initiative: Bruffaerts 2019
Stigma	Formal mental health support	Students reporting high levels of personal stigma ($p < 0.001$) were also less likely to report using services in the past year. Students who had higher perceived stigma ($p = 0.008$) were significantly more likely to receive treatment	Healthy minds study 2009/2013: Downs and Eisenberg, 2012

Declarations

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