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Generative AI Use for Mental Health Support: Trends, Correlates, and Outcomes Among Canadian Students

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Abstract

General-purpose generative AI (GenAI) chatbots are increasingly used for mental health support, yet population-based evidence on who uses them, why, and how remains limited. We estimated prevalence, patterns, correlates and impact of GenAI use for mental health using repeated cross-sectional data from 1,067 students in the Canadian arm of the WHO World Mental Health International College Student (WMH-ICS) survey. Correlates were assessed using modified Poisson regression, with an elastic-net machine learning model employed as sensitivity analysis. Past-year GenAI use for mental health or emotional support was 25.2% (95% CI 22.7–27.9) and lifetime prevalence was 30.6%. Students mostly used GenAI for mental health information, stress management, and companionship. Use was more prevalent among Asian, Black, and Hispanic students, and those with greater clinical burden, recent adverse life experiences, and prior digital help-seeking. It was less prevalent among LGB students, partnered students, and those with greater social support. Nearly three-quarters of users (74.2%) reported positive impact on their mental health and emotional needs. Non-use reflected preference for human interaction, distrust, privacy concerns, and principled objections to AI, with 83% of never-users indicating no future use intention. The growing use of GenAI for mental health purposes underscores the need for rigorous evaluation and appropriate governance.

Background

Mental disorders are common among university students, yet most who need care do not receive it. More than one-third of students meet the diagnostic criteria for a mental disorder, and one in five experience suicidal ideation[1–3]. Despite this considerable burden, fewer than 16% receive formal treatment, with financial constraints, limited service availability, stigma, and a preference for self-management representing key barriers to care[1,4]. Against this backdrop, general-purpose generative artificial intelligence (GenAI) chatbots have become widely available, and students are increasingly using them for mental health and emotional support. These technologies were not developed or validated as therapeutic interventions, and their growing use for such purposes represents an emerging health behaviour with implications for student mental health and wellbeing.

General-purpose GenAI chatbots are large language model (LLM)–based or multimodal conversational systems that perform a broad range of tasks, including question answering, summarization, brainstorming, and coding, by generating dynamic responses to user prompts. These chatbots such ChatGPT, Gemini, and Claude have become the most rapidly adopted technology in decades, with 66% of Canadians reporting GenAI chatbot use in 2025[5]. Young people are among the most frequent users, primarily engaging with GenAI for study, work and leisure[5]. They are also increasingly turning to AI to manage their mental health and emotional needs especially given the significant barriers they face in accessing formal care[6,7]. However, the extent, patterns and impact of this use remain poorly characterized even as concerns about the safety of GenAI in mental health contexts continue to grow. GenAI tools remain vulnerable to hallucination and sycophancy and may provide inaccurate information,

respond inappropriately to mental health disclosures, reproduce stigmatizing content, foster dependence, or fail to recognize crisis. Interactions with general-purpose chatbots have also been implicated in serious adverse outcomes, including psychosis and suicide, prompting increasing research and regulatory attention[8,9].

What is known about GenAI use for mental health support remains thin, but emerging research suggests increasing but widely varied adoption rates across populations. A US study conducted about one year post-ChatGPT release found that about half of the students surveyed had used AI chatbots, but only 5% reported mental health related use[10]. More recent studies show higher GenAI use for mental health purposes, ranging from 13.1% among US adolescents to 35% of the general adult population[11,12]. The existing literature is predominantly constrained by online, convenience-sampling designs, which may fail to generate reliable prevalence estimates. A recent review highlighted that many such AI use surveys do not adhere to rigorous scientific standards or basic reporting methodologies[13]. Furthermore, most studies relied on a single timepoint, thus were unable to capture how usage patterns evolved over time. Existing research also rarely examined the clinical and psychosocial correlates of GenAI use through validated diagnostic measures and theoretically informed variables[11–13]. Additionally, few studies have characterized the specific patterns and purposes of GenAI use, and almost none have examined non-use, including why individuals choose not to use these tools or whether they would consider using them in the future. Understanding non-use is increasingly important as questions emerge around the acceptability, equity, and appropriateness of AI adoption in mental health. Lastly, to our knowledge, no published study has examined this emerging health behaviour in a Canadian student population or using the WHO World Mental Health International College Student (WMH-ICS) survey instrument.

We addressed these research gaps using one-year trend data from the World Health Organization (WHO) WMH-ICS survey at a large Canadian university. Our specific objectives were to:

1. Estimate the lifetime and past-year prevalence of GenAI chatbot use for mental health and emotional support purposes.
2. Describe how prevalence rates trended across the one-year study period.
3. Characterize the distinct patterns and purposes of GenAI chatbot use for mental health.
4. Identify the reasons for non-use and future utilization intentions among never-users.
5. Describe the perceived impact of GenAI chatbot use on mental health or emotional needs.
6. Examine the sociodemographic, clinical, and psychosocial correlates of GenAI chatbot use.

These findings will provide timely evidence on the emerging use of GenAI for mental health support. They can also inform clinical guidance, institutional governance, and public policy on how GenAI should be evaluated, governed, and safeguarded within contemporary mental health systems.

Methods

Study Design and Data Source

The study utilized data from the Canadian arm of the World Health Organization (WHO) World Mental Health International College Student (WMH-ICS) survey[14]. The WMH-ICS initiative was established to generate global epidemiological data on the prevalence, risk factors and treatment patterns of mental disorders and to help develop evidence-based interventions[15]. The survey is administered as a web-based questionnaire, with clinical items adapted from the WHO Composite International Diagnostic Interview (CIDI) which estimates the current, lifetime and 12-month prevalence of mental and substance use disorders. It also collects rich contextual information on sociodemographic, risk and protective factors, symptom severity, help-seeking behaviour, treatment history, and perceived barriers to care[15]. Since its inception, the WMH-ICS has been completed by over 100,000 students across 18 countries[14,16].

This study analyzed 12 months (May 2025 to April 2026) of repeated cross-sectional survey from the WMH-ICS deployment at a large university in British Columbia, Canada. The survey invites biweekly stratified random samples of enrolled students, drawn to be representative of the broader student population, with stratification by sex, age group, year of study, and international-student status. Recruitment follows a rigorous multi-contact protocol (including initial email invitation, two reminder emails, and telephone follow-up of non-respondents), described in detail in the WMH-ICS Canada survey protocol[14]. The survey's adjusted response rate is 43.04% using the American Association for Public Opinion Research Response Rate 1 weighted (RR1w) method for two-phase designs, accounting for the initial survey response rate (27.9%) and the second-phase follow-up response rate among non-respondents (24.4% for those with phone numbers on file, and 5.4% for those without)[17].

The survey has been ongoing at the institution since February 2020. Items on general-purpose GenAI use for mental health and emotional wellbeing were added to the treatment-seeking module in April 2025 following an ethics amendment [**Supplementary Data** Table 1]. The analytic sample comprised all respondents with a valid response to the GenAI use item. Further details on the survey methodology can be assessed from the published survey protocol paper[14]. The study was reported in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines for cross-sectional studies; the completed checklist is provided in the Supplementary Information[18].

Ethics

All procedures contributing to this study adhered to the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008. All procedures involving human subjects were approved by the Behavioural Research Ethics Board of the University of British Columbia (H19-02538). Participation was entirely voluntary and students provided informed consent prior to completing the survey. Upon completion, all students were provided a tailored list of support services based on their survey responses[14].

Study Variables

Generative AI use for mental health

The primary outcome was past-year GenAI chatbot use for mental health or emotional support. Lifetime use (ever-use) was also reported descriptively a secondary outcome. Users answered additional questions on purpose and perceived impact of use, while never-users were routed to the willingness to use item. **Supplementary Table 1** contains the GenAI questionnaire items added to the WMH-ICS survey.

Correlates of GenAI Use: Candidate correlates were selected on theoretical grounds, guided by predisposing, enabling, and need domains from the Andersen's Behavioural Model of Health Service Use[19]. Predisposing variables comprised age group (ordinal bands: 16–20, 21–24, 25–29, 30, 34, ≥ 35), gender (Man/Woman / Non-binary, two-spirit & other), race/ethnicity, (White / Asian / Black / Hispanic / First Nations, Inuit, Metis / Other including multi-racial), sexual identity (Heterosexual / Lesbian, gay, bisexual / Other including asexual), relationship status (Married / Dating or in a relationship / Single), immigration status (Immigrant vs Non-immigrant) and international student status (Yes / No). Enabling variables comprised prior use of internet or digital tools for mental health support, willingness to use digital mental health tools, lifetime counselling, and 12-month medication or psychological treatment status. Need was operationalised clinically through validated DSM-V based 12-month screens for common and severe mental disorders, substance-use disorders, and suicidality, and through self-rated mental health, psychosocial stressors (including academic and financial stress) and any recent adverse life experience. Social connection as a need indicator was captured through frequency of online and in-person contact with friends or relatives, perceived social support (reliance on others for support) and support-network size (no. of people participants could rely on).

Statistical Analysis

Categorical variables were summarised as n (%) and continuous variables as mean [SD] or median [IQR] if skewed. A descriptive table presented participant characteristics overall and by past-year use. Past year and lifetime prevalence were estimated with a 95% Wilson score confidence interval [CI]. Patterns of use (frequency and purpose), reasons for non-use, perceived impact, and future intent were summarised descriptively and with figures. Free-text responses for non-use were analysed by inductive thematic analysis.

Correlates of past-year use were examined using modified Poisson regression, with robust (sandwich) standard errors. The Poisson estimator returns a directly interpretable prevalence ratios (PR) and avoids overstating associations like odds ratios often do when the outcome is common[20]. To ensure unbiased estimation, all models were adjusted for the sample-design variables (survey week, sex, and study level/year of study). Sociodemographic variables and other theory-informed enabling variables including prior use and willingness to use digital tools for mental health purposes were retained a priori. For Clinical need, the individual disorders were collapsed, as typically done in psychiatric epidemiology, to avoid signal-splitting across correlated screens. This resulted in the clinical burden index: a linear count (0/1/2/3+) of past-year disorder screens and suicidality, capturing cumulative psychiatric morbidity.

Multicollinearity was assessed by VIF (flag > 5) and model discrimination by the area under the ROC curve (AUC).

The extent and pattern of missing data were assessed before modelling. Complete-case analysis was used for the primary regression analysis because missingness was limited and showed no evidence of systematic association with the outcome or measured covariates. Seven interaction terms specified a priori were tested. As a sensitivity analysis, an elastic-net penalised regression was fitted to assess the robustness of findings to an alternative modelling approach. Two-sided $p < 0.05$ was used for interpreting the final model. Analyses were conducted in R (version 4.3.1) with packages *dplyr* and *haven* for data management; *sandwich* and *lmtest* for robust SE; *car* for multicollinearity; *pROC* for model discrimination; *glmnet* for elastic net sensitivity analysis; and *ggplot2* for Figs. 2[1].

Results

Sample characteristics

The total sample (n = 1,067) was predominantly women (67.7%), Asian (44.0%), and undergraduate students (63.2%). Mental health needs were substantial: 41.5% rated their mental health as fair or poor, 21.8% screened positive for a 12-month major depressive episode, 31.7% for post-traumatic stress disorder, and 28.9% reported past-year suicidal ideation or attempt. Overall, 269 (25.2%) reported using a general-purpose GenAI chatbot for mental health support in the past 12 months. Past-year use was reported by approximately one-third of several subgroups, including Black (39.1%), Hispanic (34.8%), and Asian (33.1%) students, those aged 30–34 years (32.9%), international students (32.5%), immigrants (31.7%), single students (29.5%), and those with prior digital mental health help-seeking (33.6%). Full sample characteristics are presented in Table 1.

On bivariate inspection, few sociodemographic variables such as age, race/ethnicity, immigrant status, and relationship status differed significantly between GenAI users and non-users. Stronger statistical differences were observed across three coherent domains: clinical or stress-related need, digital help-seeking behaviour, and social connection. GenAI users had higher rates of depression, social anxiety, PTSD, eating disorder, severe mental illness, and psychosocial stress compared to non-users (all $p < 0.001$). Students with suicidal ideation ($p = 0.003$) and substance use disorders ($p = 0.005$) also reported significantly higher GenAI use for mental health. Users were significantly more likely to have previously sought mental health help online and to report willingness to use digital mental health resources. Users also reported lower perceived human support and social network size (both $p < 0.001$).

Table 1
Descriptive characteristics of the analytic sample, overall and by 12-month GenAI use for mental health and emotional support.

Characteristic (%)	Overall (N = 1067)	12-mo Users (n = 269)	Non-users (n = 798)	P value
Age group				0.010
16–20	354 (33.2)	94 (35.2)	260 (32.6)	
21–24	338 (31.7)	90 (33.7)	248 (31.1)	
25–29	177 (16.6)	41 (15.4)	136 (17.0)	
30–34	85 (8.0)	28 (10.5)	57 (7.1)	
35+	111 (10.4)	14 (5.2)	97 (12.2)	
Gender				0.131
Man	293 (27.9)	68 (25.6)	225 (28.7)	
Woman	711 (67.7)	191 (71.8)	520 (66.3)	
Non-binary/Two-Spirit/Other	46 (4.4)	7 (2.6)	39 (5.0)	
Race/ethnicity				< 0.001
White	355 (33.4)	58 (21.7)	297 (37.3)	
Hispanic	23 (2.2)	8 (3.0)	15 (1.9)	
Black	23 (2.2)	9 (3.4)	14 (1.8)	
First Nations, Inuit, Metis	32 (3.0)	7 (2.6)	25 (3.1)	
Asian	468 (44.0)	155 (58.1)	313 (39.3)	
Other (incl. multiracial)	163 (15.3)	30 (11.2)	133 (16.7)	
Student level				0.417
Undergraduate	674 (63.2)	170 (63.2)	504 (63.2)	
Graduate	271 (25.4)	63 (23.4)	208 (26.1)	

Note: N = 1,067 (12-month GenAI users = 269; non-users = 798). Age is top-censored in the survey ("36 or older"); hence is presented as ordinal bands. Severe mental illness = 12-month bipolar disorder or lifetime psychosis. Eating disorder = any 12-month eating disorder (bulimia/binge/purge) screener. Lifetime counselling refers to whether a participant had ever received psychological counselling. 12-month treatment status includes both psychological counselling and medication. Psychosocial stress = highest (worst) severity reported across nine stress domains (financial, health, academic, love life, family, interpersonal, health of loved ones, problems of loved ones, life overall). Recent adverse life experience = endorsement of any past-12-month stressful/traumatic events e.g., bullying, physical, emotional, sexual assault. Perceived support refers to the extent to which students felt they could reply on others for emotional support or comfort. Social network size is a count of the number of people participants felt they could reply on for emotional support or connection.

Characteristic (%)	Overall (N = 1067)	12-mo Users (n = 269)	Non-users (n = 798)	P value
Other	122 (11.4)	36 (13.4)	86 (10.8)	
Immigration status				<0.001
Non-immigrant	604 (56.6)	122 (45.4)	482 (60.4)	
Immigrant	463 (43.4)	147 (54.6)	316 (39.6)	
International student				0.004
No	824 (81.2)	184 (74.8)	640 (83.2)	
Yes	191 (18.8)	62 (25.2)	129 (16.8)	
Sexual orientation				0.158
Heterosexual	715 (68.1)	189 (71.9)	526 (66.8)	
LGB	228 (21.7)	46 (17.5)	182 (23.1)	
Other (incl. asexual, not sure)	107 (10.2)	28 (10.6)	79 (10.0)	
Relationship status				0.002
Married	130 (12.5)	21 (8.0)	109 (14.0)	
In a relationship or dating	386 (37.0)	86 (32.8)	300 (38.5)	
Single (not currently dating)	526 (50.5)	155 (59.2)	371 (47.6)	
Major depression	232 (21.8)	84 (31.2)	148 (18.6)	< 0.001
Generalized anxiety	66 (6.3)	20 (7.5)	46 (5.8)	0.394
Social anxiety	213 (20.2)	74 (28.1)	139 (17.6)	< 0.001
Post-traumatic stress disorder	334 (31.7)	109 (41.4)	225 (28.4)	< 0.001
Eating disorder	198 (18.8)	73 (27.5)	125 (15.8)	< 0.001
Severe mental illness	124 (11.6)	50 (18.7)	74 (9.3)	< 0.001
Alcohol use disorder	139 (13.1)	42 (15.8)	97 (12.2)	0.158

Note: N = 1,067 (12-month GenAI users = 269; non-users = 798). Age is top-censored in the survey ("36 or older"); hence is presented as ordinal bands. Severe mental illness = 12-month bipolar disorder or lifetime psychosis. Eating disorder = any 12-month eating disorder (bulimia/binge/purge) screener. Lifetime counselling refers to whether a participant had ever received psychological counselling. 12-month treatment status includes both psychological counselling and medication. Psychosocial stress = highest (worst) severity reported across nine stress domains (financial, health, academic, love life, family, interpersonal, health of loved ones, problems of loved ones, life overall). Recent adverse life experience = endorsement of any past-12-month stressful/traumatic events e.g., bullying, physical, emotional, sexual assault. Perceived support refers to the extent to which students felt they could reply on others for emotional support or comfort. Social network size is a count of the number of people participants felt they could reply on for emotional support or connection.

Characteristic (%)	Overall (N = 1067)	12-mo Users (n = 269)	Non-users (n = 798)	P value
Substance use disorder	18 (1.7)	10 (3.8)	8 (1.0)	0.005
Suicidal ideation/attempt	306 (28.9)	96 (36.2)	210 (26.5)	0.003
Self-rated mental health				0.002
Excellent	54 (5.1)	6 (2.2)	48 (6.0)	
Very good	211 (19.8)	43 (16.0)	168 (21.1)	
Good	359 (33.6)	94 (34.9)	265 (33.2)	
Fair	318 (29.8)	80 (29.7)	238 (29.8)	
Poor	125 (11.7)	46 (17.1)	79 (9.9)	
Prior internet/digital mental health help	506 (47.6)	170 (63.2)	336 (42.3)	< 0.001
Willingness to try digital mental health tools				< 0.001
Very likely	112 (10.5)	58 (21.7)	54 (6.8)	
Somewhat likely	354 (33.3)	104 (39.0)	250 (31.4)	
Not very likely	373 (35.1)	66 (24.7)	307 (38.5)	
Not at all likely	225 (21.1)	39 (14.6)	186 (23.3)	
Lifetime counselling	459 (43.4)	137 (51.3)	322 (40.8)	0.003
12-month treatment status				0.003
Not received in past 12m	569 (54.0)	120 (45.1)	449 (57.0)	
Received & stopped	240 (22.8)	76 (28.6)	164 (20.8)	
Currently receiving	245 (23.2)	70 (26.3)	175 (22.2)	
Academic stress				0.005
None	139 (13.2)	23 (8.7)	116 (14.7)	

Note: N = 1,067 (12-month GenAI users = 269; non-users = 798). Age is top-censored in the survey ("36 or older"); hence is presented as ordinal bands. Severe mental illness = 12-month bipolar disorder or lifetime psychosis. Eating disorder = any 12-month eating disorder (bulimia/binge/purge) screener. Lifetime counselling refers to whether a participant had ever received psychological counselling. 12-month treatment status includes both psychological counselling and medication. Psychosocial stress = highest (worst) severity reported across nine stress domains (financial, health, academic, love life, family, interpersonal, health of loved ones, problems of loved ones, life overall). Recent adverse life experience = endorsement of any past-12-month stressful/traumatic events e.g., bullying, physical, emotional, sexual assault. Perceived support refers to the extent to which students felt they could reply on others for emotional support or comfort. Social network size is a count of the number of people participants felt they could reply on for emotional support or connection.

Characteristic (%)	Overall (N = 1067)	12-mo Users (n = 269)	Non-users (n = 798)	P value
Mild–Moderate	576 (54.6)	138 (52.3)	438 (55.4)	
Severe/Very severe	340 (32.2)	103 (39.0)	237 (30.0)	
Psychosocial stress				< 0.001
None	21 (2.0)	3 (1.1)	18 (2.3)	
Mild–Moderate	486 (46.0)	90 (34.0)	396 (50.1)	
Severe/Very severe	549 (52.0)	172 (64.9)	377 (47.7)	
Recent adverse life experience	623 (59.1)	179 (67.3)	444 (56.3)	0.002
Online/phone contact with friends/relatives				0.232
A few times a week or more	950 (89.8)	232 (87.2)	718 (90.7)	
A few times a month	83 (7.8)	25 (9.4)	58 (7.3)	
Rarely–never	25 (2.4)	9 (3.4)	16 (2.0)	
In-person contact with friends				0.068
A few times a week or more	498 (47.1)	116 (43.6)	382 (48.2)	
A few times a month	420 (39.7)	104 (39.1)	316 (39.9)	
Rarely–never	140 (13.2)	46 (17.3)	94 (11.9)	
Perceived support				< 0.001
A lot	494 (46.9)	95 (36.0)	399 (50.5)	
Some	327 (31.0)	84 (31.8)	243 (30.8)	
A little	179 (17.0)	65 (24.6)	114 (14.4)	
Not at all	54 (5.1)	20 (7.6)	34 (4.3)	
Social network size	3 [2, 5]	3 [1, 5]	3 [2, 5]	< 0.001

Note: N = 1,067 (12-month GenAI users = 269; non-users = 798). Age is top-censored in the survey ("36 or older"); hence is presented as ordinal bands. Severe mental illness = 12-month bipolar disorder or lifetime psychosis. Eating disorder = any 12-month eating disorder (bulimia/binge/purge) screener. Lifetime counselling refers to whether a participant had ever received psychological counselling. 12-month treatment status includes both psychological counselling and medication. Psychosocial stress = highest (worst) severity reported across nine stress domains (financial, health, academic, love life, family, interpersonal, health of loved ones, problems of loved ones, life overall). Recent adverse life experience = endorsement of any past-12-month stressful/traumatic events e.g., bullying, physical, emotional, sexual assault. Perceived support refers to the extent to which students felt they could reply on others for emotional support or comfort. Social network size is a count of the number of people participants felt they could reply on for emotional support or connection.

Characteristic (%)	Overall (N = 1067)	12-mo Users (n = 269)	Non-users (n = 798)	P value
median [IQR]				

Note: N = 1,067 (12-month GenAI users = 269; non-users = 798). Age is top-censored in the survey ("36 or older"); hence is presented as ordinal bands. Severe mental illness = 12-month bipolar disorder or lifetime psychosis. Eating disorder = any 12-month eating disorder (bulimia/binge/purge) screener. Lifetime counselling refers to whether a participant had ever received psychological counselling. 12-month treatment status includes both psychological counselling and medication. Psychosocial stress = highest (worst) severity reported across nine stress domains (financial, health, academic, love life, family, interpersonal, health of loved ones, problems of loved ones, life overall). Recent adverse life experience = endorsement of any past-12-month stressful/traumatic events e.g., bullying, physical, emotional, sexual assault. Perceived support refers to the extent to which students felt they could reply on others for emotional support or comfort. Social network size is a count of the number of people participants felt they could reply on for emotional support or connection.

Prevalence and trends of GenAI use for mental health and emotional support

Past-year prevalence of GenAI use for mental health or emotional support was 25.2% [95% CI: 22.7–27.9], and lifetime (ever) use was 30.6% [95% CI: 28.0–33.5%]. Figure 1 shows that the monthly prevalence estimates fluctuated within a relatively narrow band across the observed 12-month study period. Among the participants who utilized GenAI chatbots, use was predominantly occasional (less than monthly) rather than habitual as shown in Fig. 2.

Usage patterns and reasons for use and non-use

The most common use purposes were obtaining information or advice about mental health (58.3%) and managing stress (57.4%), followed by emotional support or companionship (46.9%), general well-being (38.0%), and use as an alternative or supplement to therapy (34.6%). Advice about substance use was an uncommon use case (8.0%) (Fig. 3). Multiple-purpose use was the norm as users selected a median of 2 purposes and 67% reported using GenAI for two or more distinct purposes. The most common pairing was information-seeking combined with stress management (n = 108), followed by stress management with emotional support (n = 98) and information-seeking with emotional support (n = 86). The thematic analysis of 22 free-text responses pointed mainly to venting and GenAI use as an active "sounding-board" for reasoning through problems, processing emotions, or seeking reassurance, including in acute distress when a human source was unavailable [**Supplementary Table S2**].

Among the 731 non-users, the two dominant reasons were preferring human interaction and distrust of AI to handle mental health, each cited by 67.4% of respondents. About 80% cited at least one of these predominant reasons and 56% cited both, indicating a coherent reluctance to delegate mental health support to AI (Fig. 4). Privacy/security was another important reason, selected by half (50.3%) of the non-users. Notably, the least common reason was being unsure how to use the tools (11.8%), pointing to non-use being primarily a deliberate preference more than a skills or awareness gap. Free-text responses (n = 82) analysed thematically showed a majority of respondents expressing general opposition or values-based objections to AI more than specific judgements about GenAI's usefulness for mental

health. These included ethical and moral opposition to AI, environmental reasons, and distrust of AI's safety or accuracy (Fig. 5). Smaller groups cited structural or need-based reasons including already having sufficient support and having no mental-health needs. **Supplementary Table S3** presents a detailed summary of themes with illustrative quotes.

Of the 740 never-users, prospective intent was low: 615 (83.1%) reported being unlikely to use a GenAI chatbot if they needed support in future (63.2% very unlikely), 96 (13.0%) were neutral, and only 29 (3.9%) were likely or very likely.

Perceived impact of GenAI Chatbot Use on mental health and emotional needs

Among the 325 ever-users who rated overall impact, 74.2% reported a positive impact (65% somewhat positive; 9.2% very positive), 20.6% reported no impact, and only 5.2% reported a negative impact. Perceived positive impact was strikingly uniform across demographic and clinical subgroups, ranging roughly 68–80% in almost every stratum with overlapping confidence intervals. No demographic characteristic (age, gender, race/ethnicity, sexual orientation, student level, international status) or clinical characteristic (any of the screened disorders, severe mental illness, suicidality, treatment status) was associated with a materially different likelihood of rating GenAI as helpful (Fig. 6; **Supplementary Table S4**).

Correlates of past-year GenAI use for mental health and emotional support

The final multivariable model included 1,010 participants (94.7% of the analytic sample). Overall missingness was 5.3%, with no individual variable exceeding 2.3%. The proportion with incomplete data was similar among GenAI users and non-users (5.9% vs. 5.1%; $p = 0.72$), and missingness was not jointly associated with measured covariates (likelihood-ratio $p = 0.99$).

Among sociodemographic characteristics, Asian students (PR 1.76, 95% CI 1.29–2.38) and students in the combined Black/Hispanic category (PR 1.76, 95% CI 1.12–2.75) had a higher prevalence of past-year GenAI use than White students, whereas LGB students (PR 0.68, 95% CI 0.51–0.90) and those who were partnered or dating (PR 0.72, 95% CI 0.57–0.90) had lower prevalence. Digital help-seeking factors were strongly associated with use: students with prior digital mental health help-seeking had 46% higher prevalence (PR 1.46, 95% CI 1.14–1.88), while those willing to use digital mental health resources had 64% higher prevalence (PR 1.64, 95% CI 1.32–2.04). Past-year mental health treatment was also associated with greater use (PR 1.28, 95% CI 1.01–1.61). Clinical need showed a cumulative association, with each additional clinical burden indicator associated with a 20% higher prevalence of use (PR 1.20, 95% CI 1.09–1.33), and recent adverse life experience with a 34% higher prevalence (PR 1.34, 95% CI 1.06–1.68). In contrast, greater perceived social support was associated with lower GenAI use (PR 0.79, 95% CI 0.64–0.97) (Table 2).

Table 2
Correlates of past-year GenAI use for mental health support among Canadian university students (modified Poisson regression, n = 1,010)

Variable	PR (95% CI)
Age group (16–20)	(ref)
21–24	0.89 (0.68–1.15)
25–29	0.79 (0.53–1.17)
30+	0.74 (0.46–1.18)
Gender (Man)	(ref)
Woman	0.93 (0.74–1.17)
Non-binary/Other	0.53 (0.25–1.15)
Race/ethnicity (White)	(ref)
Asian	1.76 (1.29–2.38)***
Black & Hispanic	1.76 (1.12–2.75)*
Other (incl. FN, multiracial)	1.13 (0.78–1.65)
Sexual orientation (Heterosexual)	(ref)
LGB	0.68 (0.51–0.90)**
Other orientation	0.82 (0.59–1.14)
Relationship status (Single)	(ref)
Partnered/dating	0.72 (0.57–0.90)**
Married	0.63 (0.40–1.01)
Student level (Undergraduate)	(ref)
Graduate	1.19 (0.85–1.65)
Other student status	1.63 (1.13–2.35)**
Immigration indicator (non-immigrant)	(ref)
Immigrant	1.19 (0.95–1.50)
Prior digital MH help (No)	(ref)
Yes	1.46 (1.14–1.88)**
Willingness to use digital MH (Unlikely/neutral)	(ref)
Likely	1.64 (1.32–2.04)***

Variable	PR (95% CI)
Past year MH treatment (Not received)	(ref)
Received/receiving	1.28 (1.01–1.61)*
Clinical burden index	1.20 (1.09–1.33)***
Adverse life experience (No)	(ref)
Yes	1.34 (1.06–1.68)*
Perceived support (None/a little)	(ref)
Some/a lot	0.79 (0.64–0.97)*

PR = prevalence ratio; CI = confidence interval; ref = reference category. Model adjusted for all variables shown, plus survey week (as a design adjusted variable). Clinical burden = count of clinical indicators (0–8, from Table 1), modelled as a linear term. Significance levels: *p < 0.05; **p < 0.01; ***p < 0.001.

Model discrimination was acceptable (AUC 0.754) and the model explained a modest share of outcome variation (McFadden R^2=0.10), as is typical for correlates models of individual health behaviours. Maximum VIF was 1.57, indicating no problematic collinearity. All seven pre-specified interactions were non-significant (**Supplementary Table S5**). An elastic-net penalised model retained the same core correlates and shrank to zero the variables dropped from the primary model, corroborating that the associations reflect real structure rather than artefacts of variable selection (**Supplementary Table S6**).

Discussion

This study provides the first prevalence trend estimates of GenAI chatbot use for mental health and emotional support among Canadian university students. It extends previous work in other contexts by leveraging a comprehensive mental health survey linking GenAI use to validated diagnostic screeners and psychosocial correlates. One in four students reported past-year use, concentrated among students with greater clinical need, prior digital help-seeking, and fewer social support resources. Most users engaged with GenAI for information, stress management, and companionship rather than as a replacement for formal care, with a majority reporting positive impact. Non-use was often deliberate and reflected concerns about trust, privacy, ethics, and preference for human support. Together, these findings position GenAI as an increasingly important form of informal help-seeking that warrants closer attention to its effectiveness, safety, and governance.

Our 12-month prevalence estimate place GenAI use for mental health support at the upper end of the emerging literature, higher than both the 5% found in an early survey of US students and more recent surveys which show 13.1% prevalence among adolescents and young adults[10,11]. Although methodological differences, including survey wording, sampling strategies and study timing, preclude direct comparison, our estimate suggests that GenAI is becoming an established component of

students' help-seeking behaviour. Our findings are consistent with a Canadian opinion poll which found that nearly one in ten adults have used AI tools for mental health support, with uptake highest among younger adults[7]. Nevertheless, our sample carried a high burden of mental health symptoms, which may partly explain the higher prevalence observed relative to other studies.

The patterns of use observed in this study help clarify the emerging role of GenAI in mental health support. Use as an alternative or supplement to therapy was less common than several other purposes, indicating that students are primarily adopting GenAI as an adjunctive or informal source of support rather than as a replacement for formal mental healthcare. The predominantly occasional use pattern further points to episodic engagement during periods of need rather than sustained reliance. GenAI-mediated support may therefore occupy an intermediate space between traditional self-help resources and formal mental healthcare, offering immediate, relational, and personalized support. This interpretation is reinforced by the strong association with prior digital mental health help-seeking and willingness to use digital mental health resources, suggesting that conversational AI may represent an extension of an existing digital help-seeking orientation rather than an entirely new behaviour. However, unlike earlier forms of digital support such as static web resources, its generative, conversational, and highly personalized nature introduces distinct risks, including hallucination, inaccurate or inappropriate responses, anthropomorphization, and dependence[8].

Most sociodemographic characteristics were not independently associated with GenAI use, although notable differences emerged by race/ethnicity and sexual orientation. Compared with White students, Asian, Black and Hispanic students had a higher prevalence of GenAI use. This pattern is broadly consistent with emerging Canadian evidence suggesting greater uptake of AI for mental health support among racial and ethnic minority groups[7]. It may also reflect evidence from the WHO WMH-ICS survey demonstrating lower use of formal mental health services among ethnic minority students, often attributed to stigma, cultural norms, and concerns about disclosure[22]. Within these contexts, GenAI support may be particularly appealing where privacy, reduced interpersonal disclosure, or preference for self-management are valued. Trust is also an important factor, with recent research showing higher trust in GenAI for mental health purposes among Asian students[23]. The Black/Hispanic estimate should nevertheless be interpreted cautiously because small numbers required pooling the two groups, preventing attribution of the adjusted association to either group individually. Conversely, LGB students were less likely to report GenAI use for mental health support. Although this contrasts with previous finding of higher digital mental health use among sexual minority youth[24], it is consistent with recent evidence of lower trust in GenAI for mental health among LGBT students[23]. These contrasting patterns underscore that GenAI adoption is not uniform across different populations. Future research should further examine how trust, privacy, cultural norms, and perceived acceptability shape AI-mediated help-seeking across groups, and whether these technologies ultimately narrow or widen existing inequities in mental health support.

Beyond sociodemographic patterns, clinical need emerged as an important correlate of GenAI use. Clinical burden showed a clear cumulative gradient, with each additional clinical indicator associated with approximately 20% higher prevalence of use. To our knowledge, this is among the first studies to demonstrate such a relationship using validated psychiatric measures. Students experiencing greater psychological distress may be turning to GenAI to address support needs that remain unmet by existing systems of care. This pattern has important safety implications because students with greater clinical vulnerability stand to experience greater harm if responses are inaccurate or unsafe. Ensuring that these systems respond appropriately particularly during safety-critical interactions, should therefore be an important priority for universities, healthcare systems, and technology developers.

Need-related use was not solely clinical. Emotional needs and social context also appeared to influence GenAI use. Students who were partnered or dating and those reporting greater perceived social support were less likely to use GenAI for mental health support. Considered alongside the finding that nearly half of users sought emotional support or companionship, this pattern raises the possibility that conversational AI may partly fulfil interpersonal support needs among students with fewer available social resources. Such use may provide immediate and accessible support when human connection is limited, but it also raises questions about whether AI-mediated support complements existing relationships or, for some users, begins to displace them. Understanding this distinction will be important as concerns grow around anthropomorphization, emotional dependence, and psychological harms of conversational AI for relational support[9].

Perhaps the most distinctive contribution of this study concerns non-use, which was predominantly driven by preferences for human interaction, distrust of AI, and concerns regarding privacy, ethics and security. Free-text responses reinforced this interpretation, with many participants expressing objections to AI itself, including concerns regarding environmental impacts and broader ethical issues, rather than questioning its usefulness for mental health specifically. Interestingly, more than four in five never-users reported little or no intention of using GenAI for mental health support in the future, which may partly explain the relatively stable prevalence pattern observed across the study year. Together, these findings suggest that current non-use often represents a principled and informed decision rather than unmet demand or digital exclusion. Since GenAI use for mental health is not universally acceptable preserving meaningful choice and maintaining access to high-quality human support remains essential.

Despite emerging safety concerns, nearly three-quarters of users perceived their experiences with GenAI as beneficial, and perceived helpfulness was remarkably consistent across demographic and clinical subgroups. This is consistent with emerging Canadian evidence showing that most (84%) individuals who use AI for mental health support perceive it as helpful, despite comparatively low levels (17%) of public trust in these technologies[7]. Crucially, the impact findings should not be interpreted as evidence of clinical effectiveness or safety. Perceived benefit reflects users' subjective appraisal rather than objective improvement in mental health outcomes. Thus, they should be interpreted alongside growing evidence that these systems remain vulnerable to factual errors, inappropriate reassurance and failures during high-risk mental health conversations. Rigorous prospective evaluations are therefore needed to

determine when perceived benefit translates into measurable clinical benefit and when it may obscure potential harms, while also clarifying whether purpose-built GenAI mental health interventions offer safer and more effective approaches than general-purpose chatbots[25].

This study has several strengths. It is among the first population-based studies of GenAI use for mental health support in a Canadian university population and one of the few internationally to integrate prevalence, patterns of use, perceived impact, behavioural intentions, qualitative insights and multivariable correlates within a theoretically informed framework. The WMH-ICS platform enabled linkage of GenAI use with validated psychiatric screeners and a broad range of psychosocial variables, while repeated cross-sectional sampling across an entire academic year provided a more robust picture of use than single time-point convenience surveys. Several limitations should also be considered. The cross-sectional design precludes conclusions regarding causality or temporal ordering, and measures relied on self-report, introducing the potential for recall and reporting biases. Although the probability-based sampling strategy strengthens internal validity, the study was conducted at a single institution, which may limit generalisability to other settings. Finally, perceived helpfulness should not be interpreted as evidence of clinical efficacy, and future longitudinal and experimental studies are needed to determine the effectiveness, safety and longer-term consequences of GenAI use for mental health support.

In conclusion, general-purpose GenAI chatbots have become part of the informal mental health support landscape for university students. Use appears to be concentrated among students with greater clinical need, an existing orientation towards digital help-seeking and fewer interpersonal support resources, while many non-users consciously reject these technologies in favour of human connection. The challenge for researchers, clinicians and universities is therefore how GenAI tools can be evaluated, governed and integrated in ways that maximise potential benefit while safeguarding vulnerable users and preserving access to high-quality human care.

Declarations

Data availability:

The de-identified data and R code supporting the findings of this study are available from the corresponding author (LO) upon reasonable request, subject to applicable ethical, data-governance, and institutional requirements. A preprint version of this manuscript is available at [medRxiv; doi: https://doi.org/10.64898/2026.08.03.26359623].

Author contributions (CRediT)

- LO – Conceptualization, Methodology, Data curation, Data analysis, Investigation, Software, Writing – original draft, Writing – review and editing
- RM – Data curation, Investigation, Writing – review and editing
- DV – Investigation, Supervision

All authors approved the final manuscript.

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Competing Interests

All authors declare no financial or non-financial competing interests.

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Figures

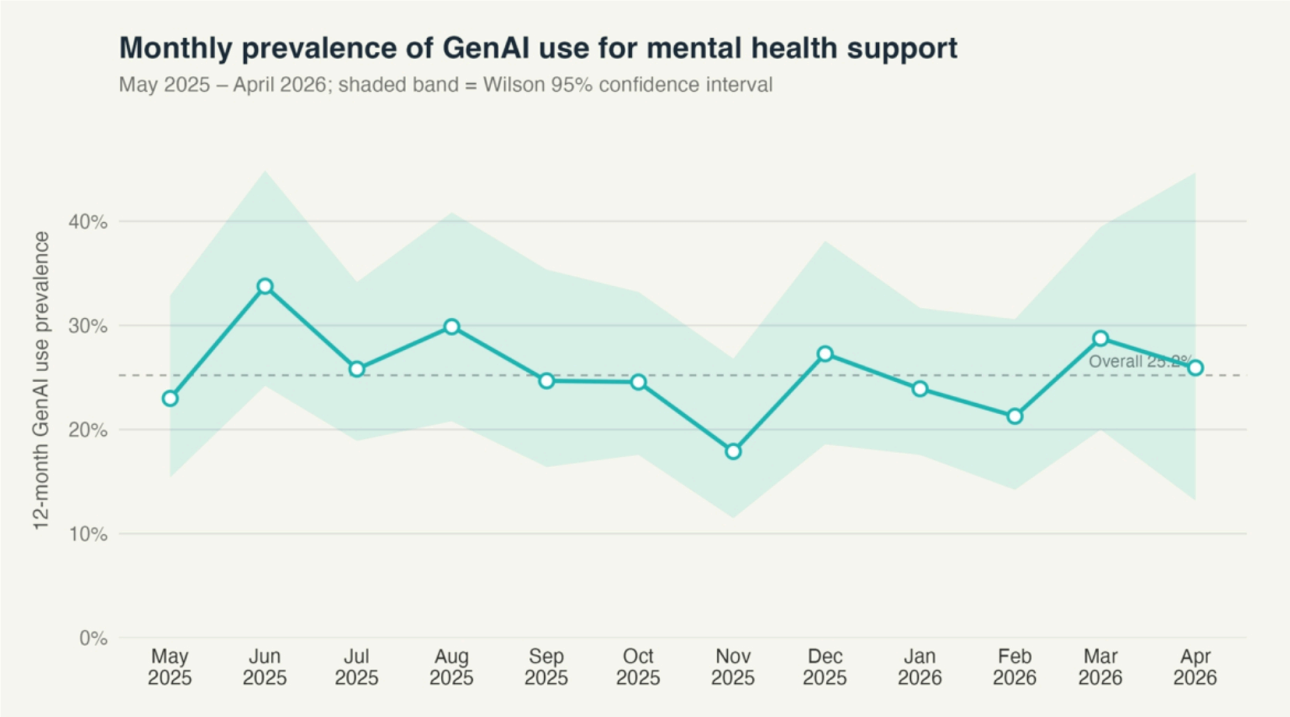


Figure 1

Prevalence trend of general purpose GenAI chatbot use for mental health and emotional support. *Monthly prevalence of past-year general-purpose GenAI chatbot use for mental health and emotional support from May 2025 to April 2026. Points show monthly prevalence estimates and shaded areas indicate 95% confidence intervals.*

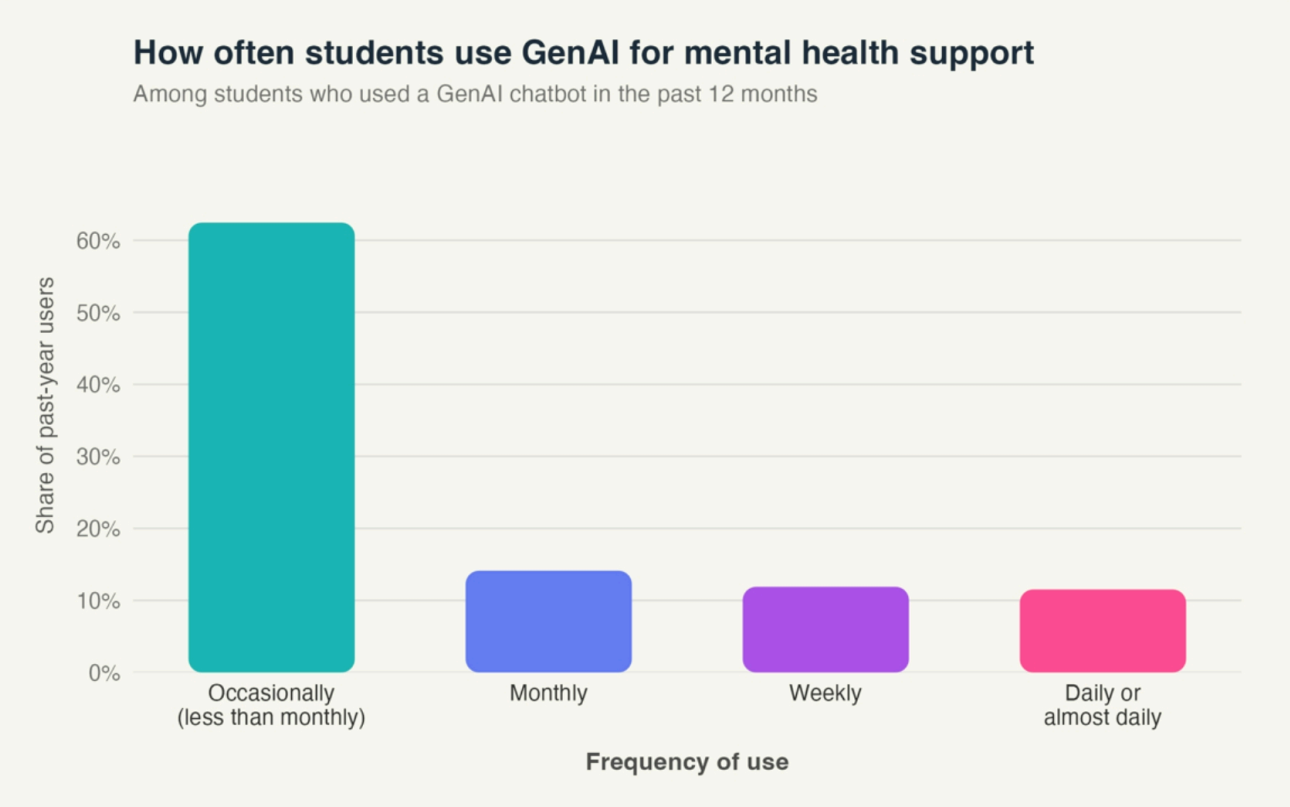


Figure 2

Frequency of GenAI chatbot use for mental health and emotional support.

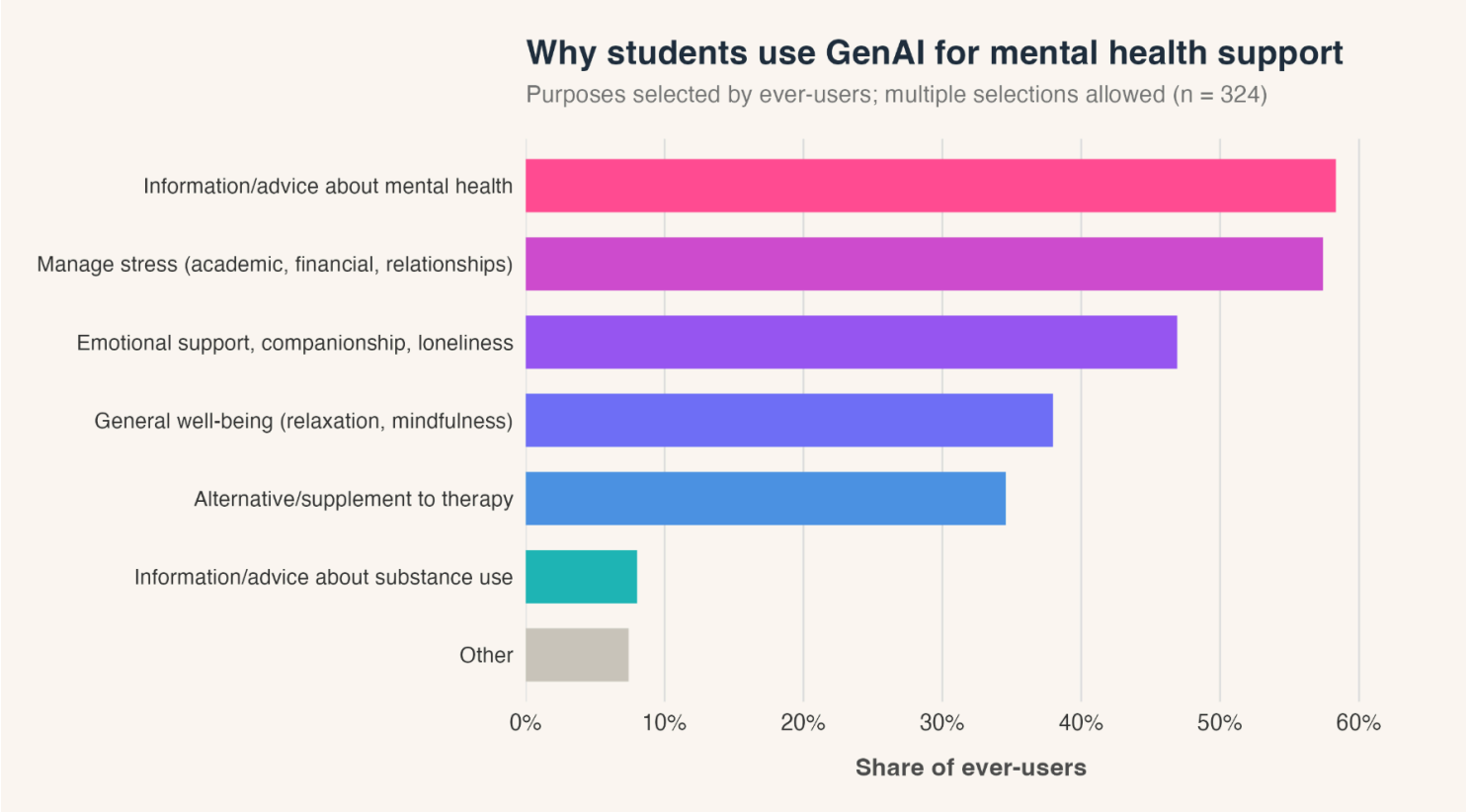


Figure 3

Purposes of GenAI chatbot use for mental health support. *Distribution of reported purposes for using GenAI chatbots for mental health and emotional support. Participants could select more than one purpose; percentages therefore represent the proportion of users endorsing each purpose and do not sum to 100%.*

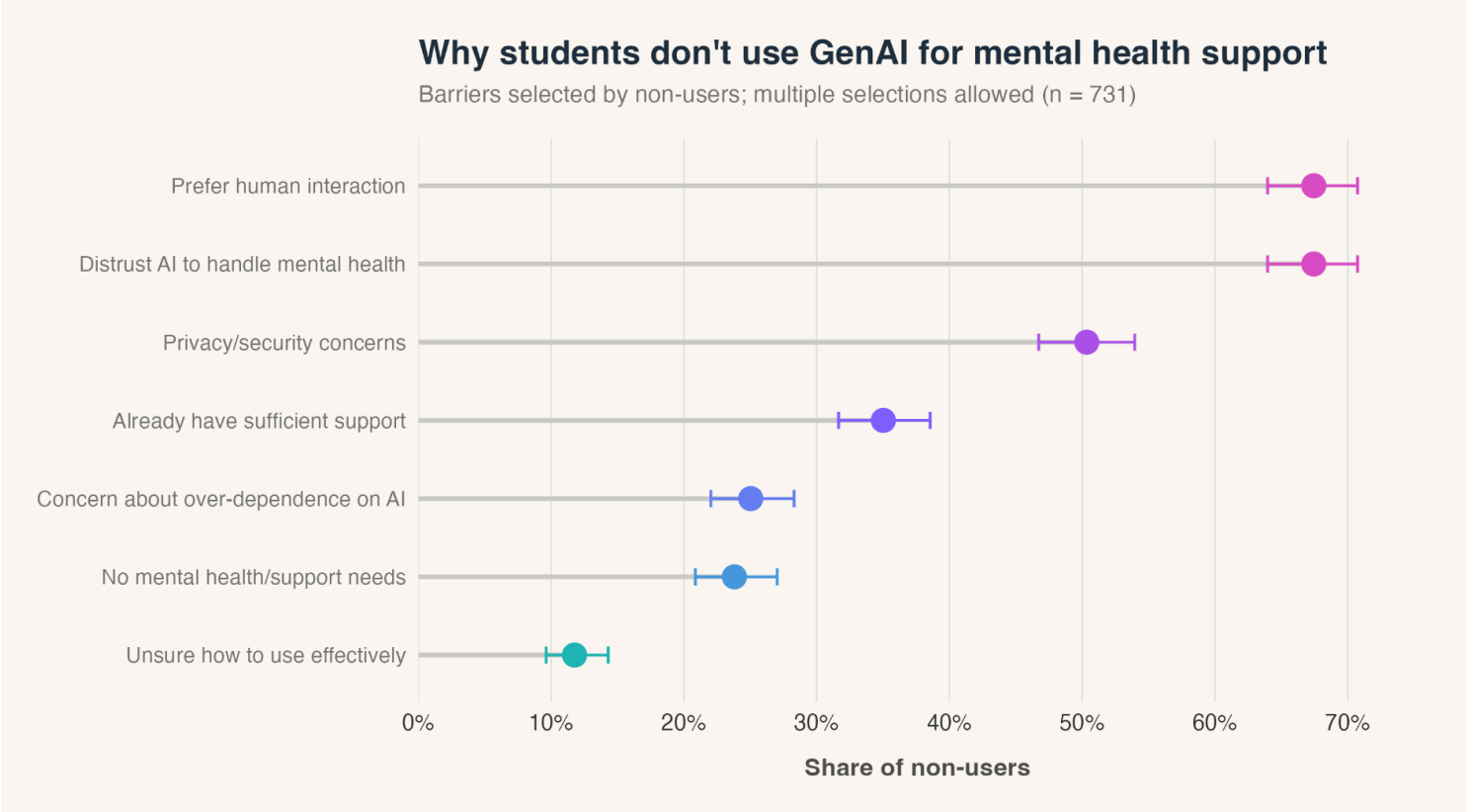


Figure 4

Reasons for non-use of GenAI chatbots for mental health and emotional support purposes. *Points indicate the proportion endorsing each reason and error bars indicate 95% confidence intervals.*

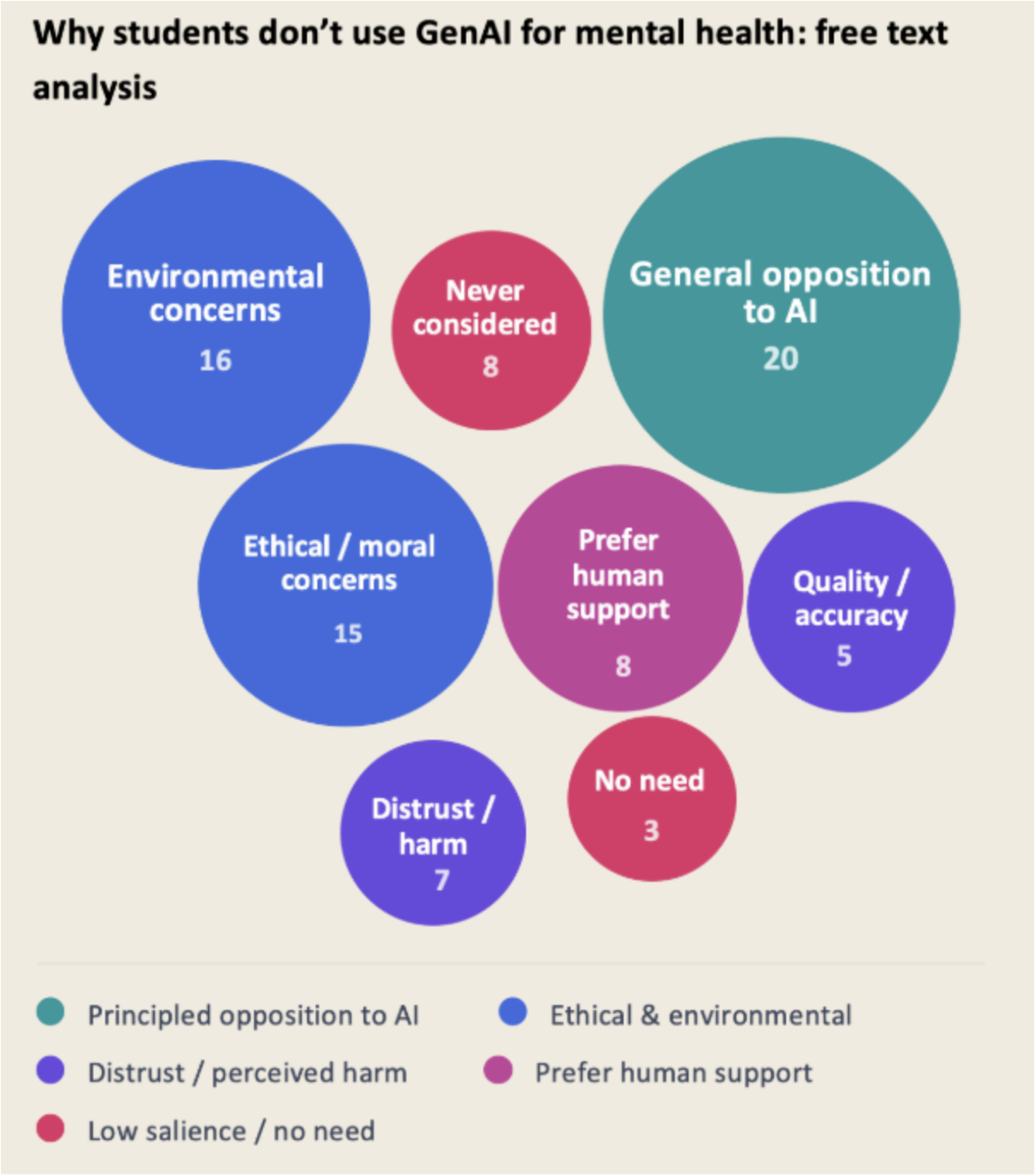


Figure 5

Themes identified from free-text responses describing reasons for non-use. *Bubble size reflects the number of responses contributing to each theme, with counts shown within the bubbles.*

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- SupplementaryDataGenAIformentalhealthstudy.docx