

Mental Health, Comorbidity, and Treatment-Seeking Among University Students: The Role of Marital Status

S. Kavya¹, Nivedhaa SB², Sanjana S³, Jenifer J⁴

Department of Computer Science with Data Analytics, Dr. N.G.P. Arts and Science College, Coimbatore, Tamil Nadu, India

Abstract— This study examines depression, anxiety, and panic attacks among university students, focusing on marital status, comorbidity, and treatment-seeking behavior. A cross-sectional secondary analysis was conducted on survey data from 100 students. Chi-square/Fisher's exact tests assessed associations between demographic predictors and outcomes. Marital status was significantly associated with depression ($p < .001$) and panic attacks ($p = .009$); no other predictor was significant. Depression was comorbid with anxiety ($OR = 3.24$, $p = .009$) and panic attacks ($OR = 2.89$, $p = .025$), and 28% of students reported 2+ conditions. Despite 35% prevalence of depression, only 17.1% of affected students sought treatment, and only 6% of the full sample ever sought help. Findings highlight a substantial treatment-seeking gap and the need for accessible, destigmatized campus mental health services.

Keywords— student mental health; depression; anxiety; panic attacks; comorbidity; treatment-seeking; marital status

I. INTRODUCTION

University students face a period of heightened vulnerability to mental health problems, driven by academic pressure, financial stress, social transitions, and — for some — new family responsibilities (Karyotaki et al., 2020). Depression, anxiety, and panic attacks are among the most common conditions reported in this population, with consequences for concentration, motivation, and academic performance, as well as for long-term wellbeing (Sheldon et al., 2021).

The transition into university life often coincides with a student's first extended period of independence from family support structures, at precisely the moment when academic and social demands intensify. This combination of reduced support and increased pressure is thought to be a key driver of the elevated rates of depression and anxiety observed in student populations relative to the general adult population. At the same time, students are not a homogeneous group: their experiences differ substantially based on gender, year of study, academic discipline, financial circumstances, and life-stage factors such as marital or family status.

While academic stressors are well studied, comparatively less attention has been paid to how life-stage factors such as marital status relate to student mental health, how frequently different conditions co-occur within the same individual, and — critically — whether affected students actually access professional treatment. This last point matters a great deal from a practical standpoint: identifying at-risk students through screening or research has limited value if structural or attitudinal barriers to care mean that few of them ever receive help (Duffy et al., 2019). A fuller picture of student mental health therefore requires looking beyond simple prevalence rates toward who is affected, how conditions cluster together, and what happens (or does not happen) after symptoms emerge.

A. Literature Review

A substantial body of research links elevated stress, depression, and anxiety to poorer academic and psychosocial outcomes among university students. Grubic et al. (2020) called for urgent research and immediate intervention in response to the rising burden of student mental health problems, particularly in the wake of large-scale disruptions such as the COVID-19 pandemic. Studies using standardized instruments, such as the analysis by Zhang et al. (2024) employing the DASS and PHQ-9 scales, have found consistent negative correlations between psychological distress and academic performance, with stress typically showing the strongest association, followed by depression and anxiety.

Comorbidity among mental health conditions — the tendency for one condition, such as depression, to co-occur with another, such as anxiety or panic disorder — is well established in the broader psychiatric literature. However, this pattern is examined less consistently in student-specific survey research, which often relies on brief, non-validated self-report items rather than structured clinical interviews, due to the practical constraints of large-scale student surveys.

The treatment-seeking gap is a recurring and troubling theme across this literature. Duffy et al. (2019) argue that universities must play a central role in building integrated, accessible mental health care systems for students, noting that stigma, limited awareness of available services, and structural access barriers frequently prevent students from seeking help even when they are experiencing significant symptoms. Al-Khani et al. (2019) similarly found that a majority of medical students reporting mental health symptoms had not accessed support services, despite survey data clearly identifying them as at-risk. Karyotaki et al. (2020), drawing on the World Health Organization's World Mental Health Surveys International College Student initiative, likewise identified substantial unmet need for mental health care among college students internationally.

Marital status has received relatively little direct attention in student mental health research compared to variables such as gender, year of study, and academic workload, despite plausible mechanisms — including added financial or caregiving responsibility, reduced time for peer social support, or social isolation from predominantly unmarried classmates — through which it could plausibly influence student wellbeing. This study addresses that gap directly, alongside the comorbidity and treatment-seeking questions outlined above.

B. Objectives

- Examine associations between demographics (gender, year, CGPA, marital status) and depression/anxiety/panic attacks.
- Assess comorbidity between the three conditions.
- Quantify the gap between experiencing a condition and seeking treatment.
- Discuss implications for campus mental health services.

II. METHODS AND MATERIALS

A. Data Source and Participants

This is a secondary analysis of an online survey of university students (N = 100 after removing one incomplete record). The sample was 75 female / 25 male, mean age 20.53 (SD = 2.50, range 18–24); 84 unmarried, 16 married; distributed across Years 1–4 and a range of self-reported CGPA bands and courses.

B. Measures

Depression, anxiety, panic attacks, and treatment-seeking were each assessed via a single self-report yes/no item (e.g., "Do you have Depression?"), rather than a validated multi-item clinical scale such as the DASS or PHQ-9.

This is an important limitation that is addressed further in Section IV.A. Demographic variables collected included gender, age, course of study, year of study, self-reported CGPA band, and marital status (married vs. unmarried).

C. Dataset and Preprocessing

The raw dataset consisted of 101 survey responses collected via an anonymous, self-administered online Google Forms questionnaire, with each row representing one respondent and no personally identifying information (name, student ID, email, or IP address) captured at collection. Prior to analysis, the dataset was cleaned in the following steps: (1) column names and all text-field values were stripped of leading/trailing whitespace to correct minor formatting inconsistencies; (2) categorical labels for year of study were standardized to a consistent capitalization (e.g., "year 1" and "Year 1" were unified); (3) the single record with a missing value for age was removed, yielding a final analytic sample of N = 100; (4) column headers were renamed to concise, analysis-friendly variable names (e.g., "Do you have Depression?" → depression); and (5) yes/no responses for depression, anxiety, panic attacks, and treatment-seeking were retained in their original binary form for use in contingency table analysis. No imputation was performed, and no responses were excluded on the basis of their answers to the mental health outcome questions themselves, to avoid introducing selection bias.

D. Statistical Analysis

All analyses were conducted in Python (v3.12) using pandas, scipy.stats, and statsmodels. Descriptive statistics (means, standard deviations, frequencies, percentages) were computed for all demographic and outcome variables. Associations between categorical predictors and outcomes were tested using Fisher's exact test for 2×2 contingency tables and the chi-square test of independence for larger tables, since several expected cell counts were small given the sample size. The Mann-Whitney U test was used to compare age distributions between students with and without each condition, as age was treated as a continuous variable. Comorbidity between pairs of conditions was assessed using 2×2 contingency tables and Fisher's exact test. A simplified logistic regression model (depression as outcome; marital status and gender as predictors) was estimated using statsmodels; a fuller model including year of study and CGPA was attempted but produced unstable estimates due to quasi-complete separation given the small subsample of married students (see Section IV.A). Statistical significance was set at $\alpha = .05$ for all tests.

III. RESULTS

A. Sample Characteristics

Table I summarizes demographics and outcome prevalence: 35% depression, 34% anxiety, 33% panic attacks, but only 6% had ever sought treatment.

TABLE I
SAMPLE CHARACTERISTICS AND OUTCOME PREVALENCE

Variable	Category	n (%)
Gender	Female / Male	75 (75%) / 25 (25%)
Marital status	Unmarried / Married	84 (84%) / 16 (16%)
Year of study	Y1 / Y2 / Y3 / Y4	42 / 26 / 24 / 8
Depression / Anxiety / Panic	Yes	35% / 34% / 33%
Sought treatment	Yes	6 (6.0%)

B. Predictor–Outcome Associations

Table II presents association tests between each demographic predictor and each mental health outcome. Marital status was the only variable significantly associated with any outcome: married students showed significantly higher rates of depression ($p < .001$) and panic attacks ($p = .009$) than unmarried students. Notably, all 16 married students in the sample reported experiencing depression, compared with 19 of 84 (22.6%) unmarried students. Gender, year of study, CGPA, and age showed no statistically significant association with depression, anxiety, or panic attacks (all $p > .05$).

TABLE II
PREDICTOR–OUTCOME ASSOCIATION TESTS

Outcome	Predictor	Test	Stat.	p	Sig.
Depression	Gender	Fisher's	0.501	.230	No
Depression	Year of study	Chi-sq	$\chi^2=2.44$	.487	No
Depression	CGPA	Chi-sq	$\chi^2=8.42$	.077	No
Depression	Marital status	Fisher's	OR= ∞	<.001	Yes
Anxiety	Gender	Fisher's	1.417	.475	No
Anxiety	Year of study	Chi-sq	$\chi^2=0.53$	.912	No
Anxiety	CGPA	Chi-sq	$\chi^2=3.00$	.558	No
Anxiety	Marital status	Fisher's	OR=1.64	.397	No
Panic attack	Gender	Fisher's	0.941	1.000	No

Outcome	Predictor	Test	Stat.	p	Sig.
Panic attack	Year of study	Chi-sq	$\chi^2=2.40$	.494	No
Panic attack	CGPA	Chi-sq	$\chi^2=7.23$	.124	No
Panic attack	Marital status	Fisher's	OR=4.42	.009	Yes

Age did not differ significantly between students with and without each condition (Mann-Whitney U, all $p > .05$): depression (Yes M = 20.29 vs. No M = 20.66, $p = .569$), anxiety (Yes M = 20.21 vs. No M = 20.70, $p = .349$), panic attacks (Yes M = 20.73 vs. No M = 20.43, $p = .541$).

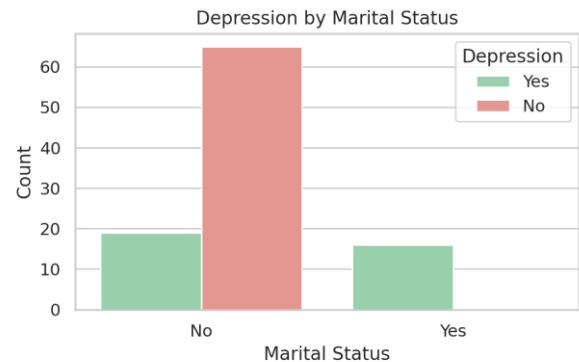


Fig. 1. Depression by marital status.

C. Comorbidity Between Conditions

Table III presents the association between each pair of conditions. Depression was significantly comorbid with both anxiety (OR = 3.24, $p = .009$) and panic attacks (OR = 2.89, $p = .025$). Anxiety and panic attacks were not significantly associated with one another (OR = 1.42, $p = .502$). Overall, 36% of students reported no conditions, 36% reported exactly one condition, 18% reported two conditions, and 10% reported all three conditions — meaning 28% of the sample experienced two or more co-occurring conditions.

TABLE III
COMORBIDITY BETWEEN CONDITION PAIRS

Condition pair	Odds ratio	p-value	Significant
Depression × Anxiety	3.24	.009	Yes
Depression × Panic attack	2.89	.025	Yes
Anxiety × Panic attack	1.42	.502	No

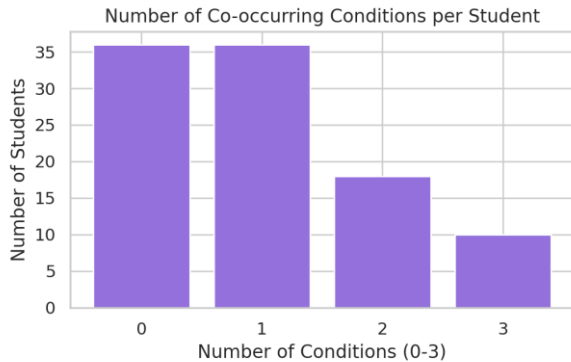


Fig. 2. Number of co-occurring conditions per student.

D. Treatment-Seeking Gap

Table IV presents treatment-seeking rates among students experiencing each condition. Despite a 35% prevalence of depression, only 17.1% of these students reported having sought professional treatment. Similarly, only 8.8% of students with anxiety and 12.1% of students with panic attacks had sought treatment. The association between having depression and having sought treatment was statistically significant ($p = .001$), indicating that while students with depression were somewhat more likely to seek treatment than those without, the overall proportion doing so remained low. Associations for anxiety ($p = .406$) and panic attacks ($p = .090$) did not reach statistical significance.

**TABLE IV
TREATMENT-SEEKING RATES BY CONDITION**

Condition	n with condition	% sought treatment	p-value
Depression	35	17.1%	.001
Anxiety	34	8.8%	.406
Panic attack	33	12.1%	.090

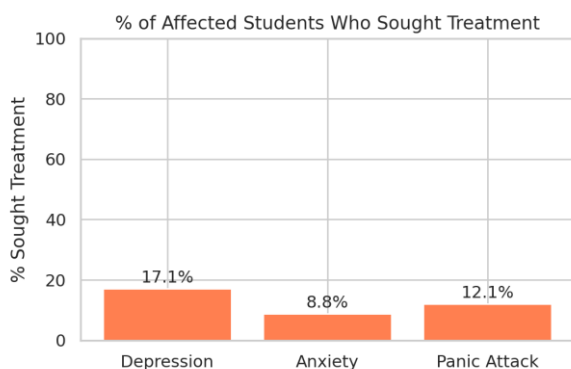


Fig. 3. Percent of affected students who sought treatment.

E. Logistic Regression

A simplified logistic regression model predicting depression from marital status and gender confirmed the bivariate finding: marital status remained the dominant predictor, though its coefficient could not be precisely estimated due to quasi-complete separation (all married students reported depression). Gender was not a significant predictor ($p = .249$) in this model. A fuller model including year of study and CGPA did not converge reliably, given the small and unevenly distributed subgroups within these categories relative to sample size.

IV. DISCUSSION

This study examined the demographic correlates, comorbidity patterns, and treatment-seeking behavior associated with depression, anxiety, and panic attacks among a sample of university students. Three findings stand out. First, marital status — rather than gender, year of study, or academic performance — was the only demographic factor significantly associated with depression and panic attacks in this sample. Second, mental health conditions frequently co-occurred: students with depression were roughly three times more likely to also report anxiety or panic attacks, consistent with well-documented patterns of comorbidity among internalizing conditions in the broader psychiatric literature. Third, and perhaps most important from a practical standpoint, the majority of students experiencing these conditions had never sought professional treatment, revealing a substantial treatment-seeking gap consistent with prior findings that stigma and access barriers keep many symptomatic students from receiving care (Duffy et al., 2019; Al-Khani et al., 2019).

The association between marital status and depression is notable but should be interpreted with caution given the very small married subgroup ($n = 16$) relative to the full sample. Married students may face unique stressors — such as balancing family or financial responsibilities alongside academic demands, or reduced peer social support relative to unmarried classmates — that could plausibly elevate depression risk. However, the fact that all 16 married students in this sample reported depression is an unusually clean split that is more consistent with a small-sample statistical artifact than with a true, generalizable effect of this magnitude. Replication in a larger and more evenly distributed sample is needed before this finding should inform policy or practice.

The absence of significant gender differences in this sample contrasts with some prior literature suggesting higher rates of depression and anxiety among female students, though it is consistent with other studies — including the reference study by Zhang et al. (2024) — that found no significant gender differences in student mental health within a university context, suggesting that institutional and life-stage factors may sometimes outweigh gender in shaping student mental health outcomes.

The comorbidity findings reinforce the importance of not treating depression, anxiety, and panic attacks as independent, isolated conditions when designing student support services. A student presenting with one condition should be considered at elevated risk for co-occurring conditions, and screening or intervention programs may benefit from addressing these conditions jointly rather than separately.

The treatment-seeking gap identified here is arguably the most actionable finding of this study. Even though more than a third of the sample reported depression, fewer than one in five of these students had sought professional treatment, and treatment-seeking among students with anxiety or panic attacks was even lower. This gap likely reflects a combination of stigma, limited awareness of available services, cost or access barriers, and normalization of psychological distress as an expected part of student life. These findings echo calls from prior research (Duffy et al., 2019) for universities to build integrated, low-barrier mental health care systems and to actively promote help-seeking rather than assuming that identifying at-risk students is sufficient on its own.

A. Limitations

- Small, imbalanced sample (N=100, only 16 married); quasi-separation limits confidence in the marital status finding and prevented stable multivariable regression.
- Non-validated single-item outcome measures rather than instruments like PHQ-9/GAD-7.
- Cross-sectional, single-institution convenience sample — no causal claims possible.
- 12 tests run without multiple-comparison correction.

- Secondary data — original collection/ethics procedures not independently verifiable beyond the source documentation.

B. Future Research

Future work should replicate these findings in larger, balanced samples using validated instruments (DASS-21, PHQ-9, GAD-7), explore mechanisms behind the marital status association, and test whether awareness campaigns or reduced-barrier counselling measurably increase treatment uptake.

V. CONCLUSIONS

Among 100 university students, marital status was significantly associated with depression and panic attacks, conditions frequently co-occurred, and a substantial treatment-seeking gap existed — only 6% of the sample, and 17.1% of students with depression, had ever sought help. Campus mental health initiatives should prioritize accessible, destigmatized treatment pathways, address comorbid conditions jointly, and further investigate subgroups such as married students, while interpreting this preliminary marital status finding with appropriate caution.

REFERENCES

- [1] A. M. Al-Khani et al., "A cross-sectional survey on sleep quality, mental health, and academic performance among medical students in Saudi Arabia," *BMC Research Notes*, vol. 12, no. 1, pp. 1–5, 2019.
- [2] A. Duffy et al., "Mental health care for university students: A way forward?" *The Lancet Psychiatry*, vol. 6, no. 11, pp. 885–887, 2019.
- [3] N. Grubic, S. Badovinac, and A. M. Johri, "Student mental health in the midst of the COVID-19 pandemic," *International Journal of Social Psychiatry*, vol. 66, no. 5, pp. 517–518, 2020.
- [4] E. Karyotaki et al., "Sources of stress and their associations with mental disorders among college students," *Frontiers in Psychology*, vol. 11, p. 1759, 2020.
- [5] E. Sheldon et al., "Prevalence and risk factors for mental health problems in university undergraduate students: A systematic review with meta-analysis," *Journal of Affective Disorders*, vol. 287, pp. 282–292, 2021.
- [6] J. Zhang, C. Peng, and C. Chen, "Mental health and academic performance of college students," *Acta Psychologica*, vol. 248, p. 104351, 2024.