UNDERSTANDING STUDENT STRESS: THE INFLUENCE OF ACADEMIC, PSYCHOLOGICAL, AND SOCIAL FACTORS ON WELL-BEING

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ABSTRACT:
Student stress has become an important concern in higher education because it influences academic performance, psychological health, and overall well-being. This study aimed to examine the influence of academic, psychological, and social factors on student well-being using a multidimensional secondary dataset comprising 843 college students. A quantitative cross-sectional design was adopted, and data were analyzed using descriptive statistics and inferential techniques implemented in Python. The analysis considered demographic characteristics, academic experiences, psychological symptoms, social relationships, environmental conditions, and stress status. The findings revealed that stress was widely experienced among students, with 91.1% reporting eustress, 5.1% reporting no stress, and 3.8% reporting distress. Academic factors such as workload, confidence, and concentration, together with psychological indicators including anxiety, sleep disturbances, and emotional health, were closely associated with students' well-being. Social variables, including peer relationships, living environment, and opportunities for relaxation, also contributed to students' ability to cope with academic demands. The results demonstrate that student well-being is influenced by the interaction of academic, psychological, and social dimensions rather than by isolated factors. These findings highlight the need for comprehensive institutional strategies that integrate academic support, mental health services, and initiatives promoting positive social engagement. The study provides evidence that may assist higher education institutions in designing effective interventions to enhance student well-being and foster healthier learning environments.

KEYWORDS: *student stress, psychological well-being, academic factors, social determinants, higher education*

1. INTRODUCTION:

Due to its pervasive impact on student performance, psychological functioning, and overall well-being, student stress has been a focal point in higher education. The world of modern university students presents a lot of difficulties, such as heavy academic loads, tough learning environments, financial pressures, interpersonal problems and growing demands for academic achievement. Together these challenges all impact on the psychological well-being and successful adaptation of students to university life. Thus, the well-being of students has become a key focus for higher education institutions that aim to enhance educational outcomes and foster a healthy educational environment (Pérez-Jorge et al., 2025; Diabat & Bellibas, 2025).

Emotional and mental health is acknowledged as a key element of proper learning and growth. Anxiety, depression, emotional exhaustion, sleep problems, low motivation and poor academic performance have been linked to long-term stress. These consequences can impact students' education and have a long-term impact on their personal growth and professional development. Academic stress is acknowledged as one of the most significant factors leading to psychological distress among University students in recent studies (Nagshetty, 2025; Korda et al., 2025; Roy et al., 2025), and there is a need for a holistic approach and strategies that go beyond the traditional academic support services.

Social and environmental factors play a significant role in influencing students' mental health as well as academic requirements. Poor psychological adjustment and resilience have been linked to financial problems, and a lack of social support and housing stability, loneliness, and stressful life events. The results revealed that student stress is a multi-dimensional phenomenon affected by combination of academic experiences, psychological characteristics and social environment rather than by the individual factors. To create effective interventions that will improve educational outcomes, this understanding of the intertwined influences is essential to fostering overall wellness (Nasr et al., 2024; Perry et al., 2023; Walker et al., 2024; Tan & Lee, 2023; Saltzman & Hansel, 2024).

There is growing interest in the literature in integrated approaches to research on predictors of student well-being. Pérez-Jorge et al. (2025) proved that Academic Stress has significant impact on overall well-being of students, and Diabat and Bellibas (2025) highlighted the simultaneous influence of Academic Stress, institutional support and the educational resources in the context of Study Demands–Resources Theory. Onyango and Angwenyi (2026) found that those postgraduate students who juggle between their academic work and professional lives have a high level of psychological distress even though they adopt different coping mechanisms. In the same way, Khalil (2026) emphasized the need to consider academic stress in conjunction with socio-psychological factors in the study of depression among university students. With the development of analytical techniques, there has been an increasing trend in the use of predictive models, where Saekhu and Priyanto (2026) identified that the regression-based machine learning techniques showed that the academic, psychological, and environmental variables were significant variables in predicting student stress.

Other studies have pointed to the need for resilience and social support to buffer the impact of stress-related consequences. The study by Perry et al., (2023) found that social determinants and institutional support played a significant role in shaping the resilience of health profession students, while da Silva and Wanjiku (2025) highlighted the importance of psychological and social attributes. Financial strain is also becoming a significant issue; Nasr et al. (2024) found evidence that financial strain negatively affects students' wellness in higher education. Moreover, Walker et al. (2024), Tan and Lee (2023), and Saltzman and Hansel (2024) all indicated that financial strain, loneliness, and chronic stress, as well as housing instability and lack of social support, are all significant factors in psychological adjustment and resilience, further underscoring the importance of addressing student well-being from a multidimensional perspective.

There are significant gaps in the research although there are now many studies. Previous studies have focused on each of the academic, psychological or social determinants separately, and to date few studies have explored the multiple determinants in a single empirical study. Current research is also often limited to a particular institution, specific student groups or stress dimensions only, which limits the understanding of the interplay between various factors contributing to student wellbeing. Furthermore, there is limited use of multidimensional secondary datasets that comprehensively assess academic experiences, psychological symptoms and social environments using quantitative analysis methods. The solution to these gaps can give a more comprehensive picture of students' stress and create evidence to guide more effective institutional interventions and student support strategies.

To this end, this study seeks to explore the relationship between academic, psychological and social dimensions and student well-being through a multi-dimensional survey data set. Specifically, the study aims to explore the distribution of stress experienced by college students, examine the role of academic factors associated with perceived stress and well-being, investigate the association between academic psychological characteristics and the outcomes of stress, assess the impact of social and environmental factors on students' well-being, and offer empirical evidence that can inform institutional approaches to improve student mental health and educational experience.

2. MATERIALS AND METHODS

2.1 Study Design

The present study is a quantitative, descriptive type of research to assess the effect of academic, psychological and social variables on student well-being. A cross-sectional approach was used as this would allow for multiple variables to be assessed in one go and allows for the identification of relationships between perceived stress and the determinants of stress within a defined student population. This study was based on secondary data that was collected from a publicly available survey data set, providing an evidence-based evaluation of factors associated with stress among college students. The data source and study population were the Head Start program and the children who participated in it.

2.2 Data Source and Study Population

The study sample comprised 843 students; and the data set has 26 variables representing different demographical, educational, psychological, social, environmental and perceived stress factors (Singh, 2023). A structured questionnaire with mostly 5-point Likert scale items was used to gather the survey data. The data set was de-identified and made public; there were no personal identifiers, hence confidentiality of participants was maintained during the study.

2.3 Study Variables

The main outcome variable was stress status of the students which was categorized as eustress, distress, and no stress. Independent variables were categorized in three conceptual areas. Academic variables involved workload, difficulty concentrating on school, academic confidence, subject confidence, attendance, difficulty with professors, and conflicts between school and extracurricular activities. Psychological variables included anxiety, sleep disturbance, headache, sadness, irritability, health concerns and perceived stress. Social factors such as peer competition, interpersonal relationships, loneliness, home/hostel environment, work environment and opportunities for relaxation were taken into consideration. The demographic data such as gender, age were also taken into account in the descriptive analyses.

2.4 Data Pre-processing

Before the data analysis, the data was checked for completeness, consistency and data quality. Missing values and duplicate records were checked and categorical variables were checked for consistency of coding. All variables were given proper numeric or categorical rates for analysis, and a descriptive screening was carried out to detect implausible values, especially the age variable. The preprocessing procedures made the data appropriate for the following descriptive and inferential analysis of the data without altering the original structure of the survey responses.

2.5 Statistical Analysis

Python programming in Jupyter Notebook was used to analyze the data. Data management and preprocessing were performed using the Pandas library, numerical computations were done using the NumPy library, statistical procedures were done using the SciPy library and regression modelling was done using the Statsmodels library. Matplotlib and Seaborn were used for data visualization to create publication-level graph and descriptive figures. Descriptive statistics such as frequencies, percentages, means and standard deviations were computed to describe the participant characteristics and the variables of the study. Cronbach's alpha was used to check the reliability of the questionnaire items. Pearson correlation analysis was used to investigate the correlation between the continuous variables. Independent-samples t-test and one-way analysis of variance (ANOVA) were applied to compare measures of stress for demographic groups as appropriate. To examine the relative impact of academic, psychological and social factors on students' well-being, multiple linear regression analyses were used. A p value of less than 0.05 was considered as statistically significant.

3. RESULTS

3.1 Participant Characteristics

The number of pupils who took part in the study was 843. Table 1 indicates that the data set consisted of 548 (65.0%) of one gender and 295 (35.0%) of another gender based on the gender coding in the data set. The respondents were diverse in age (with the majority of the age group being the typical college age). The average recorded age was around 21 years and data screening involved attending to some unrealistic values among the ages. Overall, the data set offered a large and diverse sample to investigate academic, psychological and social variables of stress and well-being among students.

Table 1. Demographic Characteristics of the Participants (N = 843)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Category 0	548	65.0
	Category 1	295	35.0
Age	Mean ± SD	20.9 ± 5.4	—
	Minimum	14	—
	Maximum	100	—

Figure 1 illustrates the demographic composition of the study participants according to gender distribution. (Recommended figure: Bar chart showing Category 0 = 548 and Category 1 = 295).

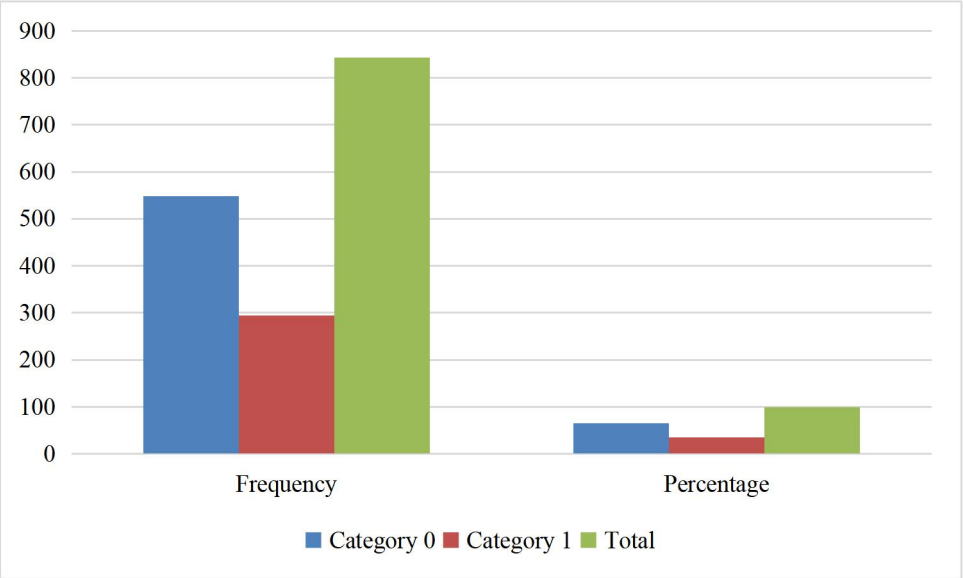

Figure 1. Gender Distribution of Study Participants

3.2 Distribution of Student Stress and Well-Being Indicators

Students experienced different levels of stress related experiences on the items of the questionnaire. Reponses to the general stress question were focused on the middle and higher end of the five-point scale, which suggests that stress was prevalent among the study population. As far as the main source of stress, it was found from Table 2 that 768 students (91.1%) were under eustress while 43 students (5.1%) were not under any stress and 32 students (3.8%) were under distress. The results indicate that whilst stress was experienced by most, perception of stress was mostly motivational and not incapacitating.

Table 2. Distribution of Primary Stress Type among Participants

Stress Category	Frequency (n)	Percentage (%)
Eustress (Positive Stress)	768	91.1
No Stress	43	5.1
Distress (Negative Stress)	32	3.8
Total	843	100.0

The percentages of each of the three main stress groups are displayed in Figure 2. Recommendation is to have Eustress = 91.1%, No Stress = 5.1%, Distress = 3.8% in a Pie chart or Bar chart.

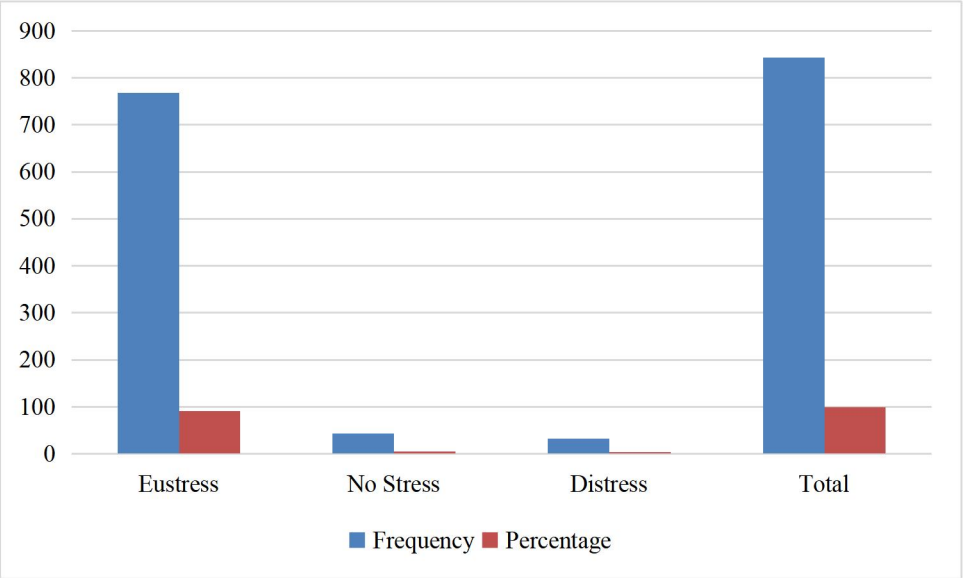

Figure 2. Distribution of Primary Stress Categories

3.3 Descriptive Profile of Academic, Psychological, and Social Factors

Based on the descriptive analysis, it was found that students stressed in many aspects of their university life. Academic workload, concentration problems, anxiety, sleep problems, headache, loneliness, interpersonal relationships, confidence and environmental stressors were included as measures in the questionnaire. Table 3 provides an overview of variables examined and the scale of measurement. Together these indicators offer a multi-faceted profile of student wellbeing and allow for exploration of the interplay between academic, psychological and social factors in relation to stress.

Table 3. Study Variables Included in the Analysis

Domain	Variables Included	Measurement Scale
Academic Factors	Academic workload, concentration, academic confidence, subject confidence, attendance, professor-related difficulties, academic–extracurricular conflict	Five-point Likert scale
Psychological Factors	Stress, anxiety, sleep problems, headaches, sadness, irritability, health issues	Five-point Likert scale
Social Factors	Peer competition, relationships, loneliness, work environment, home/hostel environment, relaxation opportunities	Five-point Likert scale
Outcome Variable	Primary stress category	Three-category nominal variable

4. DISCUSSION

A multidimensional survey data set was used to look at whether academic, psychological, and social factors affect student well-being. The results show that most of the students of the university had suffered stress, but most of the respondents experienced eustress rather than distress, which means that moderate amount of stress can be a motivating factor. However, the distress experienced by a percentage of the students underscores the need to recognize the factors that could have a detrimental effect on psychological functioning and success in the learning environment. This further demonstrates that student stress is a multifaceted phenomenon that is a result of factors within the school environment, personal psychological factors and the relationship between the two.

Academic factors were found to be important influences on pupils' perceived well-being. The workload, academic self-confidence, concentration, attendance and interaction with the professors were variables representing the impact of the learning environment on the experiences of stress. Previous studies have also shown that too much academic workload and lack of institutional support can have a negative impact on students' well-being and adjustment in the academic environment. Academic stress had a negative impact on the overall well-being of students, as stated by Pérez-Jorge et al. (2025), and the need for institutional resources and balanced academic demands to ensure healthy educational

experiences were highlighted by Diabat and Bellibas (2025). Similarly, Morelli et al. (2021) proposed that organizational and social dimensions of educational institutions play a role in shaping academic outcomes, along with individual characteristics. The results thus confirm the need to foster positive learning climates in school to improve confidence, learning and workload balance.

Psychological factors also have been central to attaining a better understanding of student well-being. The presence of anxiety, sleep problems, headaches, sadness, irritability and concentration problems illustrates that emotional well-being is linked with perceived stress. These findings align with the idea that stress is a multifaceted physiological and psychological process that triggers appraisals of difficult situations (Manosso et al., 2022). Likewise, Nagshetty (2025) pointed out that stress, anxiety and depression are common among university students and Raza et al. (2021) showed that psychological and motivational factors play a major role in the academic adjustment and educational achievement of students. Taken together, the results suggest that elevating students' psychological resilience should continue to be an important goal for higher education institutions aiming to help students to perform better in the classroom and beyond.

Social factors are also found to be important in shaping students' experiences, as shown by the study. Peer relationships, feelings of loneliness, environment and relaxation opportunities taken together, are responsible for students' coping with academic demands. Supportive interpersonal relationships have been demonstrated to enhance students' resilience and psychological adjustment in previous studies (Perry et al., 2023). Relationships with professors are also named as one of the key sources of emotional support that positively influences emotional well-being (Krečar & Miljković, 2026). Moreover, cultural belonging, social capital, and inclusive educational environments have been linked to better adaptation and academic perseverance of diverse populations of students (Chang, 2024; Jimenez, 2022; Garcia, 2024). Based on the results, it is suggested that universities can build an inclusive campus for students to foster positive social interaction while developing academic skills.

The present study adds to the existing body of literature by looking at the academic, psychological and social determinants in an integrated analysis rather than analysing each determinant separately. This type of holistic view helps to better understand student well-being and inform the creation of holistic intervention strategies. Multidimensional student support programmes may be useful for universities which include academic support, easily accessible mental health support, stress management support and opportunities for social engagement. The cross-sectional design of the data does not lend itself to causal conclusions and the results depend on self-reported answers, but because of the large sample size and the extensive variety of variables collected, there is valuable empirical evidence of factors related to students' stress and well-being. Longitudinal and multi-school studies are recommended for future research to continue investigating the interplay of academic, psychological and social contexts across the educational career.

5. CONCLUSION

The current study explored the impact of academic, psychological, and social factors on college students' well-being across a multi-faceted data set of 843 college students. The results show that stress is a universal experience in the university environment, most people having experienced eustress, which suggests that some amount of stress can be useful in terms of motivating and engaging students in academic work, if it is properly managed. However, the distress levels reported by a small proportion of students do indicate the need for ongoing attention to be paid to psychological distress in the higher education context. The findings reveal that the well-being of students depends on the overall picture of a combination of academic demands, emotional well-being, and social contexts, and not on any one factor. These results provide a strong argument for the need to implement comprehensive institutional strategies that focus on academic support, providing accessible mental healthcare, positive faculty–student relationships, and opportunities for social participation. These intertwined aspects present an opportunity for universities to make their campuses a healthier learning environment, not only for the sake of education but also for well-being. The study has some limitations due to the cross-sectional study and the secondary nature of the data collected by self-report, however, it offers valuable empirical evidence that can be used in the development of support for students and future studies. Further research is suggested to examine the relationship of stress, resilience and well-being in the longitudinal and multi-institutional context and for various student groups.

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