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Support criticisms with evidence from the text or from other sources	In the introduction, the author need not explain stress and anxiety. Please add some citations where they found some positive or negative correlation between your variable of interest with statistical significance.
Give specific suggestions on how to improve the manuscript	Abstract Introduction and Methodology: Ensure the abstract starts with a brief overview of the research topic, its significance, and the methodology used. This sets the context for the readers. Socio-Demographic Information in Results: Include socio-demographic details of respondents in the results section, along with key findings beyond the p-value, such as trends or noteworthy observations. Abstract Conclusion: Conclude the abstract with a statement summarizing the main findings and their implications. Consistency in Terminology (Lines 41 & 141): Maintain consistency in referring to respondents. Decide whether to use "college students" or "university students" and apply it uniformly throughout the text. Comma Usage: Review the text for proper comma placement, particularly in areas like line 56, to enhance readability and accuracy. Unnecessary Line Removal (Lines 63-64): Remove the line "as chronic stress can exacerbate anxiety symptoms, while anxiety can amplify the perception of stressors" if it does not contribute directly to the main argument or findings. Introduction Conclusion Rewrite (Lines 99-103): Rewrite the concluding statement of the introduction to clearly state the research aims or hypotheses, making it compelling and directly related to the study. Explanation of 2nd Research Objective: Clarify how predicting depression is feasible with a small sample size of 75 first-year law students. Discuss the limitations and how predictive analysis will be approached. Explanation of 3rd Research Objective: Provide a detailed explanation of the third objective, including how the exploration will be conducted and what specific interventions will be implemented. Line 128 Clarification: If using "We can work," ensure it is clear why there is a reference. This may require rephrasing or additional context. Clarification on Respondents (Line 141): Ensure clarity on whether the respondents are college or university students and maintain consistency in terminology.

	Importance of Reducing Variation (Lines 144-145): Explain why reducing variation is crucial for the study, possibly discussing its impact on the reliability and validity of results. Explanation of "Emotional Intelligence": Define and explain “emotional intelligence” within the context of the study, ensuring readers understand its relevance and application. Rewrite the “Research Tools” Section: Expand the description of research tools beyond just the scales used. Include information on data collection methods, instruments, and any procedures followed. Data Analysis Section: Avoid explaining basic statistical concepts like Descriptive Statistics and Pearson Correlation. Focus on how these methods were applied in the study. Socio-Demographic Data in Results: Include socio-demographic data in the results section, highlighting key findings and any notable patterns or trends observed. Consistency in Terminology (Mental Health Indicators): Ensure consistency in terminology. If “mental health indicators” were initially mentioned, avoid shifting to “negative mental states” unless justified. Clarify if all indicators point to negative states. Conclusion Summary: Summarize the conclusions to concisely reflect the study’s key outcomes and their implications, ensuring it is clear and to the point.
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Organize by the importance of the issues, and number your points	Abstract: Revise the abstract to include an introductory statement about the research topic, a brief overview of the methods used, key findings from the results, and a concluding summary based on these findings. Introduction: Focus the introduction on the variable of interest. Provide statistical data demonstrating the correlation between these variable and other relevant factors, citing studies that have found significant positive or negative correlations.

	Research Objectives: Clearly define both the general and specific research objectives. Avoid unnecessary references, especially in the objectives section (e.g., Line 129). Methods and Materials: Briefly explain the methods and materials used in the study, describing how they were applied specifically to your research. Include details on data collection, procedures, and any instruments used. Data Analysis: Describe how the data analysis was conducted without explaining the statistical methods. Focus on the analysis approach and the process followed. Results Section: Provide detailed information about the socio-demographic characteristics of the respondents and include key findings, not just significance values. Discussion: Compare your study's results with those from other authors' studies, highlighting similarities and differences. Conclusion: Summarize the conclusion to clearly reflect the study's key outcomes and implications.
Please provide constructive criticism, and avoid personal opinions	Can you please provide me with the raw data? So, that I can go through the statistical analysis again.
Comment on strengths (as well as weaknesses) of the manuscript	The title of the study is compelling and addresses a significant real-world issue, which is commendable. The extensive use of statistical analyses adds depth to the research. However, it is important to note that the study's sample size is limited to just 75 respondents, all of whom are first-year law students. This narrow demographic may impact the generalizability of the findings.

Examining the interplay between mental health indicators and quality of life measures among first-year law students: a quantitative study (#102602)

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Tip

Support criticisms with evidence from the text or from other sources

Example

Smith et al (J of Methodology, 2005, V3, pp 123) have shown that the analysis you use in Lines 241-250 is not the most appropriate for this situation. Please explain why you used this method.

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The English language should be improved to ensure that an international audience can clearly understand your text. Some examples where the language could be improved include lines 23, 77, 121, 128 – the current phrasing makes comprehension difficult. I suggest you have a colleague who is proficient in English and familiar with the subject matter review your manuscript, or contact a professional editing service.

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I thank you for providing the raw data, however your supplemental files need more descriptive metadata identifiers to be useful to future readers. Although your results are compelling, the data analysis should be improved in the following ways: AA, BB, CC

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I commend the authors for their extensive data set, compiled over many years of detailed fieldwork. In addition, the manuscript is clearly written in professional, unambiguous language. If there is a weakness, it is in the statistical analysis (as I have noted above) which should be improved upon before Acceptance.

Examining the interplay between mental health indicators and quality of life measures among first-year law students: a quantitative study

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This research investigates the intricate relationships between mental health indicators (depression, stress, and anxiety) and various dimensions of quality of life (affective valence, mood states, physical activity assessment, body image perception, and social relations evaluation) among 75 first-year law students (46 females and 29 males). Data were collected using standardized questionnaires including the Depression, Anxiety, and Stress Scale - 21 Items (DASS-21), Feeling Scale (FS), Exercise-Induced Feeling Inventory (EIFI), Modified Baecke Physical Activity Questionnaire (MBPAQ), World Health Organization Quality of Life - BREF (WHOQOL-BREF) questionnaire, and Contour Drawing Rating Scale (CDRS). Analysis involved descriptive statistics, Pearson correlation, and regression analysis. Findings reveal significant correlations between depression (mean score = 5.97, SD = 4.213), stress (mean score = 7.81, SD = 4.803), and anxiety (mean score = 6.17, SD = 4.577) with affective valence ($p < 0.05$), mood states ($p < 0.05$), physical activity ($p < 0.05$), body image perception ($p < 0.05$), and social relations quality ($p < 0.05$). Moreover, mood states (mean score = 20.73, SD = 10.596), physical activity (mean score = 8.43, SD = 1.351), body image perception (mean score = 4.21, SD = 1.905), and social relations quality (mean score = 12.46, SD = 2.332) emerge as significant predictors of mental health outcomes ($p < 0.05$). The study underscores the importance of holistic approaches to mental health care and highlights the need for tailored interventions to promote well-being among college students.

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Abstract

This research investigates the intricate relationships between mental health indicators (depression, stress, and anxiety) and various dimensions of quality of life (affective valence, mood states, physical activity assessment, body image perception, and social relations evaluation) among 75 first-year law students (46 females and 29 males). Data were collected using standardized questionnaires including the Depression, Anxiety, and Stress Scale - 21 Items (DASS-21), Feeling Scale (FS), Exercise-Induced Feeling Inventory (EIFI), Modified Baecke Physical Activity Questionnaire (MBPAQ), World Health Organization Quality of Life - BREF (WHOQOL-BREF) questionnaire, and Contour Drawing Rating Scale (CDRS). Analysis involved descriptive statistics, Pearson correlation, and regression analysis. Findings reveal significant correlations between depression (mean score = 5.97, SD = 4.213), stress (mean score = 7.81, SD = 4.803), and anxiety (mean score = 6.17, SD = 4.577) with affective valence ($p < 0.05$), mood states ($p < 0.05$), physical activity ($p < 0.05$), body image perception ($p < 0.05$), and social relations quality ($p < 0.05$). Moreover, mood states (mean score = 20.73, SD = 10.596), physical activity (mean score = 8.43, SD = 1.351), body image perception (mean score = 4.21, SD = 1.905), and social relations quality (mean score = 12.46, SD = 2.332) emerge as significant predictors of mental health outcomes ($p < 0.05$). The study underscores the importance of holistic approaches to mental health

care and highlights the need for tailored interventions to promote well-being among college students.

Introduction

Mental health is a multifaceted construct crucial for the overall well-being of individuals, especially in academic settings (Hammoudi Halat et al., 2023; Iordache et al., 2010). In the context of higher education, students often face unique challenges that can impact their mental health. The transition to university life, academic pressures, financial constraints, and social isolation are just a few of the stressors commonly experienced by students (Bergin & Pakenham, 2015). These challenges can exacerbate feelings of stress, anxiety, and depression, which in turn can adversely affect academic performance, personal relationships, and overall quality of life. Within the spectrum of mental health, three interconnected components play pivotal roles: stress, anxiety, and depression (Lavine et al., 2023).

Stress is a natural response to demands placed on an individual, whether they are physical, emotional, or psychological. It serves as a survival mechanism, triggering the body's fight-or-flight response in the face of perceived threats. However, prolonged or excessive stress can have detrimental effects on both mental and physical health. Chronic stress has been linked to a myriad of health problems, including cardiovascular diseases, gastrointestinal disorders, and, notably, mental health disorders such as anxiety and depression (Salleh, 2008).

Anxiety is characterized by persistent feelings of apprehension, uneasiness, or fear. While it is a normal reaction to stressful situations, excessive or irrational anxiety can impair daily functioning and significantly diminish quality of life. Individuals with anxiety disorders may experience symptoms ranging from excessive worry and restlessness to panic attacks and avoidance behaviors (Michael, 2014). The relationship between stress and anxiety is bidirectional, as chronic stress can exacerbate anxiety symptoms, while anxiety can amplify the perception of stressors, leading to a vicious cycle of heightened distress (Putwain, 2007).

Depression is a mood disorder marked by persistent feelings of sadness, hopelessness, and disinterest in activities once enjoyed. It can manifest in varying degrees of severity, from mild to severe, and can significantly impair an individual's ability to function in their daily lives (Hysenbegasi et al., 2005). Like anxiety, depression often coexists with chronic stress, and the interplay between these two conditions is complex. Chronic stress can contribute to the development of depression by dysregulating neurotransmitter systems, altering brain structure and function, and disrupting the body's stress response mechanisms (Andrews & Wilding, 2004). Understanding the intricate relationship between stress, anxiety, and depression is crucial for developing effective interventions and treatment strategies (Basiri et al., 2023). While each component contributes uniquely to the overall landscape of mental health, they are interconnected in a complex web of causality and mutual influence. Addressing one aspect of mental health often involves addressing others simultaneously, underscoring the importance of a holistic approach to mental health care (Weinberg et al., 2017).

Additionally, mental health encompasses the quality of life, including various aspects such as daily activities (including household chores, exercise, and leisure time), satisfaction with social

relationships, and body image. The ability to engage in meaningful activities, maintain fulfilling social connections, and cultivate a positive body image are integral components of mental well-being (Beiter et al., 2015).

Engagement in regular physical activity has been associated with numerous mental health benefits, including stress reduction, improved mood, and enhanced cognitive function (Fox, 2003). Similarly, maintaining a balance between work, leisure, and personal responsibilities contributes to overall life satisfaction and psychological well-being (Gröpel & Kuhl, 2009). Furthermore, the quality of social relationships plays a significant role in mental health outcomes. Strong social support networks have been shown to buffer against the adverse effects of stress, reduce feelings of loneliness and isolation, and promote resilience in the face of challenges (Bond et al., 2007). Conversely, social isolation and interpersonal conflicts can exacerbate symptoms of anxiety and depression, highlighting the importance of nurturing positive social connections (Hocker & Wilmot, 2018).

Body image, or the perception of one's physical appearance, also influences mental health (Xu & Liu, 2020). Negative body image can lead to feelings of low self-esteem, dissatisfaction with oneself, and in severe cases, contribute to the development of eating disorders such as anorexia nervosa or bulimia nervosa (Koushiou et al., 2021). Cultivating a positive body image involves fostering self-acceptance, practicing self-care, and challenging societal norms and unrealistic beauty standards (Kumar, 2023). The aim of this research article is to investigate the relationships between mental health indicators (depression, stress, and anxiety) and various measures of quality of life (affective valence, mood states, physical activity assessment, body image, and social relations evaluation) among first-year law students.

Research Objectives:

- 1.To assess the correlations between mental health indicators and quality of life measures. This objective involves conducting correlation analyses to examine the associations between depression, stress, and anxiety levels and affective valence, mood states, physical activity, body image perception, and social relations quality among the study participants.

- 2.To predict depression, stress, and anxiety levels based on relevant independent variables. This objective aims to utilize regression analysis to predict levels of depression, stress, and anxiety based on key independent variables such as mood states, physical activity, body image perception, and social relations quality. This analysis elucidates the extent to which these variables influence mental health outcomes.

- 3.To explore the implications of identified associations for mental health interventions. This objective involves discussing the implications of the identified correlations and predictors for the development of targeted interventions aimed at improving mental health and overall quality of life among first-year law students. This discussion highlights potential intervention strategies and areas for future research.

Our research seeks to contribute to a deeper comprehension of the intricate relationship between negative mental states and different dimensions of quality of life. By shedding light on this

interplay, we provide valuable insights that can inform future interventions and treatment strategies aimed at promoting mental well-being. Mental health is not a singular concept but rather a complex amalgamation of emotional, psychological, social, and physical factors (Curtis, 2016; Cipu & Dragnea, 2007). Recognizing the interconnectedness of stress, anxiety, depression, quality of life, social relationships, and body image is pivotal in fostering holistic approaches to mental health care (Thieme et al., 2015). By addressing these multifaceted components, we can work towards enhancing overall well-being and cultivating resilience in the face of life's adversities (Ring et al., 2016). Through a comprehensive understanding of these dynamics, we can strive to create supportive environments and implement effective interventions that cater to the diverse needs of individuals, ultimately fostering a healthier and more resilient society (Southwick et al., 2011).

Materials & Methods

2.1. Study Design

For this study, we employed an observational, descriptive, experimental, and cross-sectional design, conducted between April 17 and June 2, 2023 (Indu & Vidhukumar, 2019), focusing on quantitative measures.

In the first stage, participant recruitment, selection, and signing of participation agreement, occurring between April 17 and April 24, 2023, we recruited participants from university Physical Education and Sports classes without providing any incentives. We adopted a conventional sampling approach, considering the participants were university students, assuming they have more free time (Simkus, 2022). This contributed to reducing variations in assessing the effects of physical activity on mental health.

Inclusion criteria involved age between 19 and 30 years and student status.

Exclusions targeted severe medical or psychological conditions, use of psychoactive medications, previous participation in similar programs, medical contraindications for physical exercise, non-participation in a maximum of two sessions, and lack of written consent.

In the second stage, initial assessment, occurring between April 25 and April 29, 2023, participants completed six comprehensive questionnaires: WHOQOL-BREF, CDRS, MBPAQ, EIFI, FS, and DASS-21, covering various domains including quality of life, depression, physical activity, emotional intelligence, and stress levels.

In the third stage, data centralization from initial assessments, between April 28 and April 29, 2023, the collected information was centralized into a database, applying quality control measures to verify data accuracy and ensure confidentiality.

In the fourth stage, analysis of initial data, between April 30 and May 30, 2023, we used SPSS version 23, including descriptive statistics, Person correlation "r," and regression analysis highlighting unstandardized coefficients - B.

2.2. Subjects

A total of 75 subjects (46 females and 29 males) were included in this study, all of whom were first-year law students at the 1 Decembrie 1918 University of Alba Iulia, Faculty of Law and Social Sciences.

Prior to participation, each student provided written consent to be included in the study. The consent of the participants was required and signed before starting the research according to the Declaration of Helsinki. It was approved by the Ethics Committee of the Doctoral School of Physical Education and Sport Science (ID: 08/21.03.2023), West University of Timisoara.

2.3. Research Tools

In this study, we utilized six measures commonly used in academic student populations.

2.3.1. Depression, Anxiety, and Stress Scale – 21 Items (DASS-21)

The DASS-21 is a self-report questionnaire aimed at measuring depression, anxiety, and stress. Participants rated the frequency and severity of symptoms over the past week on a four-point Likert scale (Lovibond & Lovibond, 1995)

2.3.2. Feeling Scale (FS)

The FS is a single-item scale measuring affective valence on an 11-point continuum from "Very bad" to "Very good", providing a quantitative assessment of emotional well-being (Hardy & Rejeski, 1989).

2.3.3. Exercise-Induced Feeling Inventory (EIFI)

The EIFI assesses emotional states experienced during or after exercise, including revitalization, tranquility, positive engagement, and physical exhaustion. It's validated for measuring emotional responses to exercise interventions (Gauvin & Rejeski, 1993).

2.3.4. Modified Baecked Physical Activity Questionnaire (MBPAQ)

The MBPAQ evaluates typical physical activities across household, sports, and leisure-time categories, providing a composite score indicating the overall level of physical activity (Chukhlantseva, 2023).

2.3.5. WHOQOL-BREF

The WHOQOL-BREF assesses quality of life across physical, psychological, social, and environmental domains. We focused specifically on participants' perceptions of social relationships (Gholami et al., 2013).

2.3.6. Contour Drawing Rating Scale (CDRS)

The CDRS evaluates body image perception by comparing participants' current and ideal body images, providing insights into their perceptions of physical appearance. 2.3. Research tools (Steinfeld et al., 2020).

2.4. Data Analysis

In our data analysis, we employed several statistical operations to gain insights into our study variables.

2.4.1. Descriptive statistics (Mean and Standard Deviation)

We calculated the mean and standard deviation to understand the central tendency and variability of our data. This allowed us to grasp the average value of the measured variables and the spread of data points around the mean, aiding in identifying any outliers or patterns (Mishra et al., 2019).

2.4.2. Pearson Correlation (r) with significance (2-tailed)

The Pearson correlation coefficient (r) helped us assess the strength and direction of the linear relationship between continuous variables. By highlighting significance (Sig.) with a 2-tailed test, we determined whether the observed correlation was statistically significant, indicating a true association rather than chance. This analysis allowed us to explore potential associations between variables of interest (Obilor & Amadi, 2018).

2.4.3. Regression analysis with unstandardized coefficients (B)

Regression analysis enabled us to examine the predictive relationship between independent variables and a dependent variable. By focusing on Unstandardized Coefficients (B), we assessed the strength and direction of this relationship while controlling for other factors. These coefficients indicate the change in the dependent variable for a one-unit change in the independent variable, offering valuable insights into the effect of each predictor variable on the outcome variable (Menard, 2011).

Each statistical operation was selected to provide a comprehensive understanding of our data, explore relationships between variables, and identify factors influencing our outcome of interest. Statistical analysis was conducted using SPSS, version 23.0 (Murana & Rahimin, 2021)

Results

3.1. Descriptive Statistics

Table 1 presents the descriptive statistics for various items, including depression, stress, anxiety, affective valence (FS), mood states (EIFI), total physical activity assessment (MBPAQ), actual mood states assessment (CDRS), and social relations evaluation (WHOD3). Mean values indicate the average score for each item, while SD (Standard Deviation) represents the variability or spread of scores around the mean.

Tabel 1. Descriptive Statistics

3.2. Correlation analysis between mental health variables and quality of life measures

Table 2 illustrates the correlations between mental health variables and other measures of quality of life, including affective valence (FS), mood states (EIFI), physical activity assessment (MBPAQ), body image (CDRS), and social relations evaluation (WHOD3). The table displays Pearson correlation coefficients for each pair of variables, accompanied by their respective significance levels (Sig2). The correlations are based on data from a sample size of 75 participants. Significance levels are indicated by asterisks, with ** denoting significance at the 0.01 level and * denoting significance at the 0.05 level, both two-tailed.

Table 2. Calculation of correlations between mental health variables and other measures of quality of life (affective valence, mood states, physical activity assessment, body image, and social relations evaluation)

3.3. Prediction of depression, stress, and anxiety levels based on relevant independent variables

Table 3 presents the results of regression analyses focusing on stress, anxiety, and depression. The table displays unstandardized coefficients (B) for each independent variable with a significance level of $p < 0.05$. The regression coefficients indicate the change in stress, anxiety, or depression levels for a one-unit increase in the respective independent variable. The variables included in the regression analysis are depression, anxiety, mood states (EIFI), physical activity assessment (MBPAQ), body image (CDRS), and social relations evaluation (WHOD3). These results provide insights into the predictive relationships between these mental health indicators and the examined independent variables.

Table 3. Regression Analysis of Stress, Anxiety, and Depression

1. Depression correlates significantly with stress and anxiety (Sig. 2 = 0.000), as well as with mood states (EIFI, Sig. 2 = 0.021), physical activity assessment (MBPAQ, Sig. 2 = 0.006), and social relations evaluation (WHOD3, Sig. 2 = 0.000).
2. Stress correlates significantly with depression and anxiety (Sig. 2 = 0.000), as well as with mood states (EIFI, Sig. 2 = 0.000), physical activity assessment (MBPAQ, Sig. 2 = 0.005), body image (CDRS, Sig. 2 = 0.030), and social relations evaluation (WHOD3, Sig. 2 = 0.000).
3. Anxiety correlates significantly with depression and stress (Sig. 2 = 0.000), as well as with mood states (EIFI, Sig. 2 = 0.000), physical activity assessment (MBPAQ, Sig. 2 = 0.012), body image (CDRS, Sig. 2 = 0.013), and social relations evaluation (WHOD3, Sig. 2 = 0.000).
4. Affective valence (FS) does not significantly correlate with any measured indicators ($p > 0.05$), indicating that emotional state is not strongly associated with other measures in the study.
5. Mood states (EIFI) significantly correlate with all negative mental states (depression, stress, anxiety), as well as with body image (Sig. 2 = 0.000) and the level of social relations (Sig. 2 = 0.07) of the research subjects.
6. Physical activity (MBPAQ) significantly correlates with all negative mental states (depression, stress, anxiety), as well as with social relations of the research subjects.
7. Body image (CDRS) significantly correlates with stress (Sig. 2 = 0.30) and anxiety (Sig. 2 = 0.13), as well as with mood states (EIFI, Sig. 2 = 0.000).
8. Social relations significantly correlate with all negative mental states (depression, stress, anxiety, Sig. 2 = 0.000), as well as with mood states (Sig. 2 = 0.07) and the level of physical activity (Sig. 2 = 0.06) of the research subjects.

Discussion

This study delves into predicting levels of depression, stress, and anxiety among college students while exploring correlations between these negative mental states and various aspects of quality of life.

Descriptive statistics

The descriptive statistics shed light on the central tendencies and variabilities of the data. Participants displayed moderate levels of depressive symptoms and stress, with varying degrees of severity. Similarly, anxiety levels were moderate among participants, also exhibiting variability. Emotional valence leaned slightly positive, indicating a generally stable emotional state. Emotional experiences during or after exercise were moderate, with individual responses varying. Physical activity levels were moderate and relatively consistent. Body image perceptions were moderately positive, though with variability among participants. Social relationships were perceived moderately positively, yet with differences in social interaction experiences.

These observations underscore the need for personalized approaches in addressing mental health concerns and promoting well-being among individuals, recognizing the diverse range of experiences within the sample.

Correlation analysis

Interpreting significant correlations between negative mental states and quality of life measures revealed crucial insights. Higher depression levels correlated significantly with increased stress and anxiety, poorer mood states, lower physical activity levels, and poorer social relationships. Elevated stress levels correlated significantly with increased depression and anxiety, poorer mood states, lower physical activity levels, poorer body image perception, and poorer social relationships. Higher anxiety levels correlated significantly with increased depression and stress, poorer mood states, lower physical activity levels, poorer body image perception, and poorer social relationships. Emotional state did not significantly correlate with measured indicators, suggesting emotional state is not strongly associated with other measures. Mood states during or after exercise correlated significantly with all negative mental states and social factors, indicating a close relationship between mood states and mental health indicators. Higher physical activity levels correlated significantly with lower levels of negative mental states and better social relationships. More positive body image perceptions correlated significantly with lower levels of stress and anxiety, as well as better mood states. Better social relationships correlated significantly with lower levels of negative mental states, better mood states, and higher levels of physical activity.

These correlations highlight the importance of evaluating various well-being facets comprehensively, emphasizing the interplay between mental health and overall well-being.

Prediction of mental health levels

Regression analyses offer insights into predictive relationships between mental health indicators and independent variables. Depression, anxiety, mood states, physical activity, body image, and social relations significantly predicted stress levels. Stress, mood states, physical activity, body image, and social relations significantly predicted anxiety levels. Stress, anxiety, mood states, physical activity, and social relations significantly predicted depression levels. These findings underscore the complex interplay between mental health indicators and independent variables, emphasizing the importance of addressing multiple factors in interventions aimed at reducing depression, stress, and anxiety levels. Personalized approaches considering individual coping mechanisms and social support networks may be beneficial in managing mental health outcomes. Mukta et al. (2023) investigated the relationship between students' mental health, psychological attributes inferred from social media interactions, and academic performance. They employed a classification model to predict students' psychological attributes and mental health issues from their social media interactions, then used these predictions to identify academic performance. The study utilized judgmental sampling to collect textual content from students' Facebook news feeds and derived feature vectors using the MPNet model. Correlations were found between social media usage and psychological attributes/mental health, as well as between psychological attributes/mental health and academic performance. A two-level hybrid model was built to predict academic performance, achieving strong performance with a microaverage f-score of 0.94 and an AUC-ROC score of 0.95. Additionally, an ensemble model combining psychological attributes and mental health models showed improved performance compared to independent models. Baba and Bunji (2023) aimed to develop a machine learning (ML) model to predict students' mental health problems over one year using health survey data, including response time. They analyzed data from 3561 undergraduate students from University A in Japan who completed the health survey in 2020 and 2021. Two analyses were conducted: predicting mental health problems in 2020 and 2021. Various ML models were compared, with the LightGBM model showing the best performance. Results indicated that demographic and behavioral data, along with response time, were effective predictors of mental health issues. Surprisingly, while the inclusion of answering time-related variables did not substantially improve predictions, certain variables derived from response time were helpful. The study highlights the potential of ML models in predicting mental health issues using health survey data, which could lead to improvements in survey items and calling criteria for counseling services. Eisenberg et al. (2009) conducted the first study examining how mental health affects academic success in college. They analyzed a random longitudinal sample of students and found that depression was a significant predictor of lower GPA and higher dropout rates, especially among students with co-occurring anxiety disorders. Further analysis within the longitudinal sample confirmed that depression and anxiety together were associated with lower GPA, along with symptoms of eating disorders. These findings suggest the potential for significant economic benefits from programs aimed at preventing and treating mental health issues among college students. Additionally, the study emphasizes the importance of evaluating such programs' impact on academic outcomes using randomized trials.

Limitations

Despite its contributions, this study has several limitations that should be acknowledged:

1. **Sample characteristics** -the study focused exclusively on first-year law students, which limits the generalizability of the findings to other student populations or demographic groups. Future research should consider diverse samples to enhance the external validity of the results.
2. **Cross-sectional design** -the cross-sectional design of the study precludes the establishment of causal relationships between variables. Longitudinal studies are needed to better understand the temporal dynamics and potential causal pathways between mental health indicators and quality of life measures.
3. **Self-report measures** -the reliance on self-report measures, such as questionnaires assessing mental health and quality of life, introduces the possibility of response bias and social desirability effects. Future research could incorporate objective measures or multi-method approaches to enhance the reliability and validity of the findings.
4. **Potential confounders** -the study did not account for potential confounding variables, such as socio-economic status, prior mental health history, or academic stressors, which could influence the relationships between mental health indicators and quality of life measures. Future research should consider controlling for these factors to obtain a more accurate estimation of the associations under investigation.
5. **Single-institution setting** -the study was conducted in a single institution, which may limit the generalizability of the findings to other educational contexts. Replication of the study in multiple institutions or across different cultural contexts would enhance the robustness and external validity of the results.

Acknowledging these limitations is essential for contextualizing the findings and guiding future research efforts aimed at advancing our understanding of the complex interplay between mental health and quality of life among college students.

Conclusions

The study revealed significant correlations between depression, stress, and anxiety levels, and various dimensions of quality of life, including affective valence, mood states, physical activity, body image perception, and social relations quality. These findings underscore the interconnectedness between mental health and overall well-being, highlighting the importance of adopting a comprehensive approach to mental health assessment and support.

Regression analysis further demonstrated that mood states, physical activity, body image perception, and social relations quality significantly predict levels of depression, stress, and anxiety among college students. Higher levels of physical activity, positive mood states, and favorable perceptions of body image and social relations were associated with lower levels of negative mental states, suggesting the potential of these factors in mitigating mental health issues.

The identified correlations and predictors offer valuable insights for the development of targeted interventions aimed at enhancing mental health and overall quality of life among college students. Strategies focusing on enhancing mood, increasing physical activity, fostering positive body image perceptions, and improving social relationships may prove effective in promoting well-being and resilience among students. Moving forward, future research should delve deeper into understanding the underlying mechanisms of these associations and explore innovative intervention approaches tailored to the specific needs of college students. By addressing these gaps, we can better support the mental health and well-being of individuals within educational settings. This study contributes to the existing literature by elucidating the complex relationships between mental health indicators and quality of life measures among first-year law students. By addressing the established research objectives, the findings underscore the importance of holistic approaches to mental health care and provide valuable insights for the development of targeted interventions to support the well-being of college students.

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Table 1 (on next page)

Calculation of Correlations Between Mental Health Variables and Other Measures of Quality of Life (Affective Valence, Mood States, Physical Activity Assessment, Body Image, and Social Relations Evaluation)

This table presents the correlation coefficients (r), significance levels (Sig2), and sample sizes (N) for the relationships between various mental health variables (depression, stress, and anxiety) and other measures of quality of life, including affective valence (FS), mood states (EIFI), physical activity assessment (MBPAQ Total), body image (CDRS Actual), and social relations evaluation (WHOD3). The correlations marked with ** are significant at the 0.01 level, while those marked with * are significant at the 0.05 level. The data includes values for mean and standard deviation (SD) for each variable, highlighting the interconnectedness of mental health indicators and quality of life measures in the study sample of 75 participants.

Table 2. Calculation of correlations between mental health variables and other measures of quality of life (affective valence, mood states, physical activity assessment, body image, and social relations evaluation)

		DEPRESSION	STRESS	ANXIETY	FS	EIFI	MBPAQTotal	CDRSAActual	WHOD3
DEPRESSION	r	1	.738**	.805**	.121	.267*	-.314**	.186	-.433**
	Sig2		.000	.000	.300	.021	.006	.110	.000
	N	75	75	75	75	75	75	75	75
STRESS	r	.738**	1	.837**	.095	.465**	-.324**	.251*	-.639**
	Sig2	.000		.000	.416	.000	.005	.030	.000
	N	75	75	75	75	75	75	75	75
ANXIETY	r	.805**	.837**	1	.067	.548**	-.290*	.287*	-.595**
	Sig2	.000	.000		.565	.000	.012	.013	.000
	N	75	75	75	75	75	75	75	75
FS	r	.121	.095	.067	1	.099	.181	.008	-.116
	Sig2	.300	.416	.565		.400	.120	.944	.321
	N	75	75	75	75	75	75	75	75
EIFI	r	.267*	.465**	.548**	.099	1	.026	.400**	-.308**
	Sig2	.021	.000	.000	.400		.824	.000	.007
	N	75	75	75	75	75	75	75	75
MBPAQTotal	r	-.314**	-.324**	-.290*	.181	.026	1	-.040	.314**
		.006	.005	.012	.120	.824		.732	.006
		75	75	75	75	75	75	75	75
CDRSAActual	r	.186	.251*	.287*	.008	.400**	-.040	1	-.135
	Sig2	.110	.030	.013	.944	.000	.732		.247
	N	75	75	75	75	75	75	75	75
WHOD3	r	-.433**	-.639**	-.595**	-.116	-.308**	.314**	-.135	1
	Sig2	.000	.000	.000	.321	.007	.006	.247	
	N	75	75	75	75	75	75	75	75

**. Correlation is significant at the 0.01 level (2-tailed).
 *. Correlation is significant at the 0.05 level (2-tailed).

Table 2 (on next page)

Descriptive Statistics for Depression, Stress, Anxiety, FS, EIFI, MBPAQ Total, CDRS Actual, and WHOD3

This table provides the descriptive statistics for various mental health and quality of life measures. The items include depression, stress, anxiety, affective valence (FS), mood states (EIFI), physical activity assessment (MBPAQ Total), body image (CDRS actual), and social relations evaluation (WHOD3). The mean (average) values and standard deviations (SD) are presented for each item, reflecting the central tendency and variability within the sample of participants. The data highlights the overall levels and dispersion of these psychological and quality of life metrics among the study participants.

1 **Tabel 1.** *Descriptive Statistics*

Items	Depression	Stress	Anxiety	FS	EIFI	MBPAQ Total	CDRS actual	WHOD3
Mean	5.97	7.81	6.17	3.52	20.73	8.43	4.21	12.46
SD	4.213	4.803	4.577	1.455	10.596	1.351	1.905	2.332

2

Table 3(on next page)

Regression Analysis of Stress, Anxiety, and Depression

Dependent Variables : Depression : The impact of predictors (Anxiety, EIFI, MBPAQ, CDRS, WHOD3) on Depression. Anxiety : The impact of predictors (Depression, EIFI, MBPAQ, CDRS, WHOD3) on Anxiety. Stress : The impact of predictors (Depression, Anxiety, EIFI, MBPAQ, CDRS, WHOD3) on Stress. Predictors : EIFI : Unstandardized coefficient (B) and significance level ($p < 0.05$) for EIFI in predicting Depression, Anxiety, and Stress. MBPAQ : Unstandardized coefficient (B) and significance level ($p < 0.05$) for MBPAQ in predicting Depression, Anxiety, and Stress. CDRS : Unstandardized coefficient (B) and significance level ($p < 0.05$) for CDRS in predicting Depression and Anxiety. WHOD3 : Unstandardized coefficient (B) and significance level ($p < 0.05$) for WHOD3 in predicting Depression and Anxiety. Interpretation Guidance: Unstandardized Coefficients (B) : Indicates the strength and direction of the relationship between each predictor and the dependent variable. Significance ($p < 0.05$) : Highlights which predictors have statistically significant effects on each dependent variable. This legend helps clarify the variables involved, their roles as predictors or dependent variables, and how to interpret the coefficients and significance levels provided in your regression analysis output.

1 **Table 3.** *Regression Analysis of Stress, Anxiety, and Depression*

Regression of stress		Regression of anxiety		Regression of depression	
Correlated indicators p<0.05	Unstandardized Coefficients – B	Correlated indicators p<0.05	Unstandardized Coefficients – B	Correlated indicators p<0.05	Unstandardized Coefficients – B
Depression	.841	Depression	.875	Stress	.648
Anxiety	.879	Stress	.798	Anxiety	.741
EIFI	.211	EIFI	.237	EIFI	.106
MBPAQ	-1.150	MBPAQ	-.982	MBPAQ	-.980
CDRS	.633	CDRS	.690	WHOD3	-.782
WHOD3	-1.315	WHOD3	-1.167		

2

3