

**Analysis of Mental Health's Awareness Effect and Physical Activity Towards
Academic Performance Students**Isna Nurhaliza^{1*}, Hermawan Pamot Raharjo²¹²Faculty of Sport Sciences, Universitas Negeri Semarang, Indonesia**Keywords**

Mental Health Awareness, Physical Activity, Academic Performance, Gpa, University Students

Abstract

Academic success depends on several psychological and behavior related factors, like knowing how to take care of mental health and staying active with physical exercise. This study aims to examine the association between mental health knowledge, physical activity, and the academic performance of students at Universitas Negeri Semarang. This research uses a quantitative method and is based on a cross-sectional survey. A total of 200 students were selected using a purposive sampling approach. Mental health awareness was checked using a changed version of Mental Health Literacy Scale (MHLS), and physical activity was measured with the International Physical Activity Questionnaire-Short Form (IPAQ-SF). The students' Grade Point Average was used to evaluate how well they did in their studies. The data was analyzed using multiple linear regression with IBM Statistic 25 Software. The study showed that mental health awareness was significantly associated with academic performance ($p = 0.025$). However, the adjusted coefficient of determination of 0.036 shows that these two variables explain only 3.6% of the variation in academic achievement. These findings indicate that mental health awareness was significantly associated with academic performance, whereas physical activity was not significantly associated with the GPAs of UNNES students, nevertheless, the contribution of the regression model to explaining student' academic performance was relatively small.

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INTRODUCTION

Academic achievement is a key factor in deciding how successful a student will be in higher education (Alhadabi, 2021). Academic achievement is usually measured by the Cumulative Grade Point Average (CGPA). Learning assessment scores and students' ability to handle different academic challenges. According to (Indrašienė et al., 2021), a student's performance shows not just their personal strengths, but also how willing they are to face tough challenges in the global job market. It's important to understand that academic success depends not just on how smart someone is, but also on their mental state and daily habits.

Being a college student in the present era is not an easy task. Behind the joy of being accepted to college is a great burden of duties, such as a full class schedule, never-ending tasks and reports, the pressure to earn good marks, and worry about the future after graduation. These conditions produce very serious psychological pressure that is frequently overlooked—by students, their families, and the educational institutions that support them.

Stress among college students has been demonstrated to have a major impact on mental health. According to the World Health Organization (2022), one in every four persons worldwide may encounter a mental disease at some point in their lives, with the 18-25 age group—which includes the vast majority of college students—being among the most vulnerable. This suggests that college students are at a higher risk of developing mental health problems. These percentages are significantly higher among college students than the overall population. According to (Ketchen et al., 2021), the majority of students have experienced symptoms of anxiety and sadness within the last year. This illness affects not just their emotions, but also their ability to think, concentrate, and stay motivated in school.

Mental health problems in Indonesia continue to represent a significant challenge to this day. The low level of public awareness regarding mental health has led many individuals to remain unaware of the psychological conditions they are experiencing, while simultaneously lacking an understanding of the importance of seeking assistance from qualified professionals in the field of mental health. The degree of mental health awareness among college students demonstrates considerable variation and generally tends to cluster within the moderate range (Permana et al., 2023). Mental health awareness is, in fact, of paramount importance in enabling individuals to identify symptoms of psychological disorders, diminish social stigma, and foster a greater inclination toward seeking professional assistance when confronted with mental health challenges (O'Connor et al., 2024).

Optimal mental health has been associated with improved levels of concentration, learning motivation, cognitive functioning, and academic engagement among students. On the contrary, the presence of mental health disorders has been shown to impede academic performance and exert a detrimental influence on overall academic achievement. (Patel et al., 2022) Research has found that students who possess better mental health tend to demonstrate superior academic outcomes compared to those experiencing psychological disorders. Consequently, adequate knowledge and awareness of mental health holds significant potential in contributing to the enhancement of students' academic performance.

Beyond psychological considerations, physical activity also exerts a substantial influence on academic achievement. Engaging in physical activity is widely acknowledged to enhance cognitive function, memory retention, and mental well-being through the activation of various physiological pathways that support the learning process (Nilsson et al., 2020). Furthermore, individuals who maintain an active lifestyle are considerably less susceptible to experiencing depression and anxiety in comparison to those who lead a more sedentary lifestyle (Li & Huang, 2025). Therefore, physical activity not only serves to preserve students' physical health, but also contributes meaningfully to the improvement of their mental well-being and academic performance.

Despite the extensive exploration of the relationship between mental health, physical activity, and academic performance in existing literature, most previous studies have primarily focused on mental health as a broad construct, including psychological well-being and psychological distress, rather than specifically examining mental health awareness or mental health literacy as a factor associated with academic mental health awareness or mental health literacy as a factor associated with academic performance (Ramos-Monsivais et al., 2024).

Although both mental health awareness and physical activity have individually been associated with students' well being and learning outcomes (Reis et al., 2022), studies integrating these two variables simultaneously in explaining students' academic performance remain limited, particularly among university in Indonesia (Asidik et al., 2022).

Furthermore, previous studies have reported inconsistent findings regarding the relationship between physical activity and academic performance. While some studies have demonstrated a significant association between physical activity and academic performance (Kentzer et al., 2024), others have reported weak or non significant associations after taking psychological and behavioral factors into account (Fokkens-Bruinsma et al., 2021). Therefore, the present study aims to examine the association between mental health awareness, physical activity, and the academic performance of students at Universitas Negeri Semarang.

METHODS

The present study employs a quantitative research approach utilizing a cross-sectional survey design with the aim of investigating the extent to which mental health awareness exerts an influence on the variables under examination (X_1) and physical activity levels (X_2) upon students' academic performance, as operationalized through Grade Point Average (GPA) (Y). The selection of a quantitative approach is grounded in the nature of this study's objectives, which seek to explore the interrelationships and effects among variables that are amenable to objective measurement through numerical data. Rooted in the philosophical underpinnings of positivism, quantitative research methodology is employed to investigate a designated population or sample with the overarching purpose of empirically testing predetermined hypotheses (Sugiyono, 2023).

The population under investigation comprised the entirety of active students enrolled at Universitas Negeri Semarang. Participant were determined through a purposive sampling technique, guided by the following criteria: (1) holding active students status at UNNES, (2) demonstrating voluntary willingness to participate as a respondents, and (3) possessing the capacity to complete the questionnaire in its entirety. Upon the application of these criteria, a total of 200 students were deemed eligible and subsequently incorporated into the study. This particular sample size was regarded as sufficient, given that it satisfied the minimum threshold stipulated for multiple linear regression analysis as proposed by Tabachnik and Fidell.

Data pertaining to mental health literacy were gathered utilizing an instrument adapted from the Mental Health Literacy Scale (MHLS), specifically drawing upon the Indonesia language version that had been translated and validated by (Juniarni et al., 2025). From the original instrument, a total of 20 items were selected on the basis of their relevance to the objectives of the present study as well as their appropriateness within the context of university students, while nevertheless preserving the essential dimension inherent to mental health literacy. Responses to each item were obtained through a four point Likert Scale, ranging from 1 (Strongly disagree) to 4 (Strongly agree), whereby a higher aggregate score was indicative of a greater degree of mental health awareness.

With respect to physical activity levels, measurement was carried out employing an instrument adapted from the Indonesia language version of the International Physical Activity Questionnaire-Short Form, as developed by (Dharmansyah & Budiana, 2021), comprising 7 items formulated to assess the extent of participants' engagement in physical activity. In order to facilitate the data collection process and enhance respondents' comprehension, the original questionnaire was subsequently modified into a four point Likert Scale format, ranging from 1 (Strongly disagree) to 4 (Strongly agree), with higher scores reflecting elevated levels of physical activity.

Academic performance, on the other hand, was operationalized through students' Cumulative Grade Point Average (GPA), the validity of which was verified through screenshots retrieved from the Academic Information System Of Universitas Negeri Semarang.

Data collection was carried out through an online questionnaire disseminated by means of Google Forms. Prior to completing the questionnaire, participants were furnished with

information pertaining to the objectives underlying the study and were subsequently required to indicate their willingness to participate through the provision of electronic informed consent. Participants were then directed to complete the questionnaires pertaining to mental health awareness and physical activity, followed by the submission of a screenshot depicting their cumulative GPA as retrieved from the Academic Information System (SIKADU) of Universitas Negeri Semarang. Only those questionnaires exhibiting complete responses were subsequently retained for inclusion in the final analysis.

Participation in this study was entirely voluntary. Before completing the questionnaire, all participants were provided with an explanation of the study's objectives and procedures and were required to provide informed consent electronically. The confidentiality and anonymity of all respondents were strictly maintained throughout the research process, and the information collected was used solely for academic and research purposes.

Prior to its implementation in the study, the adapted instrument underwent validity and reliability testing on a group of respondents whose characteristics were comparable to those of the actual study sample. The validity of the instrument was evaluated through Pearson's product-moment correlation, whereas its reliability was determined by means of Cronbach's alpha coefficient, with an acceptable minimum threshold value set at 0.70.

Data analysis was conducted using IBM SPSS Statistic version 25. The analytical procedures consisted of instrument validity and reliability testing, classical assumption tests including normality, multicollinearity, heteroscedasticity, and linearity test as well as multiple linear regression analysis. Prior to hypothesis testing, all classical assumptions were examined to ensure that the regression model satisfied the required statistical assumptions. Subsequently, hypothesis testing was carried out using the t-test to determine the partial influence of each independent variable, the F-test to evaluate the simultaneous influence of the independent variables on the dependent variable, and the coefficient of determination (Adjusted R^2) to assess the proportion of variance in the dependent variable explained by the regression model. All statistical analyses were performed using a significance level of 0.05.

RESULTS AND DISCUSSION

The data analysis produced a number of significant findings that serve as the foundation for the discussion presented in this study. In order to facilitate a clearer interpretation, the results are organized and displayed in the form of tables accompanied by descriptive explanation. The outcomes of the validity and reliability tests are summarized and presented in **Table 1**.

Table 1. Results of validity and Reliability Testing

X	Rentang r hitung	r tabel	Hasil	Ket
X ₁	0,301-0,633	0,138	0,894	Valid & Reliable
X ₂	0,389-0,620	0,138	0,797	Valid & Reliable

Based on the outcomes of the validity assessment, all statement items across the research variables yielded correlation coefficients (r-calculated) that exceeded the corresponding r-table values, accompanied by significance levels below the threshold of 0.05.

Consequently, all statement items were determined to be valid, indicating their capacity to accurately measure the intended research variables and their suitability for subsequent analysis. With regard to the reliability assessment, Cronbach's Alpha Coefficients of 0,894 and 0,797 were obtained respectively. Given that both values surpass the minimum acceptable threshold of 0.70, it can be concluded that the research instruments demonstrate a satisfactory consistency in measuring the research variables and are deemed appropriate for utilization as instruments of data collection.

Subsequently, a normality test was performed employing the Kolmogorov-Smirnov method to ascertain whether the research data fulfilled the assumption of normal distribution. The results derived from this test are presented in **Table 2**.

Table 2. Test of Normality

	Statistic	df	Sig.
Unstandardized Residual	.106	15	.200

Based on the outcomes of the normality test, a significance value of 0.200 was obtained. Given that this value exceeds the established threshold of 0.05 ($0.200 > 0.05$), it can be concluded that the data and residuals derived from the study conform to a normal distribution. Therefore, the normality assumption has been satisfactorily fulfilled, and the data are considered appropriate for further analytical procedures.

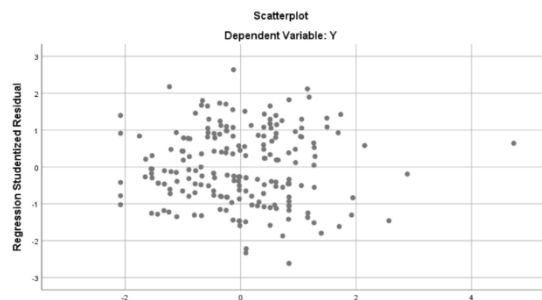
Following this, a multivollinearity test was subsequently conducted with the purpose of determining whether substantial intercorrelations existed among the independent variables model was free from multicollinearity problems that could potentially compromise the integrity of the analysis. The results yielded from the multicollinearity test are presented in **Table3.**

Table 3. Multicollinearity test

Model	t	Sig.	Tolerance	VIF
X ₁	-2.260	.025	.526	1.902
X ₂	.030	.976	.526	1.902

Based on the outcomes of the multicollinearity test, the Tolerance Value was recorded at 0.526, while the Variance Inflation factor (VIF) value was obtained at 1.902. Given that the Tolerance value exceeded 0.10 and the VIF value remained below 10, it can be concluded that no indication of multicollinearity was detected among the independent variables within the regression model, thereby confirming that the multicollinearity assumption had been adequately fulfilled.

Subsequently, a heteroscedasticity test was carried out by means of the scatterplot method in order to evaluate whether unequal variance existed among the residuals of the regression model. A regression model is considered appropriate when the distribution of residual points does not exhibit any discernible or systematic pattern. The results of the heteroscedasticity test using the scatterplot are presented in **figure 1.**

**Figure 1.** Scatterplot results

As observed from the scatterplot produced, the residuals points are dispersed in a random manner both above and below the zero value on the Y-axis, with no identifiable or consistent pattern emerging. This finding suggests that the regression model is free from any indication of heteroscedasticity, and consequently, the assumption of homoscedasticity can be regarded as having been satisfactorily met.

Multiple Linear Regression Analysis. The multiple linear regression analysis yielded the following regression equation: $Y = 3.899 - 0.002X_1 + 8.013X_2$.

The constant value 3.899 implies that when both X_1 and X_2 equal zero, the value of Y is 3.899. The regression coefficient of X_1 at -0.002 signifies a negative association with Y , implying that for every one-unit increment in X_1 , the value of Y will experience a decline of 0.002 units.

On the other hand, the regression coefficient of X_2 at 8.013 denotes a positive association with Y, suggesting that for every one-unit increment in X_2 , the value of Y will undergo an increase of 8.013 units.

Referring to **Table 3**, the results of the t-test reveal that the mental health awareness variable (X_1) obtained a significance value of 0.025, which is less than 0.05, leading to the conclusion that mental health awareness has a significant effect on the students' academic performance (Y). In contrast, the physical activity variable (X_2) yielded a significance value of 0.976, which exceeds the 0.05 threshold, indicating that physical activity does not exert a significant effect on students' academic performance (Y).

Subsequently, an ANOVA (Analysis of Variance) test was conducted to evaluate the appropriateness of the regression model and to examine the simultaneous effect of the independent variables on the dependent variable. The results of the ANOVA test are presented in **Table 4**.

Table 4. ANOVA

Model	Sum of Square	df	Mean Square	F	Sig
Regression	.067	2	.033	4.768	.010
Residual	1.382	197	.007		
Total	1.449	199			

Based on the F-test results, an F-value of 4.768 was obtained with a significance level of 0.10. Given that the significance value falls below the 0.05 threshold, it can be concluded that variables X_1 and X_2 simultaneously exert a significant effect on variable Y. When examined partially, only X_1 demonstrates a significant influence on Y, whereas X_2 fails to show a significant effect on Y. Nevertheless, when assessed simultaneously, the regression model comprising X_1 and X_2 proves to have a significant effect on Y.

In order to further assess the ability of the regression model to explain the variation present in the dependent variable, a Model Summary analysis was subsequently carried out. The coefficient of determination (R-squared) was utilized as a measure to determine the degree to which the independent variables are capable of accounting for changes in the dependent variable. The results obtained from the Model Summary analysis are presented and summarized in **Table 5**.

Table. 5 Model Summary analysis

Model	R	R Square	Adjusted R Square	Std. Error of The Estimate
1	.215	.046	.036	.08376

The adjusted R-squared value of 0.036 reveals that, after accounting for the number of independent variables in the model, variables X_1 and X_2 collectively explain only 3.6% of the variation in Y, whereas the remaining 96.4% is attributed to other factors that fall outside the scope of the current research model.

The results of the present study reveal that mental health awareness exerts a significant impact on students' academic performance. These findings suggest that students who possess a comprehensive understanding of mental health tend to demonstrate a greater capacity to manage academic-related stress, maintain emotional equilibrium, and sustain concentration throughout the learning process. Such competencies, in turn, contribute meaningfully to the attainment of superior academic outcomes.

These findings are in alignment with the results of a study conducted (Chu et al., 2023) which established that students exhibiting higher levels of mental health literacy tend to perform more favorably in academic settings, attributable to their enhanced ability to identify psychological difficulties and implement effective coping mechanisms in response to such challenges.

Furthermore, a study conducted by (Gendis Gayatri et al., 2026) concluded that mental health constitutes one of the pivotal determinants influencing students' academic performance. Students who demonstrate superior psychological well-being tend to exhibit

elevated levels of learning motivation, academic engagement, and task completion capability in comparison to their counterparts who are confronted with mental health difficulties.

The findings of the present study indicate that physical activity does not exert a statistically significant effect on students' academic performance. These results suggest that the physical activity undertaken by students has not yet been demonstrated to make a direct and measurable contribution to differences in Grade Point Average (GPA). From a theoretical standpoint, physical activity is widely recognized to enhance cognitive functioning through the augmentation of cerebral blood flow and the stimulation of neuroplasticity. A study conducted by (Blume & Royes, 2024) elucidates that engagement in physical activity has the capacity to trigger both structural and functional adaptations within the hippocampus, a region of the brain that plays an indispensable role in the processes of learning and memory consolidation.

Nevertheless, the absence of significant effect of physical activity in the present study may be attributable to a multitude of contributing factors. Among these is the fact that students' Grade Point Average are shaped by numerous other variables, including but not limited to learning motivation, academic ability, learning strategies, social support, and time management capabilities. While physical activity may indeed confer benefits upon overall health and cognitive functioning, its direct and observable impact on GPA is not always readily discernible.

The outcomes of the simultaneous test reveal the mental health awareness and physical activity, when considered collectively, exert a significant effect on the students' academic performance. However, the Adjusted R-Square value of 0.36 indicates that these two variables jointly account for only 3.6% of the total variation observed in the students' academic performance, suggesting that the remaining variance is explained by other factors beyond the scope of the present investigation.

This finding implies that academic achievement constitutes a multifaceted phenomenon that is shaped by a diverse range of contributing factors. As articulated by (Fokkens-Bruinsma et al., 2021), students' academic success is not solely determined by health-related factors, but is equally influenced by self-efficacy, self-regulated learning, academic engagement, as well as the broader learning environment in which students operate.

Corroborating this perspective, the findings of (Alhadabi, 2021) further demonstrate that students' academic achievement is governed by a complex interplay of psychological, social, and academic factors. In light of this, while mental health awareness and physical activity undeniably contribute to academic performance, there remain other variables that assume a more predominant role in ultimately determining the level of students' academic success.

CONCLUSION

The findings of the present study indicate that mental health awareness is significantly associated with the academic performance of students at Universitas Negeri Semarang, whereas physical activity is not significantly associated with academic performance. When considered simultaneously, mental health awareness and physical activity are significantly associated with students' academic performance. However, the adjusted coefficient of determination indicates that these variables explain only 3.6% of the variation in academic performance, suggesting that students' academic achievement may also be influenced by other factors not examined in this study.

These findings suggest that academic performance is influenced by various psychological, behavioral, and environmental factors beyond the variables included in the present study. Therefore, although mental health awareness may contribute to students' academic performance, its contribution within the current research model remains relatively limited. Future studies are recommended to include additional variables that may provide a more comprehensive understanding of the factors associated with students' academic performance.

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