INVESTIGATION OF THE RELATIONSHIP BETWEEN STUDENTS' DEPRESSION LEVELS AND THEIR ACADEMIC PERFORMANCE

INVESTİGAÇÃO DA RELAÇÃO ENTRE OS NÍVEIS DE DEPRESSÃO DOS ALUNOS E SEU DESEMPENHO ACADÊMICO

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Abstract. In the given article, both theoretically and practically, the existence of any relationship between students' levels of depression and their academic performance is examined. It was shown that there is no consistent correlation between the indicators of depression in students and their academic performance. An experimental investigation is conducted to clarify the issue with consideration of gender and economic status in academic performance. Results indicate that there is no significant relationship between GPA and depression level. Descriptive analyses suggest that there might be gender differences in academic performances, as females tend to have higher GPAs than males. Moreover, subjects with better economic statuses tend to present higher GPAs, while those with financial difficulties demonstrate higher levels of depression. These suggest that factors like gender and economic status may influence not only academic performances but also mental health; however, more studies should be conducted to confirm such trends.

Keywords: Symptoms, Depression, Gender Differences, Academic Performance, Students

Resumo. No artigo em questão, tanto teórica quanto praticamente, a existência de qualquer relação entre os níveis de depressão dos alunos e seu desempenho acadêmico é examinada. Foi demonstrado que não há correlação consistente entre os indicadores de depressão em alunos e seu desempenho acadêmico. Uma investigação experimental é conduzida para esclarecer a questão com consideração de gênero e status econômico no desempenho acadêmico. Os resultados indicam que não há relação significativa entre GPA e nível de depressão. Análises descritivas sugerem que pode haver diferenças de gênero em desempenhos acadêmicos, pois as mulheres tendem a ter GPAs mais altos do que os homens. Além disso, indivíduos com melhores status econômicos tendem a apresentar GPAs mais altos, enquanto aqueles com dificuldades financeiras demonstram níveis mais altos de depressão. Isso sugere que fatores como gênero e status econômico podem influenciar não apenas os desempenhos acadêmicos, mas também a saúde mental; no entanto, mais estudos devem ser conduzidos para confirmar tais tendências.

Palavras-chave: Sintomas, Depressão, Diferenças de Gênero, Desempenho Acadêmico, Estudantes

1. INTRODUCTION

Depression is one of the most common mental illnesses, characterized by symptoms such as depressed mood, loss of interest, and pleasure in activities. Many people feel sad at times, and this feeling can be due to an event that has occurred, for example, the loss of a family member, losing a job, or failure to achieve a personal goal. In brief, sadness is a part of life. However, when this state of low mood has lasted for a long period and interferes with an individual's functionality, it then becomes a mental health issue termed as depressive disorder. Unlike the normal mood fluctuations, depression influences all aspects of life, including social and interpersonal relations, posing a big problem.

Depression can affect anyone. People who undergo abuses, significant losses, and other stressful events are more vulnerable to depression. Females have a greater risk of depression than males do. World Health Organization, Depression. In this sense, it is clear that gender makes a big impact on the course of a mental disorder. According to the American Psychiatric Association, females are 1.5 to 3 times more likely than males to experience depression. However, there is no evidence to demonstrate that gender can be only one influencing factor in poor mental health. Other factors such as genetic vulnerability, early life events, and stress sensitivity also play a major role.

Aggregate international studies suggest that marked gender disparities in major depression are more evident in countries with higher levels of gender equality, but this does not hold for symptoms of depression. The presence of gender disparities in depression reflects a public health issue, particularly in younger age groups; however, the magnitude of disparity suggests that male depression should not be overlooked (National Library of Medicine).

Various types of depressive disorders have been recognized and are included in the DSM-5, such as:

- Major depression
- Chronic depression or dysthymia
- Disruptive mood dysregulation disorder
- Premenstrual dysphoric disorder
- Substance/medication-induced depressive disorder

Diagnosis of depressive disorders focuses on the specific symptoms and period of each type, coupled with appropriate diagnostic assessments. Shared symptoms include irritability, sadness, anhedonia, emptiness, and a reduced ability to enjoy activities. Other physiological and psychological symptoms include:

- Continual depression
- a fatigue or loss of energy
- An inability to concentrate
- sleeping more or less than usual; increased or reduced appetite
- discharged, hopeless (World Health Organization. Depression).

Episodes of depression can be classified as mild, moderate, or severe. The number and intensity of symptoms and the level of impairment of functioning differ at the different levels. Depression affects emotions and physicality associated with daily functioning and life adjustment and has a considerable influence on human functioning (Kessler et al., 2003). It significantly influences mood regulation, cognitive functions, and overall psychological resilience (Nolen-Hoeksema, 2000).

Impairments in attention, memory, and decision-making, which accompany depressive episodes, can hinder both personal and professional life (Gotlib & Joormann, 2010). Disturbances in the regulation of emotions, which are characteristic of depression, can present

as feelings of hopelessness, irritability, and a lack of joy (American Psychiatric Association, 2013), all of which detract from an individual's overall sense of well-being and life quality (Beck, 2008).

Depression is similarly correlated with physical manifestations, including persistent headaches, bodily discomfort, and fatigue, which may continue even after psychological symptoms have improved (Simon et al., 1999). Studies suggest that the physiological reactions to stress associated with depression can play a role in the development or worsening of chronic conditions, such as cardiovascular disease and diabetes (Penninx, 2017). The relationship between depression and chronic illnesses underscores the necessity of combining mental and physical healthcare services (Moussavi et al., 2007).

Depression also impacts interpersonal relationships, as the illness interferes with family functioning and social competence. It often takes the form of a disengagement from social activities and a reduction in communication, leading to misunderstandings and conflict in the relationships (Joiner, 2000). The psychological toll of supporting a depressed relative can even lead to "caregiver burnout" in close family members (Coyne et al., 1987). Additionally, depression's impact on occupational functioning and social competencies may affect work relationships, hindering job advancement and overall work performance (Lerner & Henke, 2008).

At the societal level, depression creates a considerable economic impact through losses in productivity and healthcare expenses (Greenberg et al., 2015). Indirect expenses associated with absenteeism, diminished productivity, and unemployment represent a significant share of national healthcare spending, particularly in nations with elevated rates of depression prevalence (Sobocki et al., 2006). Tackling depression not only mitigates personal distress but also enhances economic productivity and lessens the burden on public health resources (Chisholm et al., 2016).

Depression is a common and complex mental health disorder that is manifested variably across age, culture, and gender. The impact of the problem varies within each demographic group, offering challenges in diagnosis and treatment.

In children and adolescents, depression often manifests as irritability, withdrawal, or declining academic performance, quite unlike symptoms seen in adults. Such differences may result in misinterpretations or insufficient diagnosis of depression among younger groups (Brown & Harris, 2014). Research indicates that the early emergence of depression has enduring consequences, adversely affecting social abilities, self-worth, and cognitive growth into adulthood (Kovacs & Devlin, 1998). Grasping these distinct expressions in younger populations is crucial for prompt and efficient intervention (Hammen & Rudolph, 2003).

In the elderly population, depression presents unique diagnostic challenges, partly because its symptoms can overlap with age-related disorders such as a number of physical illnesses (Alexopoulos, 2005). In addition, elderly individuals may view depressive symptoms as normal aspects of aging and, therefore, fail to report them (Blazer, 2003). Studies highlight the need for clinicians to distinguish between normal aging and symptoms of depression to provide appropriate intervention (Gatz & Fiske, 2003).

Cultural differences play a significant role in the conceptualization and treatment of depression. Studies have shown that some cultures are more likely to consider symptoms of depression as part of a physical illness, which impacts both the favored treatments and the willingness to seek help for one's mental health (Kleinman, 1987; Ryder et al., 2008). For example, in many Eastern cultures, somatic symptoms are more commonly reported, and treatments often focus on culturally specific explanations (Kirmayer, 2001).

The manifestations of depression show considerable variation by gender, as the females show higher rates than the males (Nolen-Hoeksema, 2001). These differences may be the consequence of social and cultural influences where the gender roles that are being learned

affect the manner of expression of the mood and the coping strategies (Piccinelli & Wilkinson, 2000). Conforming to societal expectations about emotional toughness, men are less likely to express their emotions or seek help, which could contribute to undiagnosed and untreated depression (Mahalik et al., 2003).

Understanding the effects of age, culture, and gender on depression will help formulate diagnostic and treatment strategies that are inclusive, sensitive, and effective. Further research in these differences will provide a complex insight into mental health, which respects diversity at the individual and cultural levels while offering holistic care.

2. METHODOLOGY

2.1. Research Design

This study tries to establish the level of depression as measured by Beck Depression Inventory (BDI) and academic achievement using Grade Point Average (GPA). In this light, our study is quantitative, considering how levels of depression are influencing students' performance in academics. Focusing on the correlation between depression levels and GPA, we aim to determine whether higher levels of depression are associated with lower academic outcomes. This variable-centered approach helps to emphasize how mental health affects academic success.

2.2. Participants

The study involved 126 students, of which 44% were male and 56% were female. A stratified random sample of second-, third-, and fourth-year students from different academic fields was used. Participation in the study was voluntary; all participants gave informed consent. In order to ensure the sample consisted of only active students, only regularly attending students were selected.

2.3. Methods

The instruments used in this research were the following:

1. Grade Point Average (GPA): GPA was measured as an indication of academic performance.
2. Beck Depression Inventory (BDI):The BDI is a standardized self-report instrument made up of 21 items and is used to assess the severity of depressive symptoms. High scores on BDI indicate a high level of depression, which is interpreted as:(0–9)-Minimal depression, (10–16)-Mild depression, (17–29)-Moderate depression, (30–63)-Severe depression

2.4. Data Collection

Data were gathered in October 2024. Participants were asked to fill out the BDI, and GPA scores were obtained with their consent. All statistical analyses were done through SPSS software, first to check if the data followed a normal distribution pattern, then to investigate a probable relationship between BDI scores and GPA.

2.5. Ethical Considerations

The study was conducted in compliance with all ethical standards. University permissions were obtained prior to conducting the research. Potential respondents were fully informed regarding the purpose of the study. Participation was purely on a voluntary basis. They were assured that the results would be strictly used for academic purposes only. There were no violations of the principles of beneficence and non-maleficence since it ensured the protection of physical and psychological integrity of participants.

3. RESULTS AND DISCUSSION

3.1. Descriptive Statistics

The initial analysis of GPA and depression demonstrated the spread of scores in the participants. The descriptive statistics of the aforementioned variables are presented in Table 1.

Table 1. Descriptive Statistics of GPA and Depression Levels

Variable	N	Mean	Std. Deviation	Minimum	Maximum
GPA	100	3.56	1.14	1	5
Depression Level	100	17.30	11.25	0	63

3.2. Normality Tests and Visualizations

Normality tests and visualizations were conducted to check the distribution of the data.

Table 2. Normality Tests for GPA and Depression Levels

Measure	Kolmogorov-Smirnov (K-S)	Shapiro-Wilk (S-W)
GPA	$D = 0.22, p < 0.001$	$W = 0.88, p < 0.001$
Depression Level	$D = 0.13, p = 0.026$	$W = 0.89, p < 0.001$

The normality testing results indicated that the measures of both GPA and level of depression were not distributed normally. Distribution of subjects by GPA and levels of depression is presented in Figures 1 representing histograms, while

Br. J. Ed., Tech. Soc., v.18, n.se3, p.53-60, 2025
DOI http://dx.doi.org/10.14571/brajets.v18.nse3.53-60
ISSN 2316-9907

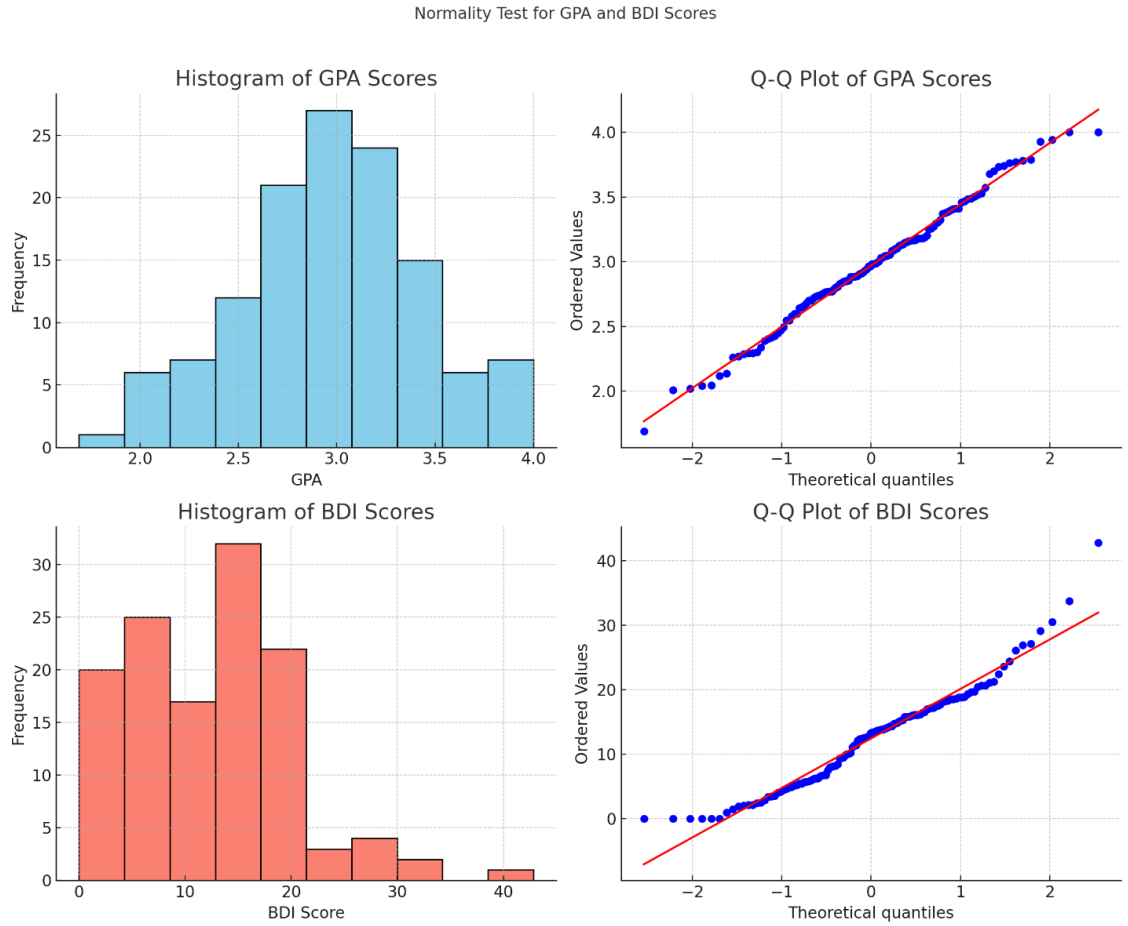

Figure 1. are Q-Q plots confirming violation of normality.

3.3. Correlation Analysis

A Pearson correlation analysis, which was carried out to correlate GPA with levels of depression, showed no statistically significant value of ($r = 0.057$, $p = 0.526$). The current finding indicates a lack of a meaningful relationship between academic performance and levels of mental health. The Table 3 specifies the correlation coefficients.

Table 3. Pearson Correlation between GPA and Depression Levels

Variables	Correlation Coefficient (r)	Sig. (2-tailed)
GPA & Depression Level	0.057	0.526

4. ADDITIONAL ANALYSES PERFORMED ACCORDING TO GENDER AND ECONOMIC DEVELOPMENT

Descriptive analyses have analyzed variations in GPA and depression levels regarding gender and economic status.

Table 4. Descriptive Statistics of GPA and Depression Level by Gender

Gender	N	Mean GPA	Std. Dev. GPA	Mean Depression Level	Std. Dev. Depression Level
Male (1)	56	3.34	1.16	16.45	10.33
Female (2)	70	3.99	0.91	17.64	9.17

Based on these findings, it can be understood that females have a higher average GPA (3.99) than males in this sample. Although females had higher depression than males, the difference is negligible.

Table 5. Descriptive Statistics of GPA and Depression Level by Economic Development

Economic Development	N	Mean GPA	Std. Dev. GPA	Mean Depression Level	Std. Dev. Depression Level
Insufficient (1)	18	3.50	1.20	20.11	13.97
Satisfactory (2)	97	3.69	1.07	16.38	8.75
High (3)	11	4.09	0.83	18.64	9.01

Participants of high economic status recorded a relatively higher mean GPA (4.09) compared to those of average to above-average economic status, who recorded a mean depression level of M = 20.11.

5. CONCLUSION

The theoretical and practical study conducted confirmed that there is no direct connection between students' levels of depression and their academic productivity. Added to that, demographic aspects such as gender and economic status were assessed in relation to the link between academic performance and depression levels. The information divulged that depression scores were somewhat higher in females than in males. On top of this, the females were more generally academically proficient than the males.

The quest for the economic status of the participants pointed out that those with moderate economic status displayed higher depression levels, whereas those with high economic status were in relatively better shape.

REFERENCES

Alexopoulos, G. S. (2005). Depression in the elderly. The Lancet, 365(9475), 1961-1970. ht vetps://doi.org/10.1016/S0140-6736(05)66665-2

American Psychiatric Association. (2013). Diagnostic and Statistical Manual of Mental Disorders (5th ed.).

Beck, A. T. (2008). Depression: Clinical, experimental, and theoretical aspects.

Blazer, D. G. (2003). Depression in late life: Review and commentary. The Journals of Gerontology Series A: Biological Sciences and Medical Sciencesa, 58(3), 249-265. https://doi.org/10.1093/gerona/58.3.M249

Brown, G. W., & Harris, T. O. (2014). The future of self-assessment in classroom practice: Reframing self-assessment as a core competency. Frontiers of Learning Research, 2, 22-30.

Chisholm, D., et al. (2016). Scaling-up treatment of depression and anxiety: A global return on investment analysis. The Lancet Psychiatry, 3(5), 415-424.

Coyne, J. C., et al. (1987). Depression and the response of others. Journal of Abnormal Psychology, 96(4), 339. DSM-5

Gatz, M., & Fiske, A. (2003). Aging and mental health in the decade ahead: What psychologists need to know. American Psychologist, 58(5), 301-317. https://doi.org/10.1037/0003-066X.58.5.301

Gotlib, I. H., & Joormann, J. (2010). Cognition and depression: Current status and future directions. Annual Review of Clinical Psychology, 6, 285-312.

Greenberg, P. E., et al. (2015). The economic burden of adults with major depressive disorder in the United States (2005 and 2010). Journal of Clinical Psychiatry, 76(2), 155-162.

Hammen, C., & Rudolph, K. D. (2003). Childhood mood disorders. In E. Mash & R. Barkley (Eds.), Child Psychopathology (2nd ed., pp. 233-278). The Guilford Press.

Joiner, T. E. (2000). Depression in interpersonal relationships.

Kessler, R. C., et al. (2003). The epidemiology of major depressive disorder: Results from the National Comorbidity Survey Replication (NCS-R). JAMA, 289(23), 3095-3105.

Kirmayer, L. J. (2001). Cultural variations in the clinical presentation of depression and anxiety: Implications for diagnosis and treatment. Journal of Clinical Psychiatry, 62(Suppl 13), 22-28.

Kleinman, A. (1987). Anthropology and psychiatry: The role of culture in cross-cultural research on illness. *The British Journal of Psychiatry*, 151(4), 447-454.

Kovacs, M., & Devlin, B. (1998). Internalizing disorders in childhood. *Journal of Child Psychology and Psychiatry*, 39(1), 47-63. https://doi.org/10.1017/S0021963097001805

Lerner, D., & Henke, R. M. (2008). What does research tell us about depression, job performance, and work productivity? Journal of Occupational and Environmental Medicine, 50(4), 401-410.

Mahalik, J. R., Burns, S. M., & Syzdek, M. (2003). Masculinity and perceived normative health behaviors as predictors of men's health behaviors. *Social Science & Medicine*, 64(11), 2201-2209. https://doi.org/10.1016/j.socscimed.2003.08.032

Moussavi, S., et al. (2007). Depression, chronic diseases, and decrements in health: results from the World Health Surveys. The Lancet, 370(9590), 851-858.

National Library of Medicine https://pmc.ncbi.nlm.nih.gov/articles/PMC5532074/#S2

Nolen-Hoeksema, S. (2000). The role of rumination in depressive disorders and mixed anxiety/depressive symptoms. Journal of Abnormal Psychology, 109(3), 504.

Nolen-Hoeksema, S. (2001). Gender differences in depression. *Current Directions in Psychological Science*, 10(5), 173-176. https://doi.org/10.1111/1467-8721.00142

Penninx, B. W. (2017). Depression and cardiovascular disease: Epidemiological evidence on their linking mechanisms. Neuroscience & Biobehavioral Reviews, 74, 277-286.

Piccinelli, M., & Wilkinson, G. (2000). Gender differences in depression. *The British Journal of Psychiatry*, 177(6), 486-492. https://doi.org/10.1192/bjp.177.6.486

Ryder, A. G., Yang, J., & Heine, S. J. (2008). Somatization vs. psychologization of emotional distress: A paradigmatic example for cultural psychopathology. *Handbook of Cultural Psychology*, 303-322.

Simon, G. E., et al. (1999). Depression and work productivity: The comparative costs of treatment versus nontreatment. Psychosomatic Medicine, 61(6), 769-774.

Sobocki, P., et al. (2006). The cost of depression in Europe. Journal of Mental Health Policy and Economics, 9(2), 87-98.

World Healt Organization, Depression.https://www.who.int/news-room/fact-sheets/detail/depression/?gad_source=1&gclid=Cj0KCQiArby5BhCDARIsAIJvjISgcAWBjumJlEZQXV3vgSoAA0M0TD9lFcGRIBspCJ4z--OwwviYECQaAl07EALw_wcB