

Influence of Library Environment, Resource Availability, and Study Duration on Students' Mental Health: The Mediating Role of Academic Stress among Polytechnic Ibadan Students

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Abstract

Mental health has become a growing concern among students in tertiary institutions due to increasing academic demands and environmental challenges. Academic libraries, as central learning environments, play a significant role in shaping students' academic experiences and psychological wellbeing. This study examined the influence of library environment, resource availability, and study duration on students' mental health, with academic stress serving as a mediating variable among students of The Polytechnic Ibadan. A descriptive survey research design was adopted, and data were collected from a sample of undergraduate students using a multistage sampling technique. Standardized instruments, including the Depression Anxiety Stress Scale (DASS-21) and the Perceived Stress Scale (PSS), were used alongside structured questionnaires. Data were analyzed using descriptive statistics, Pearson correlation, multiple regression, and mediation analysis.

The findings revealed that library environment, resource availability, and study duration had significant relationships with students' mental health. The variables also jointly contributed significantly to mental health, with resource availability emerging as the strongest predictor. Furthermore, academic stress was found to significantly mediate the relationship between the independent variables and mental health, indicating that students' psychological wellbeing is largely influenced by how academic conditions affect their stress levels. The study concluded that improving library conditions and reducing academic stress are essential for enhancing students' mental health. It was recommended that institutional management should improve library facilities, provide adequate academic resources, and strengthen counselling services to support students' wellbeing.

Keywords: Library environment, resource availability, study duration, academic stress, mental health, Polytechnic Ibadan students

Introduction

The academic environment in tertiary institutions plays a vital role in shaping students' psychological wellbeing and overall academic experience. Among the various institutional facilities, the library remains a central space for learning, research, and intellectual engagement. In recent years, concerns about students' mental health have increased, particularly in Nigerian higher institutions where academic demands and environmental challenges are prevalent. Mental health, which encompasses emotional, psychological, and social wellbeing, significantly influences how students cope with academic pressures and daily activities. Evidence suggests that tertiary institution students are increasingly exposed to stressors such as academic workload, poor facilities, and social expectations, which negatively affect their wellbeing (Omopo, 2025; Beiter et al., 2015). These concerns highlight the importance of examining institutional factors that contribute to students' mental health outcomes.

The physical and structural characteristics of the library environment are important determinants of students' academic comfort

and psychological state. Factors such as lighting, ventilation, seating arrangement, and noise levels influence students' ability to concentrate and engage effectively in academic tasks. Studies have shown that poorly designed learning environments can increase stress levels and reduce cognitive performance (Evans & McCoy, 2018; Becker et al., 2017). Similarly, the concept of library atmospherics emphasizes how environmental conditions shape users' emotions and behaviors within library spaces (Sannwald, 1998). Modern library designs have increasingly focused on creating flexible and comfortable learning spaces that support both academic performance and student wellbeing (Appleton et al., 2017). These findings suggest that the quality of the library environment is closely linked to students' mental health and academic engagement.

In addition to the physical environment, the availability and accessibility of academic resources play a crucial role in shaping students' academic experiences. Access to relevant, current, and sufficient learning materials enhances students' confidence and reduces academic-related anxiety. Conversely, inadequate resources can lead to frustration, reduced motivation, and

increased stress levels among students (Aina, 2014; Salaam & Opeke, 2020). Research has also shown that limited access to academic materials and information overload can contribute to academic stress and negatively impact mental health (Rahman et al., 2022; Córdova Olivera et al., 2023). Furthermore, students often rely on library resources not only for academic success but also as a coping mechanism for managing stress, highlighting the dual role of libraries in both academic and psychological support (Johnson, 2023).

Study duration is another important factor that influences students' mental health, particularly within academic environments such as libraries. While adequate study time is essential for academic success, excessive or poorly managed study duration can result in fatigue, burnout, and psychological distress. Research indicates that prolonged academic engagement without effective coping strategies can negatively affect students' mental wellbeing (Omopo, 2025; Talley, 2024). Additionally, academic stress arising from heavy workloads, examinations, and high expectations has been identified as a major predictor of anxiety and depression among students (Bhat & Bhat, 2018; Wuthrich, 2024). This suggests that the relationship between study duration and

mental health is complex and influenced by both individual and environmental factors.

Academic stress has been widely recognized as a key mediating variable in understanding students' mental health outcomes. According to Lazarus and Folkman (1984), stress results from the interaction between individuals and their environment when perceived demands exceed available coping resources. In academic settings, stress can arise from multiple sources including inadequate study environments, limited access to resources, and high academic expectations. Furthermore, psychosocial factors such as peer pressure, social acceptance, and exposure to adverse experiences have been linked to increased stress and maladaptive behaviors among students (Omopo, Quadri, & Ukpere, 2025; Omopo et al., 2025). Studies have also shown that library-related anxiety, influenced by environmental and institutional factors, can further contribute to students' psychological distress (Nieves-Whitmore, 2021).

Recent studies in the Nigerian context have emphasized the growing prevalence of mental health challenges among tertiary institution students. Factors such as perceived stress, sleep disorders, and behavioral influences have been identified as

significant predictors of students' psychological wellbeing (Omopo, 2025). In addition, the role of counselling and institutional support systems has been highlighted as essential in addressing these challenges and promoting healthier academic environments (Omopo & Adebawale, 2025). Despite these insights, there remains limited research specifically examining how library-related factors influence mental health through academic stress, particularly among polytechnic students. Therefore, this study seeks to investigate the influence of library environment, resource availability, and study duration on students' mental health, with academic stress serving as a mediating variable among students of The Polytechnic Ibadan.

Hypotheses

H₀₁: There is no significant relationship between library environment, resource availability, study duration, and students' mental health among Polytechnic Ibadan students.

H₀₂: Library environment, resource availability, and study duration do not jointly contribute significantly to students' mental health among Polytechnic Ibadan students.

H₀₃: Library environment, resource availability, and study duration do not have

significant relative contributions to students' mental health among Polytechnic Ibadan students.

H₀₄: Academic stress does not significantly mediate the relationship between library environment, resource availability, study duration, and students' mental health among Polytechnic Ibadan students.

Methods

The study adopted a descriptive survey research design to examine the influence of library environment, resource availability, and study duration on students' mental health, with academic stress as a mediating variable among students of The Polytechnic Ibadan. The population of the study consisted of all undergraduate students of The Polytechnic Ibadan, while a sample was selected using a multistage sampling technique involving faculty selection, departmental stratification, and random sampling of respondents. Data were collected using standardized instruments, including the Depression Anxiety Stress Scale (DASS-21) developed by Lovibond and Lovibond (1995) to measure mental health, the Perceived Stress Scale (PSS) by Cohen, Kamarck, and Mermelstein (1983) to assess academic stress, and adapted scales on library environment, resource availability, and study

duration from previous library studies. All items were structured on a Likert scale. The validity of the instruments was established through expert review, while reliability was determined using Cronbach's alpha coefficient.

Data collected were analyzed using both descriptive and inferential statistics. Descriptive statistics such as frequency counts, percentages, mean, and standard deviation were used to summarize respondents' characteristics and responses. Inferential statistics were employed to test the hypotheses, with Pearson Product Moment Correlation used to examine relationships among variables. Multiple regression analysis was conducted to

determine the joint and relative contributions of library environment, resource availability, and study duration to students' mental health. In addition, mediation analysis was performed to assess the role of academic stress in the relationship between the independent variables and mental health. All hypotheses were tested at a 0.05 level of significance using the Statistical Package for the Social Sciences (SPSS).

Results

H₀₁: There is no significant relationship between library environment, resource availability, study duration, and students' mental health among Polytechnic Ibadan students.

Table 1: Pearson Correlation Showing Relationship between Library Environment, Resource Availability, Study Duration, and Mental Health

Variables	1	2	3	4
1. Library Environment	1.00			
2. Resource Availability	0.52**	1.00		
3. Study Duration	0.47**	0.49**	1.00	
4. Mental Health	0.45**	0.50**	0.43**	1.00

p < 0.05

The results in Table 1 showed that library environment ($r = 0.45$, $p < 0.05$), resource availability ($r = 0.50$, $p < 0.05$), and study duration ($r = 0.43$, $p < 0.05$) all had significant positive relationships with students' mental health. This implies that improvements in library conditions and access to resources are associated with better

mental health outcomes among students. Since all variables were significantly related to mental health, the null hypothesis was rejected.

H₀₂: Library environment, resource availability, and study duration do not jointly contribute significantly to students'

mental health among Polytechnic Ibadan students.

Table 2: Multiple Regression Showing Joint Contribution of Independent Variables to Mental Health

Model	R	R ²	Adjusted R ²	Std. Error	F	Sig.
Regression	0.61	0.372	0.360	4.215	29.84	0.000

The results in Table 2 revealed that the combined effect of library environment, resource availability, and study duration on students' mental health was significant ($F(3, 196) = 29.84, p < 0.05$). The model explained 37.2% of the variance in mental health ($R^2 = 0.372$). This indicates that the independent variables jointly contributed significantly to

mental health. Therefore, the null hypothesis was rejected.

H₀₃: Library environment, resource availability, and study duration do not have significant relative contributions to students' mental health among Polytechnic Ibadan students

Table 3: Relative Contribution of Independent Variables to Mental Health

Variables	B	Std. Error	Beta	t	Sig.
Library Environment	0.28	0.07	0.31	4.00	0.000
Resource Availability	0.35	0.08	0.36	4.38	0.000
Study Duration	0.22	0.06	0.25	3.67	0.001

The results in Table 3 indicated that all the independent variables made significant relative contributions to students' mental health. Resource availability ($\beta = 0.36, p < 0.05$) had the highest contribution, followed by library environment ($\beta = 0.31, p < 0.05$), and study duration ($\beta = 0.25, p < 0.05$). This suggests that access to adequate resources is the strongest predictor of mental health

among the variables studied. Since all predictors were significant, the null hypothesis was rejected.

H₀₄: Academic stress does not significantly mediate the relationship between library environment, resource availability, study duration, and students' mental health among Polytechnic Ibadan students

Table 4: Mediation Analysis Showing the Role of Academic Stress

Path	B	Std. Error	Beta	t	Sig.
IVs → Academic Stress	0.48	0.09	0.51	5.33	0.000
Academic Stress → Mental Health	-0.55	0.10	-0.58	-5.50	0.000
IVs → Mental Health (Direct)	0.21	0.08	0.24	2.63	0.009

The results in Table 4 showed that the independent variables significantly predicted academic stress ($\beta = 0.51, p < 0.05$), and academic stress significantly predicted mental health ($\beta = -0.58, p < 0.05$). The direct effect of the independent variables on mental health was reduced but still significant when academic stress was included, indicating partial mediation. This implies that academic stress plays a significant mediating role in the relationship between the independent variables and mental health. Therefore, the null hypothesis was rejected.

Discussion

The finding of a significant relationship between library environment, resource availability, study duration, and students' mental health suggests that academic spaces and conditions play a crucial role in shaping students' psychological wellbeing. A conducive library environment, characterized

by adequate lighting, ventilation, and minimal noise, likely promotes concentration and reduces cognitive strain, thereby improving mental health outcomes. This aligns with the work of Evans and McCoy (2018) and Becker et al. (2017), who emphasized that well-designed learning environments enhance comfort and reduce stress among students. In the context of Polytechnic Ibadan, where students rely heavily on shared academic facilities, the quality of the library environment may directly influence their academic experience and emotional stability.

Another possible reason for this significant relationship is the role of resource availability in reducing academic frustration and anxiety. When students have access to relevant and up-to-date materials, they are more likely to feel confident in completing academic tasks, which can positively influence their mental health. Conversely, limited access to resources may lead to stress,

confusion, and a sense of inadequacy. This finding is consistent with Aina (2014) and Salaam and Opeke (2020), who noted that access to adequate information resources enhances academic performance and reduces stress among students. Similarly, Rahman et al. (2022) and Córdova Olivera et al. (2023) highlighted that insufficient academic resources contribute significantly to academic stress and poor mental health outcomes.

Furthermore, the relationship between study duration and mental health may be explained by the balance between productive study time and academic overload. While moderate study duration can improve understanding and academic success, excessive study without proper coping strategies may lead to burnout and psychological distress. This supports findings by Omopo (2025) and Talley (2024), who reported that prolonged academic engagement without adequate rest and coping mechanisms negatively affects students' mental wellbeing. Additionally, Beiter et al. (2015) found that academic workload is a major predictor of stress, anxiety, and depression among students. Therefore, the significant relationships observed in this study reflect the combined influence of environmental, academic, and behavioral factors on students' mental health.

The significant joint contribution of library environment, resource availability, and study duration to students' mental health indicates that these variables collectively influence psychological wellbeing rather than acting in isolation. This suggests that improving only one aspect of the academic environment may not be sufficient to enhance students' mental health; instead, a holistic approach is required. The finding is supported by Lazarus and Folkman (1984), who posited that stress results from the interaction between multiple environmental and personal factors. Similarly, Wuthrich (2024) emphasized that academic stress and mental health outcomes are shaped by a combination of institutional and individual factors. The implication is that Polytechnic Ibadan must simultaneously improve library conditions, resource provision, and promote effective study habits to achieve meaningful improvements in students' mental health.

The finding that each of the independent variables made significant relative contributions to students' mental health suggests that while all factors are important, some may have stronger effects than others. In this study, resource availability emerged as the strongest predictor, which may be due to its direct impact on academic success and confidence. When students can easily access

necessary materials, they are less likely to experience frustration and stress. This aligns with Johnson (2023), who noted that students often use library resources as coping tools for managing academic stress. Additionally, Sannwald (1998) emphasized that both environmental and resource-related factors influence users' experiences in libraries, thereby affecting their psychological wellbeing. This finding underscores the importance of prioritizing resource provision in academic libraries.

The mediation result indicating that academic stress significantly mediates the relationship between the independent variables and mental health highlights the central role of stress in students' psychological outcomes. This suggests that library conditions and study behaviors influence mental health indirectly through their impact on stress levels. For instance, poor library environments and inadequate resources may increase stress, which in turn negatively affects mental health. This finding is consistent with Omopo (2025), who identified perceived stress as a key predictor of mental health among tertiary students in Ibadan. It is also supported by Nieves-Whitmore (2021), who found that library-related anxiety contributes to students' psychological distress. Therefore, addressing

academic stress through improved academic environments and support systems is essential for enhancing students' mental health.

Conclusion

The study concluded that library environment, resource availability, and study duration are significant factors influencing students' mental health among Polytechnic Ibadan students, both independently and collectively. The findings further revealed that academic stress plays a crucial mediating role in this relationship, indicating that the impact of academic conditions on mental health is largely transmitted through stress levels. A conducive library environment, adequate access to academic resources, and balanced study duration contribute positively to students' psychological wellbeing, while poor conditions in these areas may heighten stress and negatively affect mental health. Overall, the study highlights the importance of improving academic environments and addressing stress-related factors to enhance students' mental health and academic outcomes.

Recommendations

1. Polytechnic management should improve library facilities by ensuring adequate lighting, ventilation, seating, and noise control to create a more conducive learning environment.
2. The institution should provide sufficient and up-to-date academic resources, including both physical and digital materials, to reduce students' academic stress.
3. Students should be educated on effective time management and study strategies to avoid excessive study duration and burnout.
4. Counselling units in the institution should be strengthened to help students manage academic stress and other psychological challenges.
5. Regular orientation programmes should be organized to increase students' awareness of library services and how to effectively utilize them for academic success

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