

Academic Engagement among Secondary School Students: the Predictability of Personality Traits and Mindfulness

Olabode D. Ibini¹, Augustine F. Oyechi², Eniola P. Sowunmi³, Emmanuel E. Uye^{4*}

^{1&2} Alex Ekwueme Federal University, Ndufu-Alike Ikwo, Ebonyi State, Nigeria

³Federal University of Agriculture, Abeokuta, Ogun State, Nigeria

⁴University of Ibadan, Nigeria

Corresponding Author: Emmanuel E. Uye emmanuel.e.uye@gmail.com

ARTICLE INFO

Keywords: Personality Traits, Mindfulness, Academic Engagement, Secondary School Students

Received : 25 June

Revised : 26 July

Accepted: 26 August

©2025 Ibini, Oyechi, Sowunmi, Uye : This is an open-access article distributed under the terms of the [Creative Commons Attribution 4.0 International](https://creativecommons.org/licenses/by/4.0/).



ABSTRACT

Academic engagement determines both the academic achievement and overall well-being of students. Studies linking personality traits and the practice of mindfulness among students are lacking among researchers in Nigeria. Therefore, this study examined the predictive role of personality traits and mindfulness on the academic performance among secondary school students in Ikorodu, Lagos State, Nigeria. The study adopted a cross-sectional survey design and utilized a purposive sampling technique to choose a public and a private secondary school for the study. The convenient sampling method was used to collect data from 355 participants using validated scales and analyzed with hierarchical multiple regression and tested one hypothesis, which was accepted at the $p < 0.01$ level of significance. The result revealed that personality traits and mindfulness jointly predicted academic engagement among study participants [$R^2 = .200$, $F(2, 253) = 2.418$, $p < .01$]. Furthermore, personality traits ($\beta = .34$, $p < .01$, $R^2 = .12$) and mindfulness ($\beta = .27$, $p < .01$, $R^2 = .07$) independently predicted academic engagement among study participants. The novelty of this study is that it is the first time mindfulness and personality traits are being explored on academic engagement among students in this population. The study recommended that policymakers should incorporate the technique of mindfulness into the school curriculum to improve learners' self-awareness and academic engagement.

INTRODUCTION

Academic engagement is described as the level of focus, enthusiasm, and effort that students devote to their learning processes (Reeve et al., 2020; Rauf, 2019). Also, it has been conceptualized as an essential ingredient in the attainment of favorable educational results such as improved academic performance, increased perseverance, and better overall well-being among students (Reeve et al., 2020; Rauf, 2019). Academic engagement plays an important role in determining a student's success both in academic performance and overall well-being (Turner, 2021; Wang & Eccles, 2013). The degree to which students engage with their education is integral to their learning experience and personal development. Students who reported higher academic engagement would have improved academic outcomes and a more positive mindset towards education (Zha et al., 2021). Engaged students are more likely to achieve better academic outcomes and develop positive attitudes towards learning (Owolabi & Owolabi, 2024).

There are factors that have been identified and investigated as predictors of academic engagement among different populations and samples. Two factors, personality traits and mindfulness, were investigated in this study. Personality refers to a consistent pattern of thoughts, emotions, and behaviors that shape how individuals perceive and engage with their surroundings (Smith & Jones, 2021). These stable characteristics play an important role in predicting individuals' interpersonal interactions and responses to various situations within and around them. The Big Five Personality Traits Model of extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience has been used as a working template to explain personality traits in several studies, including academic engagement (McCrae & Costa, 1999; McCrae, 2008).

Some studies have found personality traits to predict academic engagement of students. For example, Arman and Hafner (2019) found personality traits as a significant predictor of academic engagement among 312 high school students from three different schools in Iran. Also, Kucar et al. (2025) found various components of personality traits to predict academic engagement among nursing students. Specifically, conscientiousness and openness were found to be the strongest predictors of academic engagement. In another study, Chen et al. (2018), who investigated the association among personality traits, academic engagement, and academic achievement among 348 college students in East China, found students with higher levels of extraversion, agreeableness, conscientiousness, and openness to experience to be more motivated, organized, and participative in academic tasks.

Finally, in a study conducted by Li et al. (2016) using personality traits as a predictor of academic engagement among 389 Chinese high school students, they found the personality traits of conscientiousness, extraversion, and neuroticism as predictors of academic engagement among study participants. This means that students who scored high on these traits were more likely to engage in academic activities and have a stronger motivation to learn.

Mindfulness is the second factor considered in this study, which is defined as the capacity to intentionally focus one's attention on the current moment while

maintaining a non-judgmental and accepting attitude towards other activities (Keng et al., 2018). It encompasses a range of cognitive and affective processes that facilitate focused awareness, emotional regulation, and adaptive coping strategies (Baer, 2003; Keng et al., 2021; Roeser et al., 2012). This practice encourages individuals to engage fully with their experiences, promoting awareness of thoughts and feelings without critiquing or evaluating them. By cultivating this state of presence, individuals can enhance their emotional resilience and overall well-being (Goleman & Davidson, 2019). Individuals who practice mindfulness would lead to significant improvements in mental health outcomes, including stress reduction and increased life satisfaction (Keng et al., 2021; Bögels & Restifo, 2022). The therapeutic nature of mindfulness has been used to promote mental health and emotional balance, including for students in the academic environment (Brown et al., 2023).

In the context of academic performance, Keng et al. (2021) found that students who engage in mindfulness practices often cultivate a greater sense of control and confidence in their academic capabilities, subsequently leading to increased motivation and persistence in their studies. In addition, Maloney et al. (2015), in a meta-analytic study that involved 1,297 secondary school students who were exposed to mindfulness training and academic engagement, found mindfulness to significantly predict academic engagement. Moreover, Roeser et al. (2012), in a study on students who participated in the mindfulness intervention, reported higher levels of academic engagement compared to those in the control group. Finally, in an extant study, Weare and Nind (2011) evaluated the effectiveness of a mindfulness-based intervention on academic engagement and well-being among 395 secondary school students aged 12 to 16 years in the United Kingdom. The results of the study showed significant improvements in students' well-being and academic engagement in the intervention group compared to the control group.

Although some studies have investigated the role of personality traits and mindfulness on academic engagement among students in more advanced countries with varying results, little or no studies have been conducted in Nigeria, especially among secondary school students, which leaves a gap in knowledge to fill. Therefore, the main objective of this study is to examine the predictive role of personality traits and mindfulness on academic engagement among secondary school students in Lagos State, Nigeria. The specific objective of the study was to test whether personality traits and mindfulness would jointly and independently predict academic engagement among secondary school students in Lagos State, Nigeria.

The study would provide an insight into the role of personality traits and mindfulness toward academic engagement of the study participants. Also, educational policy makers would find the results of this study useful in executing policies that incorporate mindfulness training to assist students to learn better and improve their academic performance.

LITERATURE REVIEW

Theoretical review

The study was guided by the North American Model of academic engagement developed by Fredricks et al. (2004). The theory decomposes academic engagement into behavioral, emotional, and cognitive components. First, the behavioral engagement implies the observable actions and behaviors of students in the academic context. It encompasses activities such as attending classes, participating in discussions, completing assignments, and actively involving oneself in learning tasks. Students who are behaviorally engaged demonstrate a commitment to academic tasks and demonstrate effort and persistence in achieving their learning goals.

Next is the emotional engagement, which refers to “students' affective responses to the academic environment, including their feelings of interest, enjoyment, and enthusiasm towards learning.” Emotionally engaged students exhibit positive attitudes towards school, find pleasure and satisfaction in their academic pursuits, and feel a sense of connection and belonging within the classroom community.

Finally, cognitive engagement means the extent to which students invest in and intellectually challenge themselves in their academic work. It involves deep processing of information, critical thinking, problem-solving, and active participation in meaningful learning experiences. Cognitively engaged students demonstrate a willingness to explore complex ideas, analyze information from multiple perspectives, and apply their knowledge to real-world situations.

Conclusively, the Fredricks et al. (2004) model provides a comprehensive framework for understanding how personality traits and mindfulness practices interact to influence students' behavioral, emotional, and cognitive engagement in secondary school settings. By considering the interplay between individual characteristics and mindfulness interventions, educators and policymakers could design targeted interventions that would promote positive engagement and academic success among students. The hypothesis tested was that personality traits and mindfulness would jointly and independently predict academic engagement among secondary school students in Lagos State, Nigeria.

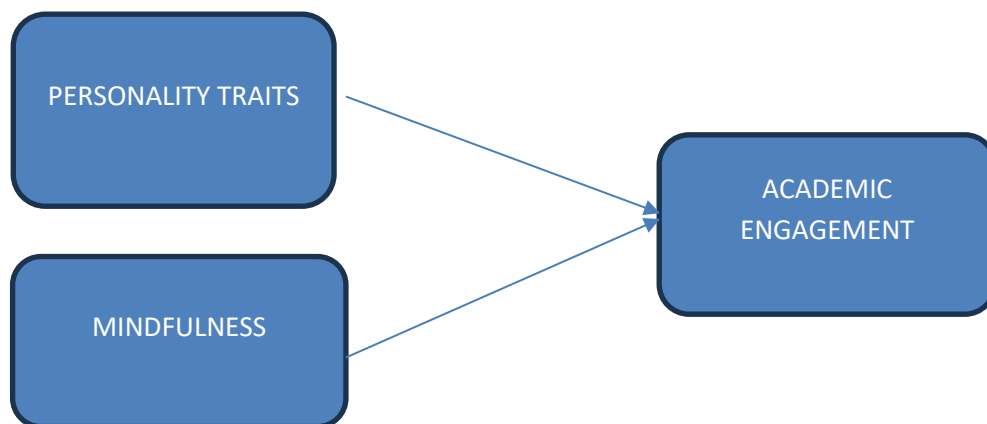


Figure 1: Conceptual framework showing personality traits and mindfulness as predictors of academic engagement among secondary school students in Lagos State, Nigeria

METHODOLOGY

Research Design

A cross-sectional survey design using validated questionnaires for data collection was utilized in the study. The study investigated two independent variables of personality traits and mindfulness and one dependent variable of academic engagement. The study was conducted in Ikorodu Division, which is located in Education District 2 in Lagos State, Nigeria.

Sampling Technique and Setting

Two secondary schools, Hope and Grace Secondary School (private) and Bayeku Secondary School (public), were purposively selected using a sampling technique, all in Ikorodu Division of Lagos State, Nigeria. The distribution of questionnaires was achieved using the convenience sampling method.

Instruments

The Big Five Inventory - 10 (BFI - 10) by Rammstedt and John (2007), which consisted of 10 items, was used to assess personality traits of extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. The scale is presented in a 5-point Likert format with response ranges from "Disagree," "Disagree a Little," "Neither Agree nor Disagree," "Agree a Little," and "Agree Strongly." Sample items include "I see myself as someone who is outgoing and sociable," "someone who is considerate and kind to almost everyone," "someone who does a thorough job," and "someone who worries a lot." Cronbach's alpha of 0.80 was obtained by the developers, and 0.79 in this study.

The Mindful Attention Awareness Scale (MAAS) by Brown and Ryan (2003) was used to evaluate mindfulness, or present-moment awareness, in everyday life. It is a 15-item rating on a 6-point Likert format that includes 1 (almost always) to 6 (almost never). Sample items are "I drive places on 'automatic pilot' and then wonder why I went there" and "I find myself preoccupied with the future or the past." Authors reported a Cronbach's alpha of 0.90, while in this study, the Cronbach's alpha obtained was 0.86.

The Student Course Engagement Questionnaire (SCEQ, Handlesman et al., 2005) is a 23-item scale used to measure student course engagement with four dimensions: skills engagement, participation/interaction engagement, emotional engagement, and performance engagement. The scale was rated on a 5-point Likert format ranging from "1 = not at all characteristic of me, 2 = not really characteristic of me, 3 = moderately characteristic of me, 4 = characteristic of me, and 5 = very characteristic of me." Sample items are "Raising my hand in class" and "Participating actively in small group discussions." Cronbach's alpha by the authors was 0.82, and Cronbach's alpha of 0.79 was obtained in the present study.

Procedure

A letter of introduction was collected from the Department of Psychology, Alex Ekueme Federal University Ndufu-Alike Ikwo, Ebonyi State, Nigeria, which was presented to the respective principals for permission to conduct the

study. Based on the evaluation of the study protocol, the school authority assigned a teacher to gather the students in a designated classroom for the researchers to distribute the questionnaires. The potential participants were briefed on the objective of the study, and their consent was solicited. Potential participants were informed of the voluntary nature of the study. Assurance was given of keeping their responses secret. Questionnaires were given to those who agreed to participate in the study, and this took less than 15 minutes. A total of 359 questionnaires were distributed; however, 355 questionnaires were valid for the analysis after vetting.

Data Analysis

IBM SPSS version 26 was used for data analysis. Descriptive and inferential statistics were computed for the collected data. Hierarchical multiple regression analysis was used to test the hypothesis and accepted at $p < 0.001$ level of significance.

RESEARCH RESULT

Participants

A total of 355 in-school adolescents participated in the study. The descriptive statistics revealed that 164(46%) participants were males while 191(54%) were females. The participants' ages ranged between 11-18 years bracket ($M_{age} = 15.16$, $SD = 1.81$). In terms of the class of participants, 108 (30%) of the participants were in Senior Secondary School (SSS) One, 121 (34%) were in SSS2, while 126(36%) were in SSS3.

Table 1: Means, standard deviations, and zero-correlations of the demographic variables, and study variables

Variables	M	SD	1	2	3
1. Personality traits	31.68	5.74	-		
2. Mindfulness	54.34	10.01	.05	-	
3. Academic engagement	77.02	13.68	.35*	.28*	-

Note: M = Mean, SD = Standard Deviation, * $p < .01$

According to Table 1, both personality ($r = .35$, $p < .01$) and mindfulness ($r = .28$, $p < .01$) significantly and positively correlated with students' academic engagement among study participants. Because of the robust nature of these independent variables, they were used in multiple regression analysis.

Table 2: Hierarchical multiple regression predicting students' academic engagement by personality traits and mindfulness

Predictors	B	SE	β	t	ΔR^2
Step 1					
Personality traits	.816	.119	.342*	6.849	.12

Step 2	.364	.066	.266*	5.533	.07
Mindfulness					

Note: * $p < .01$, Total $\Delta R^2 = .12$, $F = 2.418$, $df(2, 352)$

Table 2 presents the hierarchical multiple regression on students' academic engagement by personality traits and mindfulness.

In step 1 of the model, personality traits and mindfulness were regressed on students' academic engagement. The results indicated that personality traits and mindfulness predicted academic engagement among study participants [$R^2 = .12$, $F(2, 352) = 2.418$, $p < 0.01$]. However, personality traits ($\beta = .342$, $p < .01$) were a better predictor of students' academic engagement compared to mindfulness ($\beta = .266$, $p < .01$). Therefore, the hypothesis was accepted.

DISCUSSION

The hypothesis that personality traits and mindfulness would jointly predict academic engagement among secondary school students in Lagos State, Nigeria, was supported. Personality, defined as the consistent behavioral pattern of an individual, serves as an underlying trigger of behavior. Students with different personality traits when interacting with the practice of mindfulness, a practice that allows them to focus attention, regulate impulses, and sustain effort on academic tasks that lead to improved academic performance. By cultivating present-moment awareness and self-discipline, students overcome distractions, resist procrastination, and maintain a proactive approach to learning. This finding corroborated previous findings that the interactions of personality traits and mindfulness significantly contribute to academic engagement of study samples (Arman & Hafner, 2019; Saavedra et al., 2019; Keng et al., 2021; Bögels & Restifo, 2022). In addition, the finding lent credence to Chen et al.'s (2018) result that some components of personality traits were predictors of academic engagement among their study participants.

Furthermore, personality traits and mindfulness independently predicted academic engagement of the study participants. This means that students' personality traits (e.g., consciousness, openness to experience, extraversion, etc.) themselves or mindfulness practice of students significantly affect the academic engagement. These findings supported Li et al. (2016), who found some components of personality traits to predict academic engagement among their study participants. Finally, Bernard et al. (2016) found mindfulness as a strong predictor of academic engagement and achievement among their study participants. Mindfulness was associated with better attention, focus, and cognitive flexibility, which contributed to improved academic performance.

In sum, the combinations of being mindful and students' personality traits predicted the outcome of academic engagement, which in turn led to better academic performance and achievement among study participants.

CONCLUSIONS AND RECOMMENDATIONS

The study has empirically established that personality traits and mindfulness are strong predictors of academic engagement among secondary

school students in the population samples, Lagos State, Nigeria. It is recommended that educational policy makers should introduce the concept of mindfulness into secondary school curriculum for the early exposure of students in order to improve the level of their academic engagement and academic performance.

ADVANCED RESEARCH

The study has some limitations which need to be mentioned and addressed in further study. First, data for this study were collected using self-reported questionnaires which was not free of response bias. Further study should include focus group discussion and documentary evidence from counsellors where the practice of mindfulness is conducted to triangulate data obtained from self-reported questionnaires. In addition, only two secondary schools in Ikorodu District of Lagos State were selected for the study which hinders generalization of the study findings. Further study should include more secondary schools in Lagos State to enhance generalization of study findings. Finally, the two independent variables investigated in the study were not exhaustive, therefore, further study should include self-esteem, learned helplessness and social support.

ACKNOWLEDGEMENT

The researchers showed their appreciations to all the participants who spent their previous time to complete questionnaires used in this study. The study was self-sponsored as there was no external fund from any agency.

REFERENCES

- Arman, S., & Hafner, M. E. (2019). Personality traits and academic engagement among Iranian high school students: An empirical review. *International Journal of Humanities, Art and Social Studies*, 4(11), 387-395.
- Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical Psychology: Science and Practice*, 10(2), 125-143.
- Bernard, M. E., Doyle, C. L., & Pakulski, L. A. (2016). The role of mindfulness in predicting academic engagement and achievement among secondary school students. *Contemporary Educational Psychology*, 46, 99-111.
- Bögels, S. M., & Restifo, K. (2022). Mindfulness and parenting: A guide for therapeutic use. *Journal of Child and Family Studies*, 31(1), 1-12. <https://doi.org/10.1007/s10826-021-02186-6>
- Brown, D. P., Ryan, R. M., & Creswell, J. D. (2023). Mindfulness: Theoretical foundations and evidence for its role in health. *Annual Review of Psychology*, 74, 345-370. <https://doi.org/10.1146/annurev-psych-030522-112130>

- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*(4), 822-848.
- Chen, C., Lian, R., & Wang, C. (2018). Personality traits in predicting academic engagement and achievement in college students. *Frontiers in Psychology, 9*, 2509. doi: 10.3389/fpsyg.2018.02501
- Costa, P. T., & McCrae, R. R. (1992). Revised NEO Personality Inventory (NEO PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual. *Psychological Assessment Resources*.
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59-109.
- Goleman, D., & Davidson, R. J. (2019). The science of mindfulness: The transformative power of self-awareness. *Psychological Inquiry, 30*(2), 163-174. <https://doi.org/10.1080/1047840X.2019.1572834>
- Handelsman, M.M., Briggs, W. L., Sullivan, N., & Towler, A. (2005). A measure of college student course engagement. *Journal of Education Research, 98*, 184-191.
- Keng, S. L., Smoski, M. J., & Robins, C. J. (2018). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical Psychology Review, 33*(6), 1054-1064. <https://doi.org/10.1016/j.cpr.2018.02.006>
- Keng, S. L., Smoski, M. J., & Robins, C. J. (2021). Mindfulness-based interventions for mental health in children and adolescents: A meta-analysis. *Children, 8*(9), 837. <https://doi.org/10.3390/children8090837>
- Kucar, M., Brajsa-Zganec, A & Neuberg, M. (2025). Personality traits as predictors of academic and work engagement in a sample of nursing students and professionals. *Nursing Report, 15*, 174 <https://doi.org/10.3390/nursrep15050174>
- Li, X., Zhang, D., Liu, H., & Yu, T. (2016). Personality traits and academic engagement: A three-wave longitudinal study. *Personality and Individual Differences, 94*, 390-395.
- Maloney, J. E., Lawlor, M. S., & Schonert-Reichl, K. A. (2015). A meta-analytic review of mindfulness-based interventions for adolescents. *Mindfulness, 6*(1), 104-113.
- McCrae, R. R. (2008). The Five-Factor Model of personality across cultures. *Journal of Personality and Social Psychology, 95*(2), 225-238.

- McCrae, R. R., & Costa, P. T. (1999). A Five-Factor theory of personality. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 139-153). Guilford Press.
- Owolabi, H.B & Owolabi, R.O.(2024).The impact of the self-efficacy on academic engagement of Babcock University High Schools in Nigeria. *Open Access Library Journal*, 11, 1-15 <https://doi.org/10.4236/oalib.11122667>
- Rammstedt, B. & John ,O.P. (2007). Measuring personality in one minute or less: A 10 item short version of the big five inventory in English and German. *Journal of Research in Personality*, 41, 203-212.
- Rauf, A. (2019). The role of student engagement in learning outcomes. *Journal of Education and Learning*, 8(3), 45-53. <http://doi.org/10.5539/jel.v8n3p45>
- Reeve, J., Bonnett, B. R., & Lee, W. (2020). The role of academic engagement in the updated self-determination theory. *Educational Psychologist*, 55(1),1-15. <http://doi.org/10.1080/00461520.2019.1690925>
- Roeser, R. W., Skinner, E., Beers, J., & Jennings, P. A. (2012). Mindfulness training and teachers' professional development: An emerging area of research and practice. *Child Development Perspectives*, 6(2), 167-173.
- Smith, A., & Jones, B. (2019). Understanding the complexities of student engagement: Insights from educational psychology. *Journal of Educational Psychology*, 111(2), 245-260. <https://doi.org/10.1037/edu0000302>
- Turner, C. (2021). The dynamics of student engagement in contemporary education: A comprehensive review. *Educational Psychology Review*, 33(3), 593-612. <https://doi.org/10.1007/s10648-021-09605-1>
- Wang, M-T., & Eccles, J.S.(2013). School context, achievement motivation, and academic engagement: A longitudinal study of school engagement using multidimensional perspective. *Learning & Instruction* 28, 12-23 <https://doi.org/10.1016/j.learninstruct.2013.04.002>
- Weare, K., & Nind, M. (2011). Empirical review: Study on the impact of a mindfulness-based intervention on academic engagement and well-being among secondary school students. *Journal of Youth Studies*, 14(5), 667-674.