

RELATIONSHIP OF CONSCIENTIOUSNESS PERSONALITY TRAIT AND ACADEMIC PERFORMANCE AMONG JUNIOR SECONDARY SCHOOL STUDENTS IN BENUE STATE, NIGERIA

BY

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Abstract

This study examined the relationship between conscientiousness and academic performance among Junior Secondary School students in Benue State, Nigeria. A correlational research design was adopted, and data were collected from 365 JSS III students selected through multistage sampling techniques. Conscientiousness was measured using the conscientiousness subscale of the Big Five Inventory, while academic performance was assessed using a 50-item Academic Performance Test in English Language and Mathematics. Data were analysed using Pearson Product-Moment Correlation (PPMC) at a 0.05 level of significance. The results revealed a significant positive relationship between conscientiousness and academic performance ($r = .224$, $p = .007$). The coefficient of determination indicated that conscientiousness accounted for approximately 5% of the variation in academic performance. The study concludes that conscientiousness is positively associated with academic performance among junior secondary school students. It is recommended that schools should integrate behavioural and self-regulatory skill development into counselling and classroom practices to enhance students' academic outcomes.

Keywords: Conscientiousness, Academic Performance, Personality Traits, Junior Secondary School, Nigeria

Introduction

Academic performance remains one of the major indicators of educational success because it reflects the extent to which students acquire the knowledge, competencies, and skills necessary for personal development and national advancement. Across both developed and developing societies, students' academic achievement continues to attract considerable scholarly attention due to its relationship with occupational opportunities, social mobility, and human capital development. Traditionally, educational researchers and policymakers emphasized cognitive ability, intelligence quotient, and school-related variables as the major explanations for variations in students' academic outcomes. However, contemporary educational psychology increasingly recognizes that academic achievement is also associated with non-cognitive psychological characteristics that shape students' motivation, persistence, behavioural regulation, and engagement in learning activities (Duckworth & Yeager, 2015; Credé et al., 2017).

Among the non-cognitive variables associated with academic achievement, personality traits have emerged as important psychological constructs for understanding students' learning behaviours and educational adjustment. Personality traits influence how students approach academic tasks, organize responsibilities, respond to challenges, and maintain learning engagement

over time. Within the Five-Factor Model (FFM) of personality developed by Paul Costa and Robert McCrae, conscientiousness has consistently demonstrated a significant positive relationship with academic achievement across different educational contexts. Conscientiousness generally refers to the tendency to demonstrate discipline, organization, responsibility, persistence, achievement striving, and self-control (Costa & McCrae, 1992). Students who exhibit high conscientiousness are more likely to maintain effective study habits, regulate distractions, complete assignments consistently, and sustain effort toward educational goals, whereas students with low conscientiousness may display disorganization, procrastination, inconsistent study patterns, and poor behavioural regulation.

Extensive empirical evidence has reported positive relationships between conscientiousness and academic performance across different age groups and educational settings. Meta-analytic studies have shown that conscientiousness is among the personality dimensions most consistently associated with academic achievement. For instance, Mammadov (2022) reported that conscientiousness demonstrated significant positive associations with academic performance across multiple educational levels and cultural contexts. Similarly, Meyer et al. (2022) found that conscientiousness was positively related to academic achievement because conscientious students tend to engage more consistently in organized and self-regulated learning behaviours.

The relationship between conscientiousness and academic performance is often explained through self-regulatory and behavioural mechanisms. Students with high conscientiousness are more likely to demonstrate regular class attendance, effective time management, homework completion, persistence during difficult academic tasks, and delayed gratification. These behaviours enhance students' academic engagement and increase their ability to cope with educational demands. Research has further shown that conscientiousness is positively associated with study organization, effort regulation, and sustained academic commitment, all of which are closely connected with improved learning outcomes.

Despite substantial international evidence regarding the relationship between conscientiousness and academic achievement, findings remain context-dependent because educational experiences are shaped by socio-cultural, economic, and institutional realities. In many developing countries, particularly within Sub-Saharan Africa, students often encounter environmental challenges capable of disrupting academic engagement and learning continuity. Such challenges include poverty, overcrowded classrooms, inadequate educational resources, domestic responsibilities, and inconsistent instructional quality. Under these conditions, internal psychological characteristics such as conscientiousness may become increasingly important in helping students sustain academic focus and persistence.

Within the Nigerian educational context, concerns regarding fluctuating academic performance among secondary school students continue to attract attention among researchers, policymakers, and educational stakeholders. Persistent inconsistencies in students' performance in core subjects such as English Language and Mathematics remain a major concern because these subjects constitute foundational requirements for further educational progression. In many parts of Nigeria, particularly within rural and agrarian communities, students frequently combine schooling with domestic and economic responsibilities that may interfere with study time and academic concentration. Benue State presents a particularly relevant context because many students are raised within agrarian households where participation in farming activities and household labour often competes with academic responsibilities. Consequently, students' levels of discipline, organization, and persistence may be closely associated with their academic adjustment and performance outcomes.

Although several Nigerian studies have examined factors such as parental involvement, school climate, socio-economic status, teacher effectiveness, and study habits in relation to academic achievement, relatively limited scholarly attention has been directed toward the relationship between personality traits and academic performance among junior secondary school students. Existing Nigerian studies on personality and academic achievement have largely concentrated on university students and senior secondary school populations, thereby neglecting adolescents within the junior secondary

school level where personality-related academic behaviours are still developing. This represents an important gap because early adolescence is a critical developmental stage characterized by increasing academic demands, emotional adjustment, behavioural transition, and emerging independent learning responsibilities.

Furthermore, previous studies examining conscientiousness and academic achievement have reported variations in the strength of the relationship across educational and cultural settings. While some studies report moderate positive relationships, others suggest weaker associations after considering socio-economic and environmental factors. These inconsistencies indicate the need for context-specific investigation, particularly within educational environments where students encounter multiple socio-economic pressures capable of influencing learning behaviours differently.

The present study is anchored on the Five-Factor Model of personality, which conceptualizes conscientiousness as a personality dimension associated with organization, dutifulness, persistence, achievement striving, and self-discipline. The theory suggests that students who exhibit high conscientiousness are more likely to engage in disciplined and goal-oriented learning behaviours associated with academic success. Within the context of junior secondary education, conscientiousness may therefore be closely related to students' academic engagement, study habits, and performance outcomes.

Given the limited empirical evidence regarding the relationship between conscientiousness and academic performance among junior secondary school students in Benue State, Nigeria, there remains a need for localized investigation capable of clarifying the nature of this relationship within the socio-cultural realities of the study area. Therefore, this study seeks to examine the relationship between conscientiousness and academic performance among Junior Secondary School students in Benue State, Nigeria.

Methodology

This study employed a correlational research design to examine the relationship between conscientiousness and academic performance among Junior Secondary School students in Benue State, Nigeria. The correlational approach was considered appropriate because the study sought to determine the direction and strength of association between the variables without manipulating them. Participants were drawn from public secondary schools within the Benue North-East Senatorial District, comprising Katsina-Ala, Logo, Ukum, Konshisha, Kwande, Ushongo, and Vandeikya Local Government Areas of Benue State, Nigeria. According to records obtained from the Benue State Teaching Service Board (2024), the target population consisted of 9,407 Junior Secondary School Three (JSS III) students enrolled across 116 public secondary schools within the study area.

A sample of 365 students was selected using the Krejcie and Morgan (1970) sample size determination procedure. A multistage sampling technique was adopted for participant selection. First, simple random sampling was used to select two public secondary schools from each Local Government Area, resulting in 14 schools. Second, proportionate sampling technique was used to determine the number of participants selected from each school based on student population. Finally, simple random sampling through balloting was used to select the individual participants. The sample consisted of male and female students between the ages of 13 and 16 years.

Measures

Data for the study were collected using the conscientiousness dimension of the Big Five Inventory (BFI) and a researcher-developed Academic Performance Test (APT).

Conscientiousness was measured using the conscientiousness subscale of the Big Five Inventory developed by John and Srivastava (1999). The scale measures personality characteristics associated with organization, persistence, self-discipline, responsibility, and achievement striving. Responses were rated on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), with higher scores indicating higher levels of conscientiousness.

Academic performance was assessed using the Academic Performance Test developed by the researcher based on the Junior Secondary School curriculum approved by the Nigerian Educational Research and Development Council (NERDC). The test consisted of 50 multiple-choice items, including 25 items from English Language and 25 items from Mathematics. These subjects were selected because they constitute core academic subjects at the junior secondary school level and serve as important indicators of students' academic achievement. The instruments were subjected to face and content validation by specialists in Educational Psychology, Measurement and Evaluation, and Language Education at Ahmadu Bello University. Their observations guided the revision of ambiguous items and ensured alignment between the instruments and the objectives of the study.

A pilot study was conducted using 40 JSS III students from schools outside the study area but with similar characteristics to the target population. The conscientiousness scale demonstrated satisfactory internal consistency (Cronbach's $\alpha = .84$). The Academic Performance Test was subjected to Kuder-Richardson Formula 20 (KR-20), which yielded a reliability coefficient of .79, indicating acceptable reliability for the study.

Approval to conduct the study was obtained from relevant educational authorities and school administrators within the study area. An introductory letter was obtained from the Department of Educational Psychology and Counselling, Ahmadu Bello University, and presented to the principals of the

selected schools. The researcher personally administered the instruments to the participants with the assistance of classroom teachers. Before administration, participants were informed about the purpose of the study and assured that their responses would be treated confidentially and used strictly for academic purposes. Participation was voluntary, and participants were informed of their right to withdraw from the study at any stage without penalty. The study complied with ethical standards for research involving human participants.

Data Analysis

Data collected for the study were analyzed using the Statistical Package for the Social Sciences (SPSS), version 25. Descriptive statistics, including mean and standard deviation, were used to summarize participants' responses and describe the variables under investigation. Pearson Product Moment Correlation (PPMC) was used to determine the relationship between conscientiousness and academic performance. Statistical significance was determined at the 0.05 level.

Results

The statistical analysis focused on determining the relationship between the conscientiousness domain of the BFPTI and the scores obtained from the 50-item Academic Performance Test (APT). Data were processed using the Pearson Product Moment Correlation (PPMC) at a 0.05 level of significance.

Table 1: Pearson Correlation between Conscientiousness and Academic Performance

Variable	Me an	S D	r value	p- value	Result
Conscientiousness (BFPTI)	3.65	0.58	.224	.007	Signifi cant
Academic Performance (APT)	31.42	5.15			

Note: Correlation is significant at the 0.01 level (2-tailed); $n = 365$. APT Mean reflects score out of 50.

The descriptive statistics presented in Table 1 indicate that the students demonstrated a moderate level of conscientiousness ($M = 3.65$, $SD = 0.58$). The mean score for academic performance was 31.42 ($SD = 5.15$) out of a possible score of 50, suggesting an average level of academic performance among the participants.

The Pearson Product-Moment Correlation analysis revealed a significant positive relationship between conscientiousness and academic performance among Junior Secondary School students, $r(363) = .224$, $p = .007$. Since the obtained p-value (.007) was less than the 0.05 level of significance, the null hypothesis stating that there is no significant relationship between conscientiousness and academic performance was rejected.

The positive correlation coefficient indicates that higher levels of conscientiousness were associated with higher academic performance among the students. Although the strength of the relationship was relatively weak, the finding suggests that students who demonstrated greater levels of discipline, organization, persistence, and responsibility tended to perform better academically in English Language and Mathematics.

Furthermore, the coefficient of determination ($r^2 = .050$) indicates that approximately 5.0% of the variation in academic performance was associated with conscientiousness, while the remaining variation may be associated with other psychological, environmental, and educational factors not examined in the present study.

Discussion

The present study examined the relationship between conscientiousness and academic performance among Junior Secondary School students in Benue State, Nigeria. The findings revealed a significant positive relationship between conscientiousness and academic performance, indicating that students who demonstrated higher levels of discipline, organization, persistence, responsibility, and self-regulation tended to obtain better academic outcomes in English Language and Mathematics. Although the magnitude of the relationship was relatively weak, the finding nevertheless suggests that conscientiousness is meaningfully associated with students'

academic adjustment and learning outcomes within the context of junior secondary education.

The finding is consistent with the assumptions of the Five-Factor Model of personality, which conceptualizes conscientiousness as a behavioural disposition associated with organization, dutifulness, persistence, achievement striving, and self-discipline. The theory suggests that individuals who exhibit higher conscientiousness are more likely to engage in structured and goal-oriented behaviours that support successful performance across achievement-related settings, including education. In the present study, students with higher conscientiousness may have demonstrated more effective study routines, greater commitment to academic tasks, and stronger behavioural regulation, all of which are associated with improved academic engagement and performance.

The finding also aligns with several previous empirical studies conducted across different educational and cultural contexts. For instance, Poropat (2009) reported that conscientiousness demonstrated a significant positive relationship with academic achievement across multiple educational settings, largely because conscientious students tend to engage more consistently in disciplined academic behaviours. Similarly, Mammadov (2022) found that conscientiousness was positively associated with academic achievement across diverse populations and educational levels. The present finding further supports the argument that personality characteristics, particularly

conscientiousness, are closely connected with students' academic functioning beyond purely cognitive explanations of achievement.

The positive relationship observed in the present study may be explained through self-regulatory learning behaviours commonly associated with conscientious students. Students who are organized and disciplined are more likely to manage their study time effectively, complete assignments consistently, attend classes regularly, and sustain concentration during learning activities. Such behaviours are particularly important during adolescence, a developmental stage characterized by increasing academic demands and emerging independent learning responsibilities. Consequently, conscientious students may possess behavioural tendencies that enable them to cope more effectively with academic challenges and maintain consistent engagement with school activities.

The findings are also relevant within the socio-economic realities of Benue State, where many students experience competing academic and domestic responsibilities associated with agrarian family structures. In such contexts, conscientiousness may function as an important psychological resource that helps students maintain persistence and organization despite environmental pressures capable of disrupting learning continuity. Students who exhibit stronger self-discipline and responsibility may be better able to balance school demands with household obligations, thereby sustaining greater academic engagement and performance.

Although the relationship between conscientiousness and academic performance was statistically significant, the magnitude of the correlation was relatively modest. This suggests that conscientiousness alone does not fully explain variations in students' academic performance. The coefficient of determination indicated that only a small proportion of the variation in academic performance was associated with conscientiousness, implying that other factors such as cognitive ability, socio-economic status, parental support, teacher quality, school climate, motivation, and instructional resources may also play substantial roles in shaping students' academic outcomes. This finding supports previous literature suggesting that academic achievement is multidimensional and influenced by the interaction of psychological, environmental, and educational variables.

The relatively weak strength of the relationship may also reflect contextual differences in educational experiences and access to learning opportunities among students within the study area. In many resource-constrained educational environments, external challenges such as overcrowded classrooms, inadequate instructional materials, economic hardship, and unstable learning conditions may reduce the extent to which personality characteristics translate directly into academic success. Consequently, even highly conscientious students may encounter structural barriers capable of limiting optimal academic performance.

Furthermore, the findings of this study contribute to the growing body of literature emphasizing the importance of non-cognitive characteristics within educational psychology. While academic achievement has traditionally been explained largely in terms of intelligence and cognitive competence, the present study provides additional evidence that students' behavioural and personality characteristics are also significantly related to educational outcomes. This reinforces the need for educational interventions that support not only cognitive development but also behavioural regulation, study discipline, persistence, and other personality-related academic behaviours among secondary school students.

The findings should, however, be interpreted within the limitations of the study. First, the use of a correlational design limits the ability to establish causal relationships between conscientiousness and academic performance. The study only demonstrates that the variables are significantly related. Second, conscientiousness was measured using self-report responses, which may be influenced by social desirability bias and participants' subjective perceptions. Third, the study focused only on public secondary schools within one senatorial district of Benue State, which may limit the generalizability of the findings to other educational contexts or student populations. Despite these limitations, the study provides useful empirical evidence regarding the relationship between conscientiousness and academic performance among junior secondary school students within the Nigerian educational context.

Conclusion

This study examined the relationship between conscientiousness and academic performance among Junior Secondary School students in Benue State, Nigeria. The findings revealed a statistically significant positive relationship between conscientiousness and academic performance, indicating that students who demonstrate higher levels of discipline, organization, persistence, responsibility, and self-regulation tend to perform better in academic tasks such as English Language and Mathematics.

Although the strength of the relationship was relatively modest, the result suggests that conscientiousness is meaningfully associated with students' academic outcomes within the junior secondary school context. This implies that non-cognitive psychological characteristics, particularly conscientiousness, play an important role in shaping students' learning behaviours and academic adjustment, alongside other cognitive and environmental factors.

The study therefore concludes that conscientiousness is an important personality trait associated with academic performance among junior secondary school students in Benue State. Strengthening students' conscientiousness-related behaviours through school-based interventions,

counselling programmes, and supportive learning environments may contribute positively to improving academic engagement and outcomes.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. School counsellors and educational psychologists should design and implement programmes that promote conscientiousness-related behaviours such as self-discipline, responsibility, persistence, organization, and effective study habits among junior secondary school students. Such interventions may help students develop behavioural patterns associated with improved academic engagement and performance.
2. Teachers should adopt classroom strategies that encourage structured learning behaviours, including regular assignment completion, time management, goal setting, and consistent academic monitoring. Providing students with clear academic expectations and continuous feedback may strengthen conscientiousness-related learning behaviours within the school environment.
3. School administrators should strengthen guidance and counselling services within secondary schools to provide students with behavioural and academic support programmes focused on self-regulation, study skills development, and academic adjustment.

4. Curriculum planners should consider integrating social-emotional and behavioural learning components into the junior secondary school curriculum to support the development of positive personality characteristics associated with academic success.
5. Future researchers should examine the relationship between conscientiousness and academic performance using larger and more diverse samples across different regions and educational settings in Nigeria to improve the generalizability of findings.

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