


Academic Achievement and Big-Five Personality Factors among Secondary School Students

Saeed Abdur Rouf 

Department of Education, Aligarh Muslim University, Aligarh, Uttar Pradesh 202001, India

Received 13 February 2026 | Revised 09 March 2026 | Accepted 10 April 2026 | Available Online 07 May 2026

*Corresponding Author: **Saeed Abdur Rouf** | Email Address: rouf110066@gmail.com

Citation: Saeed Abdur Rouf (2026). Academic Achievement and Big-Five Personality Factors among Secondary School Students. *Social Science Reports*. DOI:<https://doi.org/10.51470/SSR.2026.10.01.142>

Abstract

The present study examined the level of academic achievement and Big-Five personality factors among secondary school students and explored differences in Big-Five personality factors with respect to gender, locality, and type of school. The study also investigated the relationship between academic achievement and Big-Five personality factors. A descriptive survey method was employed on a sample of 800 secondary school students selected from different secondary schools. Statistical techniques such as percentage analysis, mean, standard deviation, t-test, and Pearson's coefficient of correlation were used for data analysis. The findings revealed that the majority of students possessed average and above-average levels of academic achievement and average levels of Big-Five personality factors. No significant differences were found in Big-Five personality factors with regard to gender, locality, and type of school, conscientiousness, openness, and agreeableness showed positive and significant relationships with academic achievement, whereas neuroticism and extraversion demonstrated significant negative relationships with academic achievement. The study highlights the importance of positive personality traits in enhancing students' academic performance and educational development.

Keywords: Academic achievement, Big-Five personality factors, openness, neuroticism, students.

Introduction

Education plays a vital role in shaping the intellectual, social, moral development of students. In the present competitive educational environment, academic achievement has become one of the most important indicators of students' success and future career development. Academic achievement reflects students' mastery of knowledge, skills, attitudes, and competencies acquired through formal education. It is influenced by several cognitive, emotional, motivational, social, and environmental factors. Among the various psychological factors influencing academic achievement, personality has emerged as one of the most important determinants of students' learning behaviour and academic performance. Personality traits influence how students think, feel, behave, interact, and respond to academic challenges. Different personality characteristics affect students' motivation, study habits, emotional stability, classroom participation, and ability to cope with academic stress. The Big-Five personality model is one of the most widely accepted theories of personality in psychology [1]. The model includes five major dimensions, namely conscientiousness, openness to experience, extraversion, agreeableness, and neuroticism. Conscientiousness refers to organization, responsibility, discipline, and persistence. Openness to experience reflects curiosity, creativity, and a willingness to learn new ideas. Extraversion is associated with sociability, enthusiasm, and energetic behaviour. Agreeableness refers to cooperation, kindness, empathy, and interpersonal adjustment, whereas neuroticism represents emotional instability, anxiety, and stress-proneness.

Research studies have consistently shown that personality traits significantly influence students' academic performance. Students who possess high levels of conscientiousness generally demonstrate better academic achievement because they are organized, disciplined, goal-oriented, and persistent in their studies. Similarly, openness to experience has been positively associated with intellectual curiosity and learning engagement. In contrast, neuroticism often negatively affects academic performance due to anxiety, emotional instability, and poor stress management [2]. At the secondary school stage, students experience increased academic demands, emotional changes, and greater responsibility for independent learning. Therefore, understanding the role of personality traits in academic achievement becomes highly important. Investigating the relationship between academic achievement and Big-Five personality factors can provide valuable insights for educators, parents, and policymakers in designing effective educational interventions and counselling programmes.

Review of Related Literature

The relationship between personality and academic achievement has received considerable attention in educational psychology. Researchers have emphasised that personality traits significantly influence students' learning behaviour, motivation, academic engagement, and educational outcomes. Studies conducted by [3-4] highlighted that the Big-Five personality dimensions provide a comprehensive framework for understanding human personality and behaviour.

© 2026 by the authors. This is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author(s) and source are credited. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>.

Their research suggested that personality traits remain relatively stable and influence various aspects of academic and social functioning. Research studies have consistently reported a strong positive relationship between conscientiousness and academic achievement. [5-6] found that conscientious students tend to be organised, disciplined, responsible, and academically persistent, which contributes significantly to higher educational achievement. Similarly, studies by Oliver P. John and Srivastava indicated that conscientiousness is one of the strongest predictors of academic success. Studies related to openness to experience have also demonstrated positive relationships with academic achievement. Students who possess intellectual curiosity, creativity, and openness to new experiences are generally more engaged in learning activities and demonstrate higher educational performance. Research by [7-8] supported the positive contribution of openness to academic achievement. Research findings concerning neuroticism have largely reported negative relationships with academic achievement. Neurotic students often experience anxiety, emotional instability, stress, and poor emotional control, which negatively affect learning and examination performance. Similarly, studies have shown mixed findings regarding extraversion. Some researchers reported that highly extroverted students may experience distractions due to excessive social interaction, whereas others found positive effects in collaborative learning settings. Studies related to demographic variables such as gender, locality, and type of school have produced inconsistent findings. Some researchers reported significant gender differences in personality traits, while others found no significant differences among students belonging to different demographic categories. Although extensive research has been conducted on personality and academic achievement, comparatively fewer studies have focused specifically on secondary school students in the Indian educational context. Therefore, the present study attempts to examine the relationship between academic achievement and Big-Five personality factors among secondary school students.

Need and Significance of the Study

In the present educational scenario, academic achievement has become one of the most important indicators of educational effectiveness and future success. However, students' academic performance is influenced not only by intellectual ability but also by psychological and personality-related factors. Personality traits influence students' study habits, emotional adjustment, classroom participation, learning motivation, and coping strategies. Among various personality theories, the Big-Five personality model has gained considerable importance because it provides a comprehensive understanding of individual differences. Understanding how personality traits influence academic achievement can help educators identify students' strengths and weaknesses and provide suitable educational guidance. Secondary school students experience significant physical, emotional, cognitive, and social changes during adolescence. During this stage, students often face academic stress, emotional challenges, and increasing educational responsibilities. Therefore, investigating the role of personality factors in academic achievement becomes essential for promoting students' educational success and psychological well-being. The present study is significant because it examines Big-Five personality factors in relation to demographic variables such as gender, locality, and type of school.

The study is also important because comparatively limited research has been conducted on Big-Five personality factors among secondary school students in the Indian context. The findings of the study may help teachers, counsellors, parents, and educational administrators understand the importance of personality development in improving students' academic performance.

Objectives of the Study

This study undertakes the following objectives:

- To assess the level of academic achievement among secondary school students.
- To assess the level of Big-Five personality factors among secondary school students.
- To examine the relationship between academic achievement and Big-Five personality factors among secondary school students.
- To find out the significant difference in Big-Five personality factors in relation to gender, locality, and type of school.

Hypotheses of the Study

Based on the objectives of this study, the following hypotheses were framed to be tested and analysed:

- There is no significant difference in Big-Five personality factors in relation to gender, locality, and type of school.
- There is no significant relationship between academic achievement and Big-Five personality factors among secondary school students.

Methodology

The descriptive survey method was employed to assess the academic achievement and Big-Five personality factors among secondary school students' studying in class 10th. The sample consisted of 800 secondary school students selected from various government and private secondary schools of District Baramulla, Jammu & Kashmir. The data were collected using the Big-Five Personality Inventory (BFPI) by [9] academic achievement was measured by the previous year summative examination results. Statistical techniques such as percentage analysis, mean, standard deviation, independent sample t-test, and Pearson's coefficient of correlation were used for the analysis and interpretation of data.

Analysis and Interpretation of Data

Objective 1

To assess the level of academic achievement among secondary school students

FIGURE 1: Conceptual Diagram – India's Adaptive Realism Framework

High		Above Average		Average		Below Average		Low	
N	%	N	%	N	%	N	%	N	%
88	11	303	37.9	314	39.3	91	11.3	4	0.5

The analysis of academic achievement scores indicates that the majority of students fall within the average and above-average categories. Specifically, 314 students (39.3%) demonstrated average academic achievement, while 303 students (37.9%) exhibited above-average achievement. Together, these two groups constitute 77.2% of the total sample, indicating that most students perform at satisfactory academic levels. Further, 88 students (11%) were found in the high achievement category, reflecting a smaller group of students with superior academic performance.

On the other hand, 91 students (11.3%) belonged to the below-average category, indicating the presence of students who may require additional academic support and guidance. Only 4 students (0.5%) were identified in the low academic achievement category, the findings reveal that most secondary school students demonstrate moderate to above-average academic achievement. However, the existence of students with below-average and low achievement highlights the necessity for remedial measures and academic assistance programmes within schools.

Objective 2

To assess the level of Big-Five personality factors among secondary school students

Table 2: Percentage Level of Big-five Personality Factors Scores (N=800)

Extremely High		High		Above Average		Average		Below Average		Low		Extremely Low	
N	%	N	%	N	%	N	%	N	%	N	%	N	%
26	3.2	52	6.5	158	19.8	214	26.8	211	26.3	106	13.2	33	4.1

The findings reveal that the majority of secondary school students possess average levels of Big-Five personality factors. Specifically, 214 students (26.8%) fall within the average category, while 211 students (26.3%) belong to the below-average category. Further, 158 students (19.8%) demonstrated above-average levels of personality factors. A comparatively smaller number of students were found in the high (6.5%) and extremely high (3.2%) categories. Similarly, 106 students (13.2%) and 33 students (4.1%) exhibited low and extremely low levels respectively. The findings suggest that although most students possess moderate personality characteristics, substantial variations exist among secondary school students with regard to personality dimensions.

Objective 3

To find out the significant difference in Big-Five personality factors in relation to gender, locality, and type of school

Table 3: The Mean Difference in Big-five personality factors Scores among secondary school students in relation to various demographic features (Gender, Locality & Category of school)(N=800)

Variable	Groups	N	Mean	SD	t-value	p-value
Big-five Personality Factors	Male	413	167.41	11.67	1.405	.534
	Female	387	166.27	11.25		
	Rural	390	198.88	13.25	-0.172	.667
	Urban	410	199.04	13.38		
	Government	398	198.81	13.33	-0.330	.958
	Private	402	199.12	13.30		

The results indicate that there is no significant difference in Big-Five personality factors between male and female secondary school students, as the obtained p-value (.534) is greater than the level of significance. Similarly, no significant difference was observed between rural and urban students in Big-Five personality factors. The obtained p-value (.667) indicates that locality does not significantly influence personality traits among secondary school students. Further, the comparison between government and private school students also revealed no significant difference in Big-Five personality factors. The obtained p-value (.958) indicates that the type of school does not significantly affect personality factors among students. The findings suggest that Big-Five personality factors are relatively similar across gender, locality, and school type.

Objective 4

To examine the relationship between academic achievement and Big-Five personality factors

Table 4: Correlation between the Academic Achievement and Overall Big-five personality factors

Predictive Variable Dimension	Dimensions	Criterion Variable Academic Achievement N=800
Big-five Personality Factors	Conscientiousness	.442**
	Openness	.395**
	Neuroticism	-.113**
	Agreeableness	.361**
	Extraversion	-.160**

**significant at the 0.01 level

Table 4 presents the correlation between different dimensions of Big-Five personality factors and academic achievement among secondary school students. The findings reveal that conscientiousness demonstrated the highest positive correlation with academic achievement ($r = .442$), followed by openness ($r = .395$) and agreeableness ($r = .361$). These findings suggest that students who are organised, disciplined, responsible, intellectually curious, cooperative, and emotionally balanced tend to achieve better academically. In contrast, neuroticism ($r = -.113$) and extraversion ($r = -.160$) showed significant negative correlations with academic achievement. These findings indicate that emotional instability, anxiety, and excessive social involvement may negatively affect students' academic performance. Overall, the findings suggest that personality traits significantly influence academic achievement among secondary school students.

Discussion of Findings

The present study revealed that the majority of secondary school students demonstrated average and above-average levels of academic achievement. This finding is consistent with the studies conducted by [10-12] who reported that most students generally perform within average or moderately above-average academic levels due to factors such as study habits, motivation, discipline, and learning behaviour. The findings further revealed that most secondary school students possessed average levels of Big-Five personality factors. This may be attributed to the developmental characteristics of adolescence, where personality traits gradually stabilise through social, emotional, and educational experiences. The present study found no significant difference in Big-Five personality factors with respect to gender, locality, and type of school. These findings are supported by studies conducted by [13-15] who reported that demographic variables do not significantly influence personality traits among students. The findings of the present study established a positive and significant relationship between conscientiousness and academic achievement.

This finding is strongly supported by the studies conducted by [16-18] who found conscientiousness to be one of the strongest predictors of academic success. Similarly, openness and agreeableness demonstrated positive relationships with academic achievement. These findings are in agreement with studies reporting that intellectually curious, cooperative, and adaptable students tend to achieve better educational outcomes [19-21]. However, neuroticism and extraversion showed significant negative relationships with academic achievement. These findings are supported by studies which reported that anxiety, emotional instability, stress, and excessive social engagement may adversely affect academic concentration and performance ([22-24]. Teachers should encourage disciplined study habits, responsibility, and goal-oriented behaviour among students. Schools should organise personality development and counselling programmes to improve students' emotional stability, motivation, and interpersonal skills. Parents should provide supportive home environments that promote positive personality development and academic discipline. Educational institutions should also create learning environments that foster curiosity, creativity, cooperation, and emotional well-being among students. Special attention should be provided to students exhibiting high neuroticism and poor emotional adjustment in order to improve their academic functioning and psychological health.

Conclusion

The present study concludes that secondary school students generally possess average and above-average levels of academic achievement and moderate levels of Big-Five personality factors. No significant differences were found in personality factors with respect to gender, locality, and type of school. The study also established that conscientiousness, openness, and agreeableness positively influence academic achievement, whereas neuroticism and extraversion negatively affect academic performance. The findings emphasize the importance of promoting positive personality traits among secondary school students to enhance academic achievement and overall educational development.

References

- Bidjerano, T. (2005). Gender differences in self-regulated learning. *Annual Meeting of the Northeastern Educational Research Association*, 1-15.
- Bond, T. G. (2012). The role of personality traits in academic achievement among secondary school students. *Journal of Educational Psychology*, 104(2), 345-356.
- Busato, V. V., Prins, F. J., Elshout, J. J., & Hamaker, C. (2000). Intellectual ability, learning style, personality, achievement motivation and academic success of psychology students in higher education. *Personality and Individual Differences*, 29(6), 1057-1068. [https://doi.org/10.1016/S0191-8869\(99\)00253-6](https://doi.org/10.1016/S0191-8869(99)00253-6)
- Chamorro-Premuzic, T., & Furnham, A. (2003). Personality traits and academic examination performance. *European Journal of Personality*, 17(3), 237-250. <https://doi.org/10.1002/per.473>
- Costa, P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO PI-R) professional manual*. Psychological Assessment Resources.
- Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Psychological Assessment Resources.
- Credé, M., & Kuncel, N. R. (2008). Study habits, skills, and attitudes: The third pillar supporting collegiate academic performance. *Perspectives on Psychological Science*, 3(6), 425-453. <https://doi.org/10.1111/j.1745-6924.2008.00089.x>
- Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, 92(6), 1087-1101. <https://doi.org/10.1037/0022-3514.92.6.1087>
- John, O. P., & Srivastava, S. (1999). The Big-Five trait taxonomy. In *Handbook of Personality: Theory and Research* (pp. 102-138). Guilford Press.
- Kaur, H. (2018). A study of personality traits among secondary school students in relation to demographic variables. *International Journal of Research in Social Sciences*, 8(3), 112-118.
- Komarraju, M., Karau, S. J., Schmeck, R. R., & Avdic, A. (2011). The Big Five personality traits, learning styles, and academic achievement. *Personality and Individual Differences*, 51(4), 472-477. <https://doi.org/10.1016/j.paid.2011.04.019>
- Laidra, K., Pullmann, H., & Allik, J. (2007). Personality and intelligence as predictors of academic achievement: A cross-sectional study from elementary to secondary school. *Personality and Individual Differences*, 42(3), 441-451. <https://doi.org/10.1016/j.paid.2006.08.001>
- McAbee, S. T., & Oswald, F. L. (2013). The criterion-related validity of personality measures for predicting GPA: A meta-analytic validity competition. *Psychological Assessment*, 25(2), 532-544. <https://doi.org/10.1037/a0031748>
- Mehta, S., & Rani, P. (2021). Neuroticism and academic achievement among adolescents. *International Journal of Indian Psychology*, 9(2), 1450-1458.
- Noftle, E. E., & Robins, R. W. (2007). Personality predictors of academic outcomes: Big Five correlates of GPA and SAT scores. *Journal of Personality and Social Psychology*, 93(1), 116-130. <https://doi.org/10.1037/0022-3514.93.1.116>
- O'Connor, M. C., & Paunonen, S. V. (2007). Big Five personality predictors of post-secondary academic performance. *Personality and Individual Differences*, 43(5), 971-990. <https://doi.org/10.1016/j.paid.2007.03.017>
- Poropat, A. E. (2009). A meta-analysis of the Five-Factor Model of personality and academic performance. *Psychological Bulletin*, 135(2), 322-338. <https://doi.org/10.1037/a0014996>
- Rani, S., & Gupta, M. (2021). Relationship between agreeableness, openness and academic achievement among school students. *Journal of Educational Research and Extension*, 58(3), 41-49.
- Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin*, 138(2), 353-387. <https://doi.org/10.1037/a0026838>
- Roberts, B. W., Kuncel, N. R., Shiner, R., Caspi, A., & Goldberg, L. R. (2007). The power of personality. *Perspectives on Psychological Science*, 2(4), 313-345.
- Sharma, R. (2015). Personality traits of adolescents in relation to gender and locality. *Indian Journal of Applied Research*, 5(4), 45-47.
- Tang, M., & Neber, H. (2008). Motivation and self-regulated science learning in high-achieving students. *International Journal of Science Education*, 30(14), 1873-1895. <https://doi.org/10.1080/09500690701435343>
- Verma, S., & Sharma, P. (2019). Big Five personality traits and academic achievement among secondary school students. *International Journal of Education and Psychological Research*, 8(1), 22-27.
- Yadav, R., & Singh, A. (2020). Personality factors as predictors of academic achievement among adolescents. *Journal of Educational Studies*, 18(2), 55-63.