Original Article

Students' Personality Traits and their Academic Motivation & Achievement: A Correlational Study

Mehreen Nazar[1] , **Muneeb Ahmed Toor[2]** , **Namra Shahzadi[3]**

[1]Student, Department of Psychology, University of Gujrat, Hafiz Hayat Campus, Pakistan.
[2]Assistant Professor, Department of Psychology, International Institute of Science, Arts and Technology, Gujranwala, Pakistan.
[3]Lecturer, Department of Psychology, University of Gujrat, Hafiz Hayat Campus, Pakistan.
Correspondence: muneeb.toor786@gmail.com[2]

ABSTRACT

Aim of The Study: This study investigates the relationships between teenage academic achievement, academic motivation, and personality traits.

Methodology: The study design employed was a cross-sectional survey. A non-probability sampling method called convenience sampling was employed to get information from 400 participants in the sample.

Findings: There was a significant correlation between academic motivation and academic achievement among students. Whereas no significant correlation was found between either personality traits and academic motivation or personality traits and academic achievement.

Conclusion: The results were supported by the other national and international findings on the same subjects.

Keywords: Personality Traits, Academic Achievement, Academic Motivation

Introduction

This study investigates the relationships between teenage academic achievement, academic motivation, and personality variables. The purpose of this study is to determine if a student's personality has a substantial influence on their academic motivation and achievements, or whether institutions are more important to their success. The word "personality" refers to all the thoughts, deeds, and social attitudes that influence how we see ourselves, how we view others, and how we perceive the outside world. Genetics, environment, and life experiences are just a few of the many factors that have shaped your current identity (Cherry and Asebedo 2022).

According to psychologist Purcell (2006), maintaining what you have learned enhances your confidence. She argues that "real confidence comes from the growing conviction that you can depend on yourself to take action and follow through, regardless of the outcome." Always gaining fresh knowledge will enhance your confidence. Additionally, learning new things makes you happy. Researchers have connected dopamine to the learning process. One of the most effective strategies to better your life and work is to acquire new skills (Oppong 2019).

Personality is all about our behavior in different situations of life. Different personality traits are inborn but they may be adopted or polished from the environment. Life experiences play an important role in making personality (Kitamura and Fujihara 2003). Different psychologists explain about personality in their personality theories (Musek 2024). Personality plays an important role in motivation (Fathirezaie, Badicu et al. 2024). If a person has ambitious personal traits, he will be more motivated to do something bigger in his life. He does not see his failure as bad luck, instead of losing hope he will be more motivated to do his best at the next level (Avsec, Podobnik and Zager-Kocjan 2024). Different factors affect motivation levels in individuals. Teacher support, parental style and person's personality are all important to increase or decrease academic motivation level (Affuso, Zannone et al. 2023). Above all, we cannot ignore the value of academic achievement while discussing the academic motivation. Academic achievement and academic motivation are directly related to each other (Sivrikaya 2019, Agustina, Wahyudin and Pratiwi 2021). If students have the personality trait of high achiever, he will be more motivated to reached their destinations of success. Success cannot be achieved through single step. It is a way or step by step path toward goals. If a student has a personality who are driven by strong personal desire to accomplish meaningful and important goals, he will work hard to get the success. If he achieves goals, his sense of achievement will be high as well as motivation level will be increased. He will be more motivated to set new goals and put his full effort to achieve those goals and vice versa (Li, Peng et al. 2020).

Literature Review

In the twenty-first century, we are turning out to be progressively mindful of a progression of worldwide, mechanical, and logical headways that require elite execution in science training at all degrees of schooling. These difficulties, which incorporate fast logical and mechanical changes, an expansion in data innovation use, and a proceeding with shift toward an information based society, all feature the significance of strong training in science teaches like science, science, natural science, physical science, and maintainability. Truly, the effect of instructor qualities on understudies' science learning results is critical (Sivrikaya 2019).

Young adult undergraduate's reception of aversion objectives, negative homeroom influences, maladaptive scholastic results, and test scores were completely anticipated by cost. The ongoing review's discoveries widen the extent of hope esteem hypothesis by underscoring the significance of joining anticipation, task worth, and cost to foresee undergraduate's scholastic inspiration and instructive outcomes (Dietrich, Schmiedek and Moeller 2022).

In a sample of two hundred and twenty-eight Chinese high school students, the research investigated the relationship between academic stress and academic motivation in the field of mathematics. Academic stress in Chinese high school pupils was shown to negatively predict intrinsic motivation and positively predict amotivation in grade 12. In addition, the data demonstrated that academic stress was unrelated to extrinsic motivation. Our results show that minimizing academic stress may increase intrinsic motivation in students while decreasing amotivation (Liu 2015).

Since the subscales are assessed freely, 28 of the qualities acquired for each subscale are higher in people. Since the information didn't have an ordinary dissemination, non-parametric examinations (Mann Whitney-U and Spearman Connection) were utilized to break down it. The alpha level was set at p0.05. The undergraduate's academic motivation scores were viewed as over the center in the review. There was no massive distinction in academic motivation scale scores and sub aspects in light of orientation. Ladies beat men regarding scholarly execution. Men scored higher on normal for academic motivation than ladies. When the scholarly accomplishment of the undergraduates in actual training and sports school builds, the individual test scores of the outward inspiration likewise increment (Stajkovic, Bandura et al. 2018).

Problem Statement

This study seeks to examine the interplay between personality traits, academic motivation, and academic achievement among students. Specifically, it aims to investigate the relationship between personality traits and both academic motivation and academic achievement. Additionally, the research aims to explore how academic motivation influences academic achievement. By addressing these objectives, the study aims to deepen our understanding of the complex dynamics between personality, motivation, and academic success, thereby informing strategies to enhance student learning outcomes.

Significance of Study

The significance of this study lies in its aim to uncover the relationship between personality traits, academic motivation, and academic achievement among students. By exploring how personality influences motivation and how motivation impacts achievement, the study provides insights crucial for tailoring educational strategies to individual student needs. Ultimately, this research aims to improve learning outcomes by deepening our understanding of the complex dynamics at play in student success.

Study Objectives

1. To investigate the relationship between Personality traits and Academic Motivation.
2. To explore the relation between Personality traits and Academic Achievement.
3. To analyze the relationship between Academic Motivation and Academic Achievement.
4. There would be a significant difference of Personality traits between girls and boys.
5. There would be a significant difference of Academic motivation between girls and boys

Research Hypotheses

1. There is a significant relationship between personality traits and academic motivation.
2. Personality traits are significant predictors of academic achievement.
3. There is a positive relationship between academic motivation and academic achievement.
4. There would be a significant difference of Personality traits between girls and boys
5. There would be a significant difference of Academic motivation between girls and boys.

Method

The authorization form's moral objections and secrecy were supported by research. Respondents completed informed consent forms that ensured their privacy and specified that the data would only be used for research. Each participant was solely responsible for determining whether or not to participate in the study. To guarantee that their privacy is strictly protected, the participant provided informed permission.

The purpose of this research is to establish whether a student's personality has a substantial influence on their academic motivation and achievement, or if institutions are a more important element.

It is considered that females are more intellectually motivated than guys. The same holds true for males, with those attending private schools being more ambitious and academically successful than those attending public schools.

Research Design

In this study's research design, the co-relational research technique is used. When employing a correlational study design, the researcher has no direct control or influence over the variables. However, demographic information in statistics pertains to your area of interest. It might be a collection of people,

objects, events, organizations, etc. To draw conclusions, utilize populations. Male and female adolescents attending public and private schools are the focus of this research. The research was conducted at both government institutions for boys and girls. Another private university that admits both genders. They were situated in the city of Gujrat.

Population and Sample

This study's total sample size was 400 individuals, comprised of 100 girls from private schools, 100 girls from public schools, 100 males from public schools, and 100 boys from private schools. The sampling procedure was not based on probability. Non-probability sampling refers to the subjective method of picking units from a population. Convenient sampling is a non-probability sampling strategy that includes taking a sample from the population that is nearby.

Instruments

In this research instruments involved a demographic questionnaire, BFI-10 evaluation, and Academic motivation scale was used.

Data Analysis

After data collection was completed, a statistical tool for social science was used to calculate the findings. First, using descriptive statistics, the frequencies and percentages of the demographic variables were determined. Normality of the scales was confirmed, and skewness and kurtosis analyses were also performed. Using Cronbach's alpha, the reliability of a scale was evaluated. The regression analysis was performed.

Results

The data of 400 students of classes 9th and 10th from government and private schools were analyzed to test the hypothesis of the current study.

Table-1: *Demographic Characteristics of the Sample*

Variable	Segregation	Frequency (f)	Percentage (%)
Gender	Boys	203	50.8
	Girls	197	49.3
Age	13 Year	103	25.8
	14 Years	163	40.8
	15 Years	98	24.5
	16 Years	36	9
Living	Rural	188	47
	Urban	212	53
Education	9th Class	214	53.5
	10th Class	186	46.5
Institutions	Govt. Boys	100	25
	Private Boys	100	25
	Govt. Girls	100	25
	Private Girls	100	25

Table 1 shows the demographic Characteristics of the respondents. The Table reveals information about gender, age, living background, educational level, and the nature of the organization. The majority (40.8%) Of the participants belong to age of 14 years, the percentage of boys and girls were almost same but percentage of boys (50.8%) were a bit more than girls (49.3%), most of the students (53.0%) belonged to urban lifestyle, educationally student of class 9th (53%) and 10th (47%) took almost equally part in research and from private sector total 200 participants (50%) contributed to this study.

Table-2: *Correlation Table of Personality Traits, Academic Motivation and Academic Achievements*

	Variables	1	2	3
1	BFI	-	-0.07	0.58
2	AMS	-	-	.20**
3	AAC	-	-	-
	M	35.32	112.96	2.15
	SD	4.67	29.86	1.06
	A	.40	.78	.62

*Note: * = .05, ** = .01, BFI = Big Five Inventory, AMS = Academic Motivation Scale, AAC = Academic Achievement, M= Mean, SD= Standard Deviation, α = Alpha Level*

According to Table 2, the first objective of the study is rejected because the correlation (0.7, p>.05) between personality traits and Academic motivation is non-significant but the correlation is negative between these variables.

According to Table 2, the second objective of the study is rejected because the correlation (0.58, p>.05) between personality traits and Academic Achievement is non-significant.

According to Table 2, the third objective of the study is accepted because the correlation (.20, p<.01) between Academic Motivation and Academic Achievement is significant but the correlation is positive between two of these variables.

Table 3: *Mean, Standard Deviation, and t-test analysis for differences in personality trait scores and academic motivation according to gender*

	Boys (n=203)	Girls (n=197)				95% C.I.	
Variables	M (SD)	M (SD)	df	t	p	LL	UL
Personality Traits	35.53 (4.52)	35.10 (4.82)	398	-.93	.35	-1.35	.48
Academic Motivation	109.2 (30.7)	116.7 (28.5)	397.2	2.53	.01	1.67	13.32

Table shows results for the personality traits and Academic motivation. For personality traits, the data was non-significant as the scores for the boys (M= 35.53, SD= 4.52) and girls (M= 35.10, SD= 4.82) conditions t = -.93, *p* = .352 (p > .005). Same for the academic motivation, the data was non-significant as the scores for boys (M = 109.2, SD = 30.7) and for girls (M = 116.7, SD 28.5) condition t = 2.53, *p* = .012 (p > .005). These findings indicate that their personality traits do no have significant difference on boys and girls. Also, Academic Motivation do not show significant difference on boys and girls.

Discussion

The purpose of this research was to evaluate the association between personality factors, academic motivation, and academic accomplishment among teenagers. The primary objective of the research was to investigate the relationship between personality characteristics, academic motivation, and academic success.

Likewise, the data reveals that personality qualities and academic motivation have no significant association. However, there is a considerable relationship between academic motivation and academic accomplishment, which explains how motivation influences teenagers' academic performance.

Previous research indicates that scholastic achievement is favorably associated with Openness to Experience and Conscientiousness, and adversely associated with Neuroticism (Agustina, Wahyudin and Pratiwi 2021). In addition, a regression model comprised of the Big Five personality characteristics may

predict a large amount of variation in the GPAs of students. Academic performance and self-efficacy were favorably represented in the models, conscientiousness and emotional stability were seen as predictors of self-efficacy and performance in a number of studies, and the implications of the other three qualities were transient (Liu 2015). According to other data, teacher self-efficacy and motivation had a substantial influence on academic success in scientific education (Shahzad and Naureen 2017).

The connection between growth mindset and intrinsic motivation is illuminated by recent empirical research from the standpoint of educational neuroscience (Shahzad and Naureen 2017). The data demonstrated that academic pressure was unrelated to extrinsic motivation. Our data show that minimizing academic stress might both increase and decrease students' intrinsic motivation. The majority of papers indicated that educational interventions increased academic motivation. Stress and motivation had little effect on pupils' academic performance, the research found (Campbell and Ramey 1994, Mattanah, Brooks et al. 2012, Macnamara and Burgoyne 2022).

Positive academic motivation seems to be essential for college students to attain better levels of academic engagement and accomplishment, which has significant consequences for college students (Abdelrahman 2020, Tus 2020). Both intrinsic and extrinsic motivation have a substantial effect on students' educational achievement, according to a separate research (Liu, Hau et al. 2020). The correlation value between student motivation and attributes was astoundingly high. Family environment was shown to have the highest link with student attributes. The findings and outcomes of previous research were examined in light of this study's findings and outcomes.

These studies demonstrate that student qualities like as previous knowledge, motivation, and self-regulation are very influential variables. However, the influence of peers, family, and education cannot be discounted. Analyses at the facet level produced much more distinct findings than analyses at the domain level, suggesting that when predicting academic success, it is preferable to investigate personality aspects rather than personality domains.

This study's results indicate that classroom atmosphere openness, teacher-student engagement, and academic motivation are significant in boosting students' academic progress. The frequency with which students utilized social media did not have a significant effect on their mean academic success in accounting; however, the gender of students did have a significant effect on their mean academic accomplishment in accounting.

Conclusion

In conclusion, this research has elucidated the intricate dynamics between personality traits, academic motivation, and academic accomplishment among teenagers. The study reveals that while there is no significant direct association between personality qualities and academic motivation, there is a notable relationship between academic motivation and academic success. This finding underscores the critical role that motivation plays in influencing teenagers' academic performance.

Previous studies have highlighted the favorable association of scholastic achievement with traits such as Openness to Experience and Conscientiousness, and the adverse association with Neuroticism. Additionally, regression models indicate that the Big Five personality traits can significantly predict variations in students' GPAs. Conscientiousness and emotional stability emerge as consistent predictors of self-efficacy and performance across various studies, while the other three traits show more transient effects.

Teacher self-efficacy and motivation, particularly in scientific education, have a profound impact on academic success, as corroborated by Shahzad and Naureen (2017). The relationship between growth mindset and intrinsic motivation is further illuminated through educational neuroscience research, suggesting that minimizing academic stress can enhance students' intrinsic motivation.

Despite the limited influence of stress and motivation on academic performance found in some studies, positive academic motivation remains crucial for higher levels of academic engagement and accomplishment, especially among college students. Both intrinsic and extrinsic motivation significantly affect students' educational achievement, with family environment being a key factor in shaping student attributes.

The findings also emphasize the importance of classroom atmosphere, teacher-student engagement, and academic motivation in promoting academic progress. Interestingly, social media usage did not significantly affect students' academic success, while gender differences did influence academic performance in accounting.

Overall, this research highlights the complex interplay of personality traits, motivation, and external factors such as family and educational environment in shaping academic outcomes. Future studies should continue to explore these relationships at a more granular level, focusing on specific personality facets rather than broad domains, to gain a deeper understanding of the predictors of academic success.

ORCID iDs

Mehreen Nazar [1] https://orcid.org/0009-0006-5797-3649
Muneeb Ahmed Toor [2] https://orcid.org/0000-0002-0798-5346
Namra Shahzadi [3] https://orcid.org/0000-0001-6021-8755

References

Abdelrahman, R. M. (2020). "Metacognitive awareness and academic motivation and their impact on academic achievement of Ajman University students." *Heliyon 6*(9), 10-18

Affuso, G., et al. (2023). "The effects of teacher support, parental monitoring, motivation and self-efficacy on academic performance over time." *European Journal of Psychology of Education 38*(1), 1-23.

Agustina, E. T., A. Y. Wahyudin and A. A. Pratiwi (2021). The Students'motivation And Academic Achievement At Tertiary Level: A Correlational Study. *Journal of Arts and Education 1*(1).

Avsec, A., B. Podobnik and G. Zager-Kocjan (2024). Motivation types of volunteers, their personality traits and subjective well-being. *Psihologija 4*(4), 15-15.

Campbell, F. A. and C. T. Ramey (1994). Effects of early intervention on intellectual and academic achievement: a follow-up study of children from low-income families. *Child development 65*(2), 684-698.

Cherry, P. D. and S. Asebedo (2022). Personality Traits and Life Insurance Ownership Among Older Americans. *Journal of Personal Finance, 3*(2).

Dietrich, J., F. Schmiedek and J. Moeller (2022). Academic motivation and emotions are experienced in learning situations, so let's study them. Introduction to the special issue, *Elsevier, 81*, 101623.

Fathirezaie, Z., et al. (2024). Personality and motivation of physical activity in adolescent girls: effects of perceived parental support and social physical anxiety. *BMC Public Health 24*(1), 1-9.

Kitamura, T. and S. Fujihara (2003). Understanding personality traits from early life experiences. *Psychiatry and Clinical Neurosciences 57*(3), 323-331.

Li, L., et al. (2020). Peer relationships, self-efficacy, academic motivation, and mathematics achievement in Zhuang adolescents: A moderated mediation model. *Children and Youth Services Review 118*, 105358.

Liu, Y. (2015). The longitudinal relationship between Chinese high school students' academic stress and academic motivation. *Learning and Individual Differences 38*, 123-126.

Liu, Y., et al. (2020). Multiplicative effect of intrinsic and extrinsic motivation on academic performance: A longitudinal study of Chinese students. *Journal of personality 88*(3), 584-595.

Macnamara, B. N. and A. P. Burgoyne (2022). "Do growth mindset interventions impact students' academic achievement? A systematic review and meta-analysis with recommendations for best practices." *Psychological Bulletin*.

Mattanah, J. F., et al. (2012). "A social support intervention and academic achievement in college: Does perceived loneliness mediate the relationship?" *Journal of College Counseling 15*(1), 22-36.

Musek, J. (2024). Personality Theories. Personality Psychology: A New Perspective, *Springer*: 87-189.

Oppong, S. (2019). "Overcoming obstacles to a truly global psychological theory, research, and praxis in Africa." *Journal of Psychology in Africa 29*(4), 292-300.

Purcell, M. (2006). "The health benefits of journaling." *Psych Central*: 1-2.

Shahzad, K. and S. Naureen (2017). "Impact of Teacher Self-Efficacy on Secondary School Students' Academic Achievement." *Journal of Education and Educational Development 4*(1), 48-72.

Sivrikaya, A. H. (2019). "The Relationship between Academic Motivation and Academic Achievement of the Students." *Asian Journal of Education and Training 5*(2), 309-315.

Stajkovic, A. D., et al. (2018). "Test of three conceptual models of influence of the big five personality traits and self-efficacy on academic performance: A meta-analytic path-analysis." *Personality and individual differences 120*, 238-245.

Tus, J. (2020). "Academic stress, academic motivation, and its relationship on the academic performance of the senior high school students." *Asian Journal of Multidisciplinary Studies 8*(11), 29-37.