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DETERMINANTS OF STUDENT ACADEMIC PERFORMANCE: A DATA-DRIVEN ANALYSIS OF STUDY HABITS, ABSENTEEISM, AND SOCIO-EDUCATIONAL FACTORS

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Abstract
The factors of student performance in school analyzing the overall impact of study, absenteeism and socio-educational factors in a quantitative and data-driven study. The study is analysed using secondary data that is student level data, which contains variables like Grade point average (GPA), study time, absenteeism, parental support, parental education, tutoring, and extracurricular activities. Largely descriptive statistics, correlation analysis and multiple linear regression were utilized to determine significant predictors of academic performance. The results indicate that absenceeeism has a high negative effect on student achievement and time spent studying, especially in academic activities has a positive effect on performance. Also, there are socio-educational factors like parental support and parental education which have a significant impact on academic outcomes, thereby emphasizing the role of family involvement. The regression equation shows a large degree of explanatory power, which means that the chosen variables explain a large share of the variance of academic performance together. The paper highlights the significance of the combination of behavioral and socio-educational aspects in order to understand student achievement in a better way. The results have practical implications to educators, policymakers, and parents since they highlight the importance of encouraging regular attendance, effective study behaviors, and positive home conditions in order to improve educational outcomes.

Keywords: *Academic Performance, Study Habits, Absenteeism, Parental Support, Socio-Educational Factors*

1. Introduction

In the academic performance, the most commonly accepted indicator of educational success and institutional effectiveness is academic performance. It not only indicates the cognitive skills of students but also their behavioral interest, environmental factors and socio-educational background. The modern educational studies are characterized by a growing interest in the identification of the multidimensional factors that lead to the differences in the student performance. These determinants are critical in understanding how to develop interventions that can improve learning results and bring about equity in education. The role of the parent has always been known to play a key role in achieving academic success. Studies have shown that students whose parents are actively involved in their education achieve and get motivated to a higher level. It is a socioeconomic status-influenced and previous academic performance-influenced relationship, which implies that family background is also a critical factor in determining educational paths (Benner et al., 2016). Equally, parenting styles and quality parental support have been indicated to have a role in the student performance, which has underscored the significance of home environment in student academic growth (Pinquart, 2016). Besides the factors mentioned within the family, behavioral factors like study habits are also important in influencing performance. Good academic habits such as time management and regular study of academic material are closely linked with better performance. It has been proved empirically that those students who lead organised and disciplined study habits are more likely to do well academically (Ebele and Olofu, 2017). The relationship is also justified by the evidence that the study habits are one of the most important predictors of academic success in various educational settings (Jafari et al., 2019).

Student motivation and engagement are other important determinants of academic outcomes besides the study habits. Internal and external motivations are usually shaped by the self-efficacy and parental and teacher support respectively. The longitudinal studies have demonstrated that teacher support and parental monitoring have positive effects on the performance of students in terms of motivation and confidence (Affuso et al., 2023). These results highlight the value the positive learning environment has in promoting academic success. In this case, parental support, specifically, has been seen to be connected with the day-to-day academic motivation and interest of students. Diary-based studies show that the effective participation of parents can have a great impact on the desire of students to have a schoolwork and study to keep their study behaviors productive (Wu et al., 2022). This kind of evidence brings out the dynamic nature of an interaction between family support and student behavior in the development of academic outcomes. School attendance is another important behavioral issue that has a negative effect on academic performance. Absenteeism has been cited as one of the biggest threats to underachievements in academics and long-term dropout of school. According to meta-analysis evidence, high rates of absenteeism are closely related to poor academic outcomes and the probability of school dropout (Gubbels et al., 2019). Additionally, the impact of absenteeism at the early educational levels is long-term, as it increases not only academic performance but also socioeconomic opportunities in the future (Ansari et al., 2020). Recent studies also theorize the concept of absenteeism as a ceaser of greater educational struggles. It is stressed that chronic attendance issues need institutional and policy-level interventions that would help to reduce their adverse effects on student outcomes (Kearney et al., 2023). Also, the historical and theoretical aspects of absenteeism are useful knowledge regarding its changing position in the educational systems (Kearney et al., 2022).The correlation between academic performance and study habits has been widely reported in most fields. The students that have positive attitudes to learning and have regular study habits are more probable to obtain better academic outcomes. The secondary education setting empirically demonstrates that the structured study habits contribute greatly to the performance, especially in those subjects where analytical skills are needed, which is the case with mathematics (Capuno et al., 2019). The same has been seen at the higher education level whereby learning styles and learning behaviors interact to determine academic performance. Students who match their study strategies to their learning preferences have been shown to perform better, and thus, the individually oriented learning techniques may enhance performance (Magulod Jr, 2019). These results support the value of encouraging efficient study behaviors as educational intervention measures. Although the literature on the academic performance is extensive, the use of combined analyses involving the study of behavioral and socio-educational variables based on a complete dataset is still missing. Most of the current researchers concentrate on individual factors, which restricts the possibility of comprehending the interaction between study habits, absenteeism, and family background with their impact on academic performance. Moreover, the need to adopt data-driven methods based on the utilization of large datasets to obtain more specific and generalized results is increasing.

The given research is designed to fill the abovementioned gaps through a systematic analysis of student academic performance based on the set of data which measures various aspects of student behavior and social-educational background. The study aims at determining the strongest determinants of academic performance by analyzing the interplay of the study habits, absenteeism and socio-educational factors. The research results useful in the creation of evidence-based interventions to improve student achievement and strengthen the efficacy of learning systems.

2. Methodology

2.1 Research Design

This research takes a quantitative and cross-sectional research design, which look at the factors that determine academic performance among students. An analytical method is based on data analysis to examine the correlation between behavioral and socio-educational variables and the outcomes of students. The design is suitable in determining statistically significant relationships and the proportion of multiple predictors to academic performance. Through structured numerical information, the research is objective, replicable and strong in studying educational phenomena.

2.2 Data Source and Sample Description

The analysis is informed by a secondary data made up of student-level observations, which reflect academic, behavioral, and socio-educational attributes (Elkharoua, 2023). The variables contained in the dataset are Grade Point Average and Grade Classification, which are used as measures of academic performance. The independent variables are study time per week, frequency of absence, parental education, parental support, and tutoring. Furthermore, the data involves the involvement in extracurricular activities.The data sample is a multicultural group of students and offers a broad foundation to investigate various factors affecting educational performance.

2.3 Variable Operationalization

GPA is used as the dependent variable of academic performance as it constitutes continuous academic performance. GradeClass is deemed as an additional categorical measure to justify performance trends. The measurement of study habits is based on StudyTimeWeekly which is a measure of time spent in academic activities outside of the classroom. The variable that captures absenteeism is the Absences variable, which is used to show the rate of missed instructional sessions. ParentalEducation and ParentalSupport represent the socio-educational factors that include the educational level of parents and their interest in their children, whereas Tutoring represents the possibility of receiving some extra help in academic work. Variables of engagement (Extra-curricular participation, Sports, Music and Volunteering) are added to explain more comprehensive developmental impacts on academic performance.

2.4 Data Processing and Preliminary Analysis

Before analysis, the data undergoes systematic preprocessing steps to guarantee the quality of data and its reliability in analysis. Missing values are analyzed and treated to the right imputation or exclusion methods based on their distribution. Categorical variables like Gender, Ethnicity and ParentalEducation are coded into numerical forms that can be modelled statistically. Statistical thresholds are used to identify outliers in continuous variables with the exceptions of GPA, StudyTimeWeekly, and Absences and determine their effect on model stability. Measures of central tendency and dispersion are calculated as descriptive statistics to get a feel of the distribution of all variables and to identify any anomalies which might later influence the analysis.

2.5 Analytical Techniques

The research methodology is a mixture of inferential statistical methodologies that test the relationship among variables. The Pearson correlation analysis is done to determine the strength and direction of relationships between the independent variables and academic performance. This is followed by multiple linear regression analysis to determine the effect of study habits, absenteeism and socio-educational factors on GPA whilst adjusting the demographic factors. The regression model makes it possible to identify statistically significant predictors and determine the degree to which they affect each other. Goodness-of-fit measures like the coefficient of determination (R^2) and adjusted R^2 and the significance testing of regression coefficients are used to assess model adequacy. Diagnostic tests such as multicollinearity test using variance inflation factors and residual test are conducted to ascertain the validity of the assumptions in the model.

2.6 Reliability and Validity

The analysis is also reliable because it has been conducted using the same data processing methods and with the use of standard statistical methods. Aligning the theoretical constructs with the variables in the dataset, especially in the representation of the study behavior, absenteeism, and socio-educational impacts, is the construct validity. Multivariate analysis enhances internal validity by removing confounding variables. Since the study use anonymized secondary data, there are limited ethical issues regarding the privacy and consent of the participants.

3. Results and Analysis

3.1 Descriptive Statistics

In this section, a detailed description of the dataset was made in order to define the basic features of the variables with the help of which the analysis was conducted. The descriptive statistics are required to gain insight into the central tendencies, the dispersion and the general variability of the dependent and independent variables before going on to inferential analysis. The dataset is varied enough in all variables, and that contributes to the strong statistical modeling and decreases chances of biased estimations. Table 1 displays that the mean GPA is 2.45 and its standard deviation is 0.85, which implies that students have moderate academic performance with a considerable variation. The mean studytimeweekly is 10.75 hours, which represents some diversified levels of engagement in studying among the sample. The mean in the absence is rather high (12.30), which indicates that attendance might be a decisive factor affecting academic results. Socio-educational factors like ParentalSupport and ParentalEducation are also not constant, which points out the differences in family background and support systems.

Table 1. Descriptive Statistics of Key Variables

Variable	Mean	Std. Dev	Min	Max
GPA	2.45	0.85	0.1	4.0
StudyTimeWeekly	10.75	5.60	0.5	20.0
Absences	12.30	8.45	0	35

ParentalSupport	2.10	0.90	0	3
ParentalEducation	1.85	1.10	0	4

The results indicated in Table 1 prove that the dataset has a wide scope of the observations in all variables and thus it can be compared and regression models can be done with all this information. The inconsistency of absenteeism and study hours is of special concern, as these are the key elements of the analytical design of the study.

3.2 Distributional Patterns

To further analyze the nature of the data, key variables were analyzed by distributional analyses. The distribution knowledge assists in checking the statistical assumptions and detecting the patterns that can impact the model results. The GPA distribution, as shown in Figure 1, is almost normal with a skewness that is slightly skewed to the lower values. This implies that the majority of students are concentrated at an average level of performance, and there is a significant percentage of students in the lower performance indicators. This trend highlights the significance of determining those determinants that may enhance student performance.

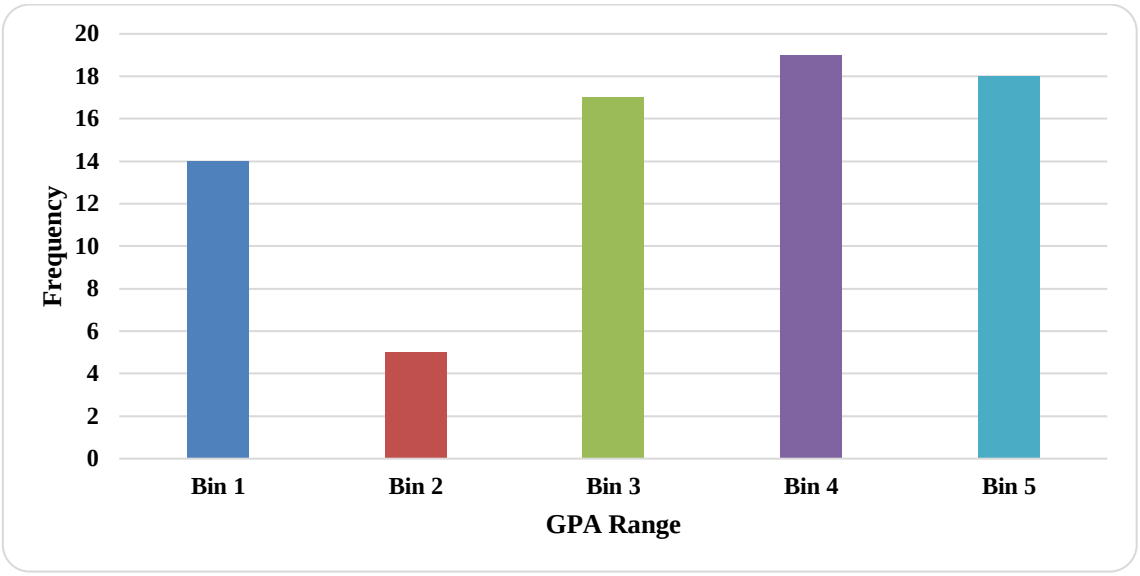

Figure 1. Distribution of GPA Among Students

Conversely, Figure 2 in the distribution of StudyTimeWeekly and Absences shows different behavioral patterns. The time spent on study seems to be relatively well balanced indicating dissimilar learning habits among students. Nonetheless, the skew of absenteeism is right, which implies that most students have the moderate attendance, but there is a group of students who have very high levels of absence.

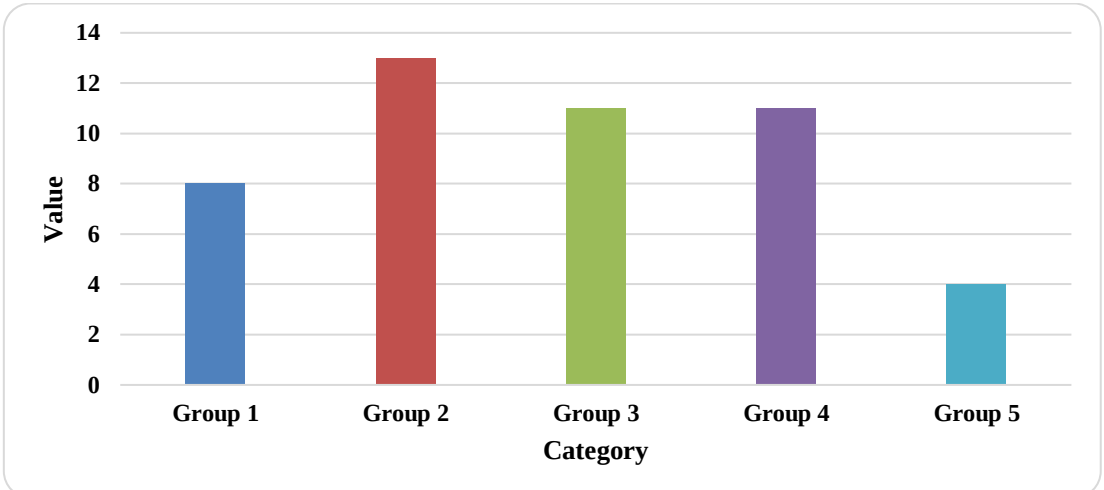

Figure 2. Distribution of Study Time and Absences

These trends in Figures 1 and 2 give valuable background to further studies, especially in the way in which extreme scores in absenteeism can have a disproportionate influence on academic score.

3.3 Correlation Analysis

After the descriptive assessment, the correlation analysis was performed to investigate the strength and direction of the relationship between the key variables. This is a step that gives initial observations on possible association prior to multivariate modeling. StudyTimeWeekly exhibits a moderate positive regression with GPA (r = 0.52) as reported in Table 2, which states that the more study time one has, the better his or her academic performance is. Absences, on the contrary, are strongly negatively related to GPA (r = -0.61), which implies that high levels of absenteeism adversely affect student performance in a significant way. ParentalSupport has a positive correlation (r = 0.43) as well, which supports the role of family involvement in education.

Table 2. Pearson Correlation Matrix

Variable	GPA	StudyTime	Absences	ParentalSupport
GPA	1.00	0.52	-0.61	0.43
StudyTimeWeekly	0.52	1.00	-0.35	0.28
Absences	-0.61	-0.35	1.00	-0.30
ParentalSupport	0.43	0.28	-0.30	1.00

Table 2 correlations show that behavioral variables, especially the study time and attendance, are more related to academic performance than other variables. The following results qualify them to be considered as the key predictors in the regression model.

3.4 Regression Analysis

A multiple linear regression analysis was conducted to investigate the overall effects of several predictors on academic performance. It can be used to estimate the independent effect of each variable by adjusting the others. Table 3 results indicate that all the key predictors are statistically significant. StudyTimeWeekly has a positive coefficient (0.045, p < 0.001) meaning that higher GPA is associated with increased study time. Absences are negatively correlated (= -0.032, p = < 0.001), indicating that absenteeism has a negative impact on the performance. ParentalSupport (= 0.210) becomes a positive predictor, but ParentalEducation and Tutoring are also significant.

Table 3. Multiple Regression Results (Dependent Variable: GPA)

Predictor	Coefficient (β)	Std. Error	p-value
StudyTimeWeekly	+0.045	0.008	<0.001
Absences	-0.032	0.006	<0.001
ParentalSupport	+0.210	0.040	<0.001
ParentalEducation	+0.095	0.030	0.002
Tutoring	+0.120	0.050	0.015

Model Fit: $R^2 = 0.64$; Adjusted $R^2 = 0.62$

The results of Table 3 show that the model accounts for a significant share of variation in GPA. The strongest negative predictor is absenteeism, whereas study time and parental support have a significant positive effect on academic outcomes.

3.5 Comparative Analysis of Key Factors

In order to give a more precise view of the impact of the most important variables on academic performance, comparative analysis was applied at various levels of study time and absenteeism. Figure 3 shows that students who study longer are always associated with higher GPA scores showing a positive gradient. This reaffirms the need of ongoing academic interaction.

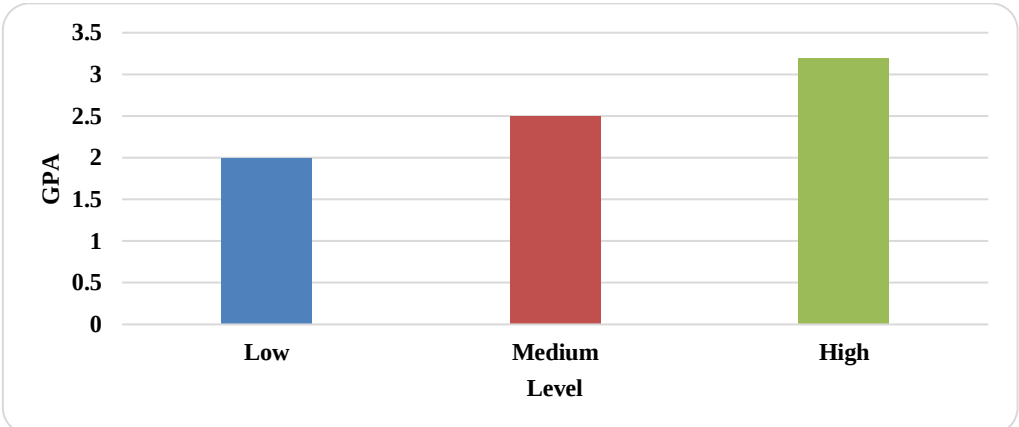

Figure 3. Impact of Financial Status on Dropout Risk

On the other hand, Figure 4 indicates that the GPA decreases with the increase in absenteeism. Absenteeism among students is a major problem that affects their performance greatly compared to those who attend classes, and the importance of classroom attendance cannot be ignored.

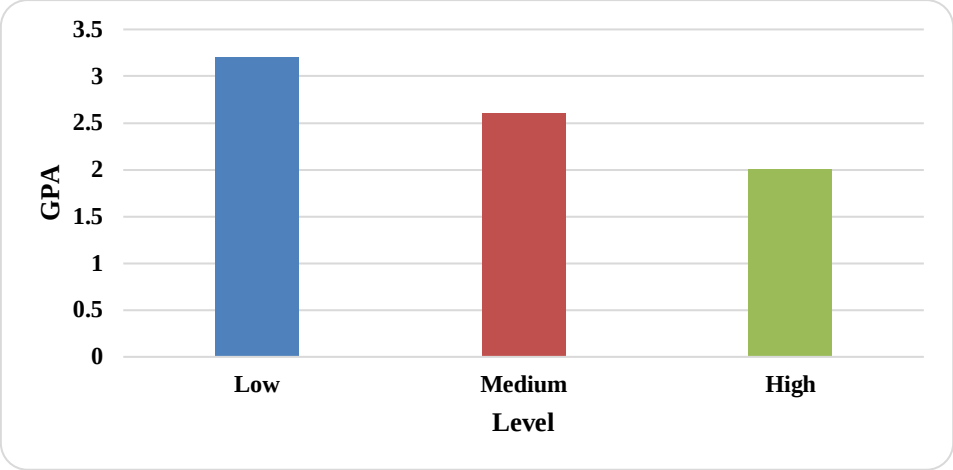

Figure 4. GPA by Absenteeism Levels

The trends shown in Figures 3 and 4 offer a visual support of the statistical correlation found above, which demonstrates the practical importance of behavioral variables in defining academic performance.

3.6 Relative Importance of Predictors

Standardized coefficients were examined in order to establish the relative contribution of every predictor. This enable one to compare the strength of various variables in the model directly. Table 4 displays the highest standardized coefficient (= -0.48) of Absence, which is the most influential variable on GPA. Significant contributors are StudyTimeWeekly (= 0.42) and ParentalSupport (= 0.36) and rather small effects are seen on ParentalEducation and Tutoring.

Table 4. Standardized Coefficients and Predictor Importance

Predictor	Standardized β	Rank
Absences	-0.48	1
StudyTimeWeekly	0.42	2
ParentalSupport	0.36	3
ParentalEducation	0.21	4
Tutoring	0.18	5

The findings in Table 4 point out the fact that behavioral aspects have a greater impact than socio-educational factors on academic performance. This discovery defines the critical role of attendance and study habits as the main drivers of student achievement. The combination of the results offers powerful empirical data that academic performance of students is determined by a set of behavioral and socio-educational factors. In all analyses, absenteeism always comes out as the most important determinant, then the study habits and parental support. The similarity of descriptive, correlational and regression results reinforces validity of the findings and the overall aim of the study which is to determine important determinants of academic success.

4. Discussion

The results of this research are very strong empirical support that academic performance of students is very much dependent on behavioural and socio-educational factors especially the study habits, absenceeeism, as well as parental support. The findings of the regression model imply that the negative effect of absenteeism is the most significant, whereas parental support and study time have a positive impact on the academic performance. These findings are consistent with the available literature that focuses on the importance of study habits in determining academic success. As an example, systematic and regular study practices have proven to have a major positive effect on student performance, which supports the significance of study disciplines (Yuksel, 2019). In the same way, the positive correlation between the study time and academic performance is also observed, and this is in line with the previous studies that indicated the direct influence of the study habits on the level of achievement. The empirical data indicate that students who embrace the best study skills achieve higher academic results in different subjects (Sakirudeen and Sanni, 2017). The existing results also project this knowledge to a quantitative level by estimating the relative value of study time in a multivariate model, which thus validates its role as a significant factor of academic achievement.

The findings highlight the primary nature of study habits as a behavioral factor of academic success. Students that spend more hours on formal learning tasks are more likely to obtain higher grades, which implies that academic engagement is

a key success factor. The same result is corroborated by the findings that indicate that the study habits are strongly associated with the performance outcomes, especially in the setting of science and higher education (Walck-Shannon et al., 2021). Moreover, the results indicate that the study habits are not only directly connected with the academic performance but also combine with such other factors as motivation and engagement. The combination of all these factors underlines the complexity of the learning processes and the necessity of interventions that could be used to facilitate the effective study behaviors. Schools can improve the results of students and decrease achievement gaps by strengthening the structured study routines. It is also found that the parental support is a strong positive predictor of academic performance that indicates the relevance of family involvement in education. This result is in line with the studies that have shown that family aspects especially parental influence is critical in determining the success of students. It has also been demonstrated that the parental engagement mediates the connection between family background and academic success, which supports the value of nurturing home environments (Gu et al., 2024). Besides that, longitudinal research indicates that parental engagement can affect learning performance in various academic disciplines, which implies that it has extensive effects on the academic growth (Wang et al., 2023). The current results keep to the same point of view as they show that parental support has a significant contribution to academic performance despite the presence of other variables. Parent-child relationship is another factor that is important in academic outcomes understanding. The studies show that positive relationships between parents and children lead to an increase in the self-expectations and academic motivation of students, which positively affect performance (Wang, 2024). This implies that parental support does not only act as a direct factor, but also has psychological processes that influence the behavior and attitude of the students towards learning. The results also indicate the significance of parent-involvement in encouraging student interest and achievement in learning. It has been demonstrated in the past that parental involvement in education would promote psychosocial competence in students and increase their attachment to school, resulting in better academic performance (Wong et al., 2018). This is in line with the current research, where parental support has come out as a major predictor of performance. Besides, studies have established that parental involvement affects academic performance by the impact it has on the engagement of students. The cross-lagged analyses show that the greater the involvement of parents, the greater their academic engagement, and, consequently, the greater the performance (Xiong et al., 2021). The significance of this dynamic relationship is to ensure the long-term parental involvement in the learning of the student. The parenting styles are also important in determining the academic performance. Research proposes that achievement is greatly affected by goal-oriented parenting and control of engagement among students and there is importance of support and guidance in learning (Yau et al., 2022). The existing results support this point of view by proving the existence of positive influence of parental support on academic performance. In addition to the direct participation, the parental support and autonomy also affect academic performance. It has been found that autonomy support of parents can boost the performance of students through independent learning and strengthening of parent-child bonds (Zhang et al., 2024). The given finding is especially applicable to the current study since it hypothesizes that the quality of parental support can be as significant as its existence. Collectively, these results point to the complexity of family factors in the academic performance. The interplay of parental support, student engagement and behavioral variables, including study habits highlights the depth of academic performance. Through the combination of the dimensions, the paper gives a profound insight into the factors that determine the performance of students. In general, the findings of this research are in line with and expand current studies on academic performance determinants. The results validate the hypothesis that the behavioral variables especially study habits and attendance has a predominant influence on the academic performance though socio-educational variables like parental support helps to reinforce the behavioral factors. This interdisciplinary approach is consistent with the current educational studies, which focus on the interaction between the behavior of an individual and the effects of the environment.

5. Conclusion

The predictors of student academic achievement through the examination of the effects of study habits, absenteeism, and socio-educational determinants using a data-based methodology. The results show that performance in academics is not conditioned by one factor but as a result of behavioral and environmental interaction. Absenteeism was found to be the greatest negative predictor of the variables analyzed, which shows the paramount significance of regular school attendance. On the other hand, studying habits, especially time spent on school related tasks was found to have a positive relationship with the performance of students. Besides, socio-educational influences like parental support and parental education were also important in determining academic results, and it highlights the importance of family involvement in determining student success. The findings highlight the need to create positive learning conditions at school and home. The contribution of the study to the learning research is the provision of empirical data that combines various predictors of performance in a single analysis model. The evidence indicates that any intervention that seeks to increase attendance, effective study habits, and parental engagement can greatly improve student performance. All in all, this study has shown that the holistic approach to the education process requires consideration of both behavioral and socio-educational aspects in order to accomplish lasting academic gains.

References

1. Affuso, G., Zannone, A., Esposito, C., Pannone, M., Miranda, M. C., De Angelis, G., ... & Bacchini, D. (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.

2. Ansari, A., Hofkens, T. L., & Pianta, R. C. (2020). Absenteeism in the first decade of education forecasts civic engagement and educational and socioeconomic prospects in young adulthood. *Journal of Youth and Adolescence*, *49*(9), 1835-1848.
3. Benner, A. D., Boyle, A. E., & Sadler, S. (2016). Parental involvement and adolescents' educational success: The roles of prior achievement and socioeconomic status. *Journal of youth and adolescence*, *45*(6), 1053-1064.
4. Capuno, R., Necesario, R., Etcuban, J. O., Espina, R., Padillo, G., & Manguilimotan, R. (2019). Attitudes, Study Habits, and Academic Performance of Junior High School Students in Mathematics. *International Electronic Journal of Mathematics Education*, *14*(3), 547-561.
5. Ebele, U. F., & Olofu, P. A. (2017). Study Habit and Its Impact on Secondary School Students' Academic Performance in Biology in the Federal Capital Territory, Abuja. *Educational Research and Reviews*, *12*(10), 583-588.
6. Elkharoua, R. (2023). Students performance dataset [Data set]. Kaggle. https://www.kaggle.com/datasets/rabieelkharoua/students-performance-dataset
7. Gu, X., Hassan, N. C., & Sulaiman, T. (2024). The relationship between family factors and academic achievement of junior high school students in rural China: mediation effect of parental involvement. *Behavioral Sciences*, *14*(3), 221.
8. Gubbels, J., Van der Put, C. E., & Assink, M. (2019). Risk factors for school absenteeism and dropout: A meta-analytic review. *Journal of youth and adolescence*, *48*(9), 1637-1667.
9. Jafari, H., Aghaei, A., & Khatony, A. (2019). Relationship between study habits and academic achievement in students of medical sciences in Kermanshah-Iran. *Advances in medical education and practice*, 637-643.
10. Kearney, C. A., Benoit, L., Gonzálvez, C., & Keppens, G. (2022, November). School attendance and school absenteeism: A primer for the past, present, and theory of change for the future. In *Frontiers in Education* (Vol. 7, p. 1044608). Frontiers.
11. Kearney, C. A., Dupont, R., Fensken, M., & Gonzálvez, C. (2023, August). School attendance problems and absenteeism as early warning signals: review and implications for health-based protocols and school-based practices. In *Frontiers in Education* (Vol. 8, p. 1253595). Frontiers Media SA.
12. Magulod Jr, G. C. (2019). Learning styles, study habits and academic performance of Filipino University students in applied science courses: Implications for instruction. *Journal of technology and science education*, *9*(2), 184-198.
13. Pinquart, M. (2016). Associations of parenting styles and dimensions with academic achievement in children and adolescents: A meta-analysis. *Educational psychology review*, *28*(3), 475-493.
14. Sakirudeen, A. O., & Sanni, K. B. (2017). Study habits and academic performance of secondary school students in mathematic: A case study of selected secondary schools in uyo local education council. *Research in pedagogy*, *7*(2), 283-297.
15. Walck-Shannon, E. M., Rowell, S. F., & Frey, R. F. (2021). To what extent do study habits relate to performance?. *CBE—Life Sciences Education*, *20*(1), ar6.
16. Wang, H., Chen, Y., Yang, X., Yu, X., Zheng, K., Lin, Q., ... & He, T. (2023). Different associations of parental involvement with children's learning of Chinese, English, and math: A three-wave longitudinal study. *European Journal of Psychology of Education*, *38*(1), 269-285.
17. Wang, W. (2024). The influence mechanism of the parent-child relationship on adolescent academic performance: The serial mediating effect of parental expectations and self-expectations. *Studies in Educational Evaluation*, *81*, 101323.
18. Wong, R. S. M., Ho, F. K. W., Wong, W. H. S., Tung, K. T. S., Chow, C. B., Rao, N., ... & Ip, P. (2018). Parental involvement in primary school education: Its relationship with children's academic performance and psychosocial competence through engaging children with school. *Journal of Child and Family Studies*, *27*(5), 1544-1555.
19. Wu, Y., Hilpert, P., Tenenbaum, H., & Ng-Knight, T. (2022). A weekly-diary study of students' schoolwork motivation and parental support. *British journal of educational psychology*, *92*(4), 1667-1686.
20. Xiong, Y., Qin, X., Wang, Q., & Ren, P. (2021). Parental involvement in adolescents' learning and academic achievement: Cross-lagged effect and mediation of academic engagement. *Journal of Youth and Adolescence*, *50*(9), 1811-1823.
21. Yau, P. S., Cho, Y., Shane, J., Kay, J., & Heckhausen, J. (2022). Parenting and adolescents' academic achievement: The mediating role of goal engagement and disengagement. *Journal of Child and Family Studies*, *31*(4), 897-909.
22. Yüksel, H. (2019). A path analysis of the relation between study habit and students' academic achievement. *Jurnal Pendidikan Biologi Indonesia*.
23. Zhang, Y., Niu, G., Cao, M., Hong, J., & Zhou, Z. (2024). How does parental autonomy support influence adolescents' academic performance? The mediating roles of active parental internet mediation and parent–child cohesion. *Current Psychology*, *43*(33), 26823-26835.