

# Predictors of Students' Academic Performance: An Analytical Study of Socio-Psychological and Environmental Factors

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**Abstract:** *Academic performance among students is a multifaceted construct influenced by personal, familial, and environmental variables. The present study aims to identify and analyze the most significant factors that influence students' academic achievement among secondary school students. Data were collected from 90 participants through a structured questionnaire assessing socio-economic background, parental involvement, teacher quality, social-emotional learning (SEL), sleep, and nutrition. The study employed a quantitative cross-sectional design, and data were analyzed using descriptive statistics, correlation, and multiple regression techniques. The findings revealed that socio-economic status, parental involvement, and teacher quality are significant predictors of students' academic success. Moreover, emotional well-being and lifestyle factors such as sleep and nutrition contributed moderately to performance outcomes. The study concludes that a holistic approach addressing both psychological and environmental domains is necessary to enhance academic achievement among students.*

**Keywords:** Academic performance, Socio-economic status, Parental involvement, Teacher quality, Social-emotional learning, Students, Education

## I. INTRODUCTION

Education serves as the foundation of individual growth and national development. A student's academic performance is not merely a reflection of cognitive ability but also of socio-cultural, emotional, and environmental influences. It represents how effectively students acquire and apply knowledge within a structured academic framework. Numerous studies have highlighted the impact of socio-economic status, parental involvement, and school quality on students' learning outcomes. However, the complexity of academic success goes beyond traditional academic abilities. Modern psychological frameworks emphasize motivation, self-regulation, and emotional intelligence as essential contributors to performance. In India, educational inequality, resource scarcity, and varying family backgrounds further complicate this relationship. Hence, exploring the interconnected factors influencing academic performance among students becomes vital for formulating effective educational policies.

## II. LITERATURE REVIEW

Research on academic performance consistently identifies socio-economic status (SES) as one of the strongest predictors of educational achievement. Sirin (2005) and White (2013) emphasized that children from higher SES backgrounds often have access to better learning resources, private tutoring, and parental guidance, resulting in higher grades. In contrast, students from economically weaker families face challenges such as inadequate educational materials, limited digital access, and parental illiteracy, which collectively hinder learning outcomes (Reardon, 2019). These disparities indicate that SES is not only a financial determinant but also a psychosocial influence that shapes attitudes toward education. Parental involvement is another critical variable. According to Fan and Chen (2001), active parental engagement enhances motivation, discipline, and cognitive development. Parents who regularly communicate with teachers, monitor their child's progress, and encourage homework completion create a supportive learning atmosphere (Castro et al., 2015).



Singh (2020) further observed that parental warmth and consistent encouragement are significant predictors of student persistence and achievement motivation. Teacher quality equally plays a pivotal role in shaping academic success. Hanushek and Rivkin (2012) demonstrated that effective teachers improve student achievement irrespective of class size or school infrastructure. Darling-Hammond (2017) supported this by suggesting that well-trained teachers with strong pedagogical skills influence both academic understanding and emotional development. Furthermore, teacher feedback and interactive teaching methods (Rockoff, 2004) have been shown to foster curiosity and problem-solving skills among students. Another dimension influencing performance is social-emotional learning (SEL). Emotional regulation, self-awareness, and empathy are crucial components of a student's learning process. Durlak et al. (2011) reported that SEL programs significantly enhance academic achievement and reduce behavioral issues. Similarly, Taylor et al. (2017) found that emotional competence contributes to greater school engagement and long-term academic growth. Steinmayr et al. (2019) emphasized that emotionally balanced students tend to exhibit better self-regulation and concentration during academic tasks.

Physical well-being factors such as nutrition and sleep cannot be overlooked. Taras (2005) highlighted that malnutrition adversely affects attention and memory. Likewise, inadequate sleep is associated with reduced learning capacity, as confirmed by Dewald et al. (2010) and Curcio et al. (2006). Sleep deprivation leads to fatigue and poor concentration, which ultimately impairs performance. Healthy routines and dietary habits therefore indirectly enhance academic competence.

Finally, intrinsic motivation and self-regulated learning have been identified as core psychological determinants of student success (Deci & Ryan, 2000). Students who set academic goals, maintain focus, and manage their time effectively perform better than those with low motivational levels. Duckworth et al. (2016) termed this quality as "grit," referring to perseverance and passion toward long-term goals. Pintrich and De Groot (1990) concluded that self-regulated learners not only achieve higher grades but also show better emotional adjustment. Taken together, existing literature underscores that academic achievement is the result of a dynamic interplay among socio-economic, psychological, and environmental factors. Hence, understanding these variables within a contextual framework is crucial for designing educational interventions that promote equity and excellence.

### **III. METHODOLOGY**

The present study adopted a quantitative descriptive cross-sectional design to examine key factors influencing students' academic performance. Data were collected from 90 secondary school students aged 12–17 years, selected through stratified random sampling from various schools in Pune, Maharashtra. A structured questionnaire consisting of six sections was used, covering socio-economic data, parental involvement, teacher quality, SEL, health, and academic scores. All items were rated on a 5-point Likert scale with reliability Cronbach's  $\alpha = 0.82$ . Data were analyzed using SPSS v26 with descriptive statistics, Pearson's correlation, and multiple regression at a 0.05 significance level.

### **OBJECTIVES**

1. To identify the major factors affecting students' academic performance.
2. To analyze relationships among socio-economic status, parental involvement, teacher quality, and psychological well-being.
3. To determine which factors significantly predict academic success.

### **HYPOTHESES**

- H<sub>1</sub>: Socio-economic status significantly influences academic performance.  
H<sub>2</sub>: Parental involvement positively correlates with academic success.  
H<sub>3</sub>: Teacher quality and SEL predict academic achievement.  
H<sub>4</sub>: Sleep and nutrition positively affect academic outcomes.



### SAMPLE AND SAMPLING

The study included 90 secondary school students aged 12–17 years, selected through stratified random sampling from various schools in Pune, Maharashtra, ensuring balanced representation across genders and socio-economic backgrounds.

### DATA ANALYSIS

Statistical analysis was conducted using SPSS v26, applying descriptive statistics, Pearson's correlation, and multiple regression analysis at a 0.05 significance level.

### IV. RESULTS ANALYSIS

| Variable                  | Mean | SD   |
|---------------------------|------|------|
| Socio-economic Status     | 3.84 | 0.62 |
| Parental Involvement      | 3.91 | 0.59 |
| Teacher Quality           | 4.02 | 0.55 |
| Social-Emotional Learning | 3.70 | 0.60 |
| Nutrition & Sleep         | 3.80 | 0.68 |
| Academic Performance      | 3.88 | 0.57 |

Pearson's correlation indicated that all predictor variables were significantly correlated with academic performance ( $p < 0.05$ ). The strongest correlation was found between parental involvement ( $r = 0.49$ ) and academic performance, followed by socio-economic status ( $r = 0.45$ ) and teacher quality ( $r = 0.42$ ).

#### Regression Model Summary:

| Predictor                 | $\beta$ | t    | p     |
|---------------------------|---------|------|-------|
| Socio-economic Status     | 0.29    | 3.18 | 0.002 |
| Parental Involvement      | 0.33    | 3.64 | 0.001 |
| Teacher Quality           | 0.26    | 2.85 | 0.005 |
| Social-Emotional Learning | 0.21    | 2.49 | 0.014 |
| Nutrition & Sleep         | 0.18    | 2.10 | 0.037 |

The regression model was significant ( $F(5,84)=12.4$ ,  $p<0.001$ ), explaining 58% of the variance (Adjusted  $R^2=0.58$ ). Parental involvement and socio-economic status were the strongest predictors of academic success.

### V. DISCUSSION

The findings confirm that academic performance is influenced by multiple factors. Socio-economic status emerged as a key determinant, while parental involvement strongly enhanced motivation and engagement. Teacher quality, SEL, and health variables also contributed significantly, highlighting that academic success depends on both emotional stability and physical well-being.

### VI. CONCLUSION

Academic achievement is not shaped by a single factor but by a dynamic interaction among social, psychological, and environmental determinants. The findings of this analytical study reveal that socio-economic background and parental involvement are the most powerful predictors of students' academic performance. In addition, teacher quality, emotional well-being, motivation, and lifestyle habits—including adequate sleep and balanced nutrition—play critical roles in sustaining academic success. The results emphasize the need for a holistic educational approach that integrates family engagement, effective teaching strategies, and mental health support within schools. Educators and policymakers must recognize that enhancing academic performance requires addressing both cognitive and non-cognitive factors simultaneously. By fostering supportive learning environments and strengthening socio-emotional competencies,



institutions can help students reach their fullest potential and ensure equitable educational outcomes across diverse socio-economic groups.

## RECOMMENDATIONS

1. Strengthen parental involvement initiatives.
2. Incorporate social-emotional learning modules.
3. Enhance teacher training and feedback systems.
4. Introduce nutrition and sleep awareness programs.
5. Support educational equity for low-SES families.

## REFERENCES

- [1] Castro, M., Expósito-Casas, E., López-Martín, E., Lizasoain, L., Navarro-Asencio, E., & Gaviria, J. L. (2015). Parental involvement on student academic achievement: A meta-analysis. *Educational Research Review*, 14, 33–46.
- [2] Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., & York, R. L. (2016). Equality of educational opportunity. *Harvard Educational Review*, 86(4), 596–627.
- [3] Curcio, G., Ferrara, M., & De Gennaro, L. (2006). Sleep loss, learning capacity and academic performance. *Sleep Medicine Reviews*, 10(5), 323–337.
- [4] Darling-Hammond, L. (2017). Teacher education around the world: What can we learn from international practice? *European Journal of Teacher Education*, 40(3), 291–309.
- [5] Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268.
- [6] Dewald, J. F., Meijer, A. M., Oort, F. J., Kerkhof, G. A., & Bögels, S. M. (2010). The influence of sleep quality on school performance. *Sleep Medicine Reviews*, 14(3), 179–189.
- [7] Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2016). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, 92(6), 1087–1101.
- [8] Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students’ social and emotional learning: A meta-analysis of school-based interventions. *Child Development*, 82(1), 405–432.
- [9] Fan, X., & Chen, M. (2001). Parental involvement and students’ academic achievement: A meta-analysis. *Educational Psychology Review*, 13(1), 1–22.
- [10] Hanushek, E. A., & Rivkin, S. G. (2012). The distribution of teacher quality and its implications for student achievement. *Economics of Education Review*, 31(3), 225–246.
- [11] Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, 82(1), 33–40.
- [12] Reardon, S. F. (2019). The widening academic achievement gap between the rich and the poor: New evidence and possible explanations. *Educational Researcher*, 48(1), 23–35.
- [13] Rockoff, J. E. (2004). The impact of individual teachers on student achievement: Evidence from panel data. *American Economic Review*, 94(2), 247–252.
- [14] Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research*, 75(3), 417–453.
- [15] Steinmayr, R., Meißner, A., Weidinger, A. F., & Wirthwein, L. (2019). Academic achievement: The interplay of cognitive and motivational factors. *Frontiers in Psychology*, 10, 2636.
- [16] Taras, H. (2005). Nutrition and student performance at school. *Journal of School Health*, 75(6), 199–213.
- [17] Taylor, R. D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting positive youth development through social and emotional learning interventions. *Child Development*, 88(4), 1156–1171.
- [18] White, K. R. (2013). The relation between socioeconomic status and academic achievement. *Psychological Bulletin*, 91(3), 461–481.



[19] Singh, S. (2020). The role of parental involvement in student academic achievement. International Journal of Education, 12(4), 45–58.

[20] World Bank. (2022). Learning poverty: Education challenges in developing countries. Washington, DC: World Bank

