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RESEARCH PAPER

Evaluation of Academic Performance: An Analytical Study of Government Owned Schools in Islamabad

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ABSTRACT

Academic performance is the main indicator of success of educational institutions and academic performance is measured based on the quantitative outcomes of students. This study examines the academic performance of students in federal government schools of Islamabad. The objectives included assessing the academic performance of students in federal government schools of Islamabad, analyze the disparities between urban and rural schools, gender, sectors, and student population size. Data was collected from the results of the Secondary School Leaving Certificate Examination. An exploratory design was employed, analyzing the collected data through literature review. No significant difference was found in academic performance between urban and rural schools. However, significant gender disparities were observed, with males outperforming females. Inter-sectoral differences were also identified. Additionally, a positive correlation was found between student population size and academic performance. Further research is needed to identify the factors responsible for the differences in academic performance of institutions.

Keywords: Academic, Islamabad Schools, Performance, Rural, Urban

Introduction

Over the past two decades, there has been a growing focus on understanding how achievement goals influence self-regulated learning and academic performance. Much of the research in this area has revolved around the factors that shape academic outcomes (Davison, 2015). Academic achievement serves as a key measure of student success, it is a framework designed to assess students' knowledge, accomplishments, and skills. This evaluation takes into account a student's age, prior experiences, and abilities, especially in social and educational contexts. The drive to enhance student achievement has consistently been at the heart of various policy reforms. Yet, despite these efforts, improving student outcomes in public schools remains a significant challenge for stakeholders. Saeed, Gondal, and Bushra (2005) highlighted that the poor quality of education has been a persistent issue in Pakistan since its independence. This problem has deeply impacted the education system, with multiple studies revealing a consistent decline in primary-level student achievement across the country.

The concept of academic achievement is broad and multifaceted, often encompassing everything from earning professional qualifications to fostering moral growth in students (York, Gibson, & Rankin, 2015). Factors like confidence and motivation play a crucial role in shaping a student's ability to perform well in exams. Siang and Santoso (2016) note that educators have a range of tools at their disposal to support students. Among these, testing and scoring strategies, which operate on a reward-and-punishment basis, are perhaps the most entrenched (Myers & Myers, 2007). However, the reliability of such tests, from classroom assessments to college entrance exams, has often

been debated (Linn, 2001). Academic performance also reflects the broader characteristics of a school, serving as a key indicator of its effectiveness. In Pakistan, several studies have been conducted to assess students' achievement levels. One such study, "Achievement Levels of Primary School Students in Punjab," revealed that the average achievement rate was a mere 25.1%. Interestingly, the study found that girls outperformed boys in Urdu, while boys showed stronger performance in Mathematics (Saeed, Gondal, & Bushra, 2005).

Academic achievement is a widely recognized measure of success in educational institutions and refers to the extent to which a student completes academic tasks and related responsibilities. It can be described as the observable and measurable outcomes of a student's efforts over a specific period. These outcomes are often reflected in scores obtained through various assessments, including classroom tests, mid-term exams, and final evaluations (Yusuf, Onifade, & Bello, 2016). Academic achievement is a cornerstone of education (Rono, Onderi, & Owino, 2014) and is considered one of its primary objectives (Narad & Abdullah, 2016). It can also be defined as the knowledge and skills acquired by a student, assessed through scores assigned by teachers and aligned with predefined educational goals set to be achieved within a specific timeframe. Enabling students to excel academically by achieving better performance is a key focus for educators and institutions (Adeyemo, 2001).

The significance of academic performance continues to grow as it is widely regarded as the most critical outcome of the educational process. In an era marked by increasing demand for a well-educated and highly skilled workforce, the role of educational institutions in producing professionals who meet market demands is becoming even more vital. Consequently, student academic performance remains a central area of attention. Efforts to understand and leverage the factors that contribute to academic achievement have long been a focus of research. Singh, Malik, and Singh (2016) highlight a strong and direct link between students' academic performance and a nation's socioeconomic progress. Students' academic outcomes are a clear indicator that the necessary knowledge and skill sets are being cultivated (Farooq, Chaudhry, Shafiq, & Berhanu, 2011). This underscores why educators consistently prioritize efforts to enhance student performance.

Literature Review

Education serves as a foundation for human development and is a basic right for every individual. It plays a crucial role in driving social and economic progress, as sustainable economic growth is unattainable without significant investment in human capital. Education enriches knowledge, sharpens technical skills, and nurtures creativity by inspiring innovative thinking. Additionally, it elevates the quality of life and delivers widespread social benefits, positively impacting both individuals and communities. In Pakistan, both federal and provincial governments have committed to promoting education by offering free education up to the secondary level, improving literacy rates, building teacher capacity, and enhancing facilities in educational institutions. However, despite these efforts, concerns about the declining quality of student achievement in public schools persist. Abdullah and Bhatti (2018) examined the factors affecting the quality of academic performance among students in public schools in Sheikhupura, Punjab. Their study, which included 10 boys' schools and 10 girls' schools, identified issues such as rote learning, outdated curricula, and traditional teaching methods as key contributors to student underachievement.

Approximately 67% of Pakistan's population lives in rural areas, where literacy and education levels remain alarmingly low. This illiteracy poses a significant barrier to national development. Improving education and literacy in rural areas is crucial for Pakistan's progress. Universal primary education and adult literacy initiatives are considered essential tools for rural development. Education not only equips individuals

with the ability to make informed decisions but also guides them toward sustainable development and prosperity (Siddique, 2012).

Shabbir (2014) compared the performance, achievement, and efficiency of public and private primary schools in rural areas. The findings revealed that private schools generally outperformed public schools across key performance metrics. However, both sectors face significant challenges, including a lack of quality human and material resources, which hampers their ability to deliver a high standard of education. Studies have also highlighted disparities in student achievement between rural and urban areas. Many believe that students in rural schools are often at a disadvantage compared to their urban counterparts due to various factors, including socioeconomic background. Urban students tend to benefit from better resources and facilities, contributing to their higher academic performance. According to the National Education Association, underperformance is more prevalent in public rural schools (UKEssays, 2018).

A research study explored the academic self-efficacy of rural and urban secondary school students in Peshawar. The participants included students from Boys High Schools and Government High Schools in the district. The results indicated that while most students, regardless of location, enjoyed participating in class discussions, they struggled with listening attentively and handling challenging topics. Interestingly, the study found no significant differences in the academic self-efficacy levels between urban and rural students (Khan, Reba, & Shahzad, 2021).

Gender disparities in academic performance have been a recurring focus of international research. For decades, studies have shown that girls often outperform boys in schools (Voyer & Voyer, 2014). These differences in academic achievement have drawn increasing attention in recent years (Bjorklund-Young & Ronda, 2017). A study conducted in Kenya, which involved 2,470 students, revealed significant gender differences in academic performance, with male students outperforming females (Mwihia, 2020). However, the trend in Pakistan has been somewhat different. Over recent decades, girls have consistently outperformed boys across various educational benchmarks, from primary school to university. A study in Punjab highlighted this pattern, showing that female students achieved higher academic results compared to their male counterparts (Shoaib & Ullah, 2019).

Another study in Karachi surveyed 50 secondary school teachers from campuses in Garden East and Kashmir Road. The findings indicated widespread agreement among teachers that smaller class sizes significantly improve student performance and have lasting positive effects on individual lives (Raza, Noorani, & Naseer, 2018). This aligns with broader research suggesting that reducing class sizes can enhance learning outcomes across all subject areas.

Federal Government has been trying to improve the quality of education in its educational institutions situated in ICT but so far results are not satisfactory. Different policy initiatives have also been taken in this regard including free compulsory education from Prep to 10th but it had remained a challenge for stakeholders. Situation is more alarming when there is a decreasing trend in enrollment of students in public sectors as compared to private sectors despite heavy fee. Public schools in urban areas of Islamabad are well-staffed with a sophisticated infra structure and physical facilities. Faculty members of public schools are well paid as comparedd to private schools. Despite these differences, private schools continue to outperform public schools in terms of academic performance and student enrollment. If we dig deep into the matter, there is still bifurcation in terms of performances among public school students of Federal Government located in Islamabad including rural and urban areas.

Hypotheses

H01: There is no significant difference between the academic performance of students enrolled in urban and rural areas of Islamabad.

H01.a: There is no significant difference between the academic performance of male students enrolled in urban and rural areas of Islamabad.

H01.b: There is no significant difference between the academic performance of female students enrolled in urban and rural areas of Islamabad.

H02: There is no significant difference on the basis of gender in the academic performance of students enrolled in government schools of Islamabad.

H03: There is no significant inter-sector difference in academic performance of students enrolled in government schools of Islamabad.

H04: There is no significant correlation between students' strength and students' academic performance of government owned schools of Islamabad.

Material and Methods

This study employs a descriptive research design, commonly used in educational contexts to explore responses or trends associated with attitudes, behaviors, or characteristics within a population or a representative sample. The population for this study comprised all Government Secondary Schools situated in both rural and urban regions of Islamabad. The students who appeared in Secondary School Certificate Examination (Session 2020-2021) were taken as sample of the study. Data based on results of SSC was collected from six Area Education Offices who were supervising these schools. To achieve the objectives of the study data was analyzed by using SPSS 20. Version by applying Mean, Standard deviation, t test and Pearson correlation. Results were presented in the form of tables.

Table 1
Total Number of Secondary Schools in Rural and Urban areas of Islamabad

S.No	Rural Schools		Urban Schools		Total
1	Girls	Boys	Girls	Boys	
2	53	43	34	29	159

Table 1 above explains that there are total 159 government owned schools out of which in rural areas 53 schools of girls and 43 schools of boys are located, on the otherr hand in urban areas of Islamabad 34 schools of girls and 29 schools of boys are located.

Results and Discussion

Table 2
Mean of Academic Performance of Students of Government owned Schools in Islamabad

Categories	N	Mean	SD	df
Rural Schools	96	3.15	.982	157
Urban Schools	63	3.80	.964	
Boys' Schools	72	2.66	.776	157
Girls' Schools	87	4.03	.751	

Table 2 above indicates overall academic performance of students of government owned schools in Islamabad. Mean values of student's performance of rural areas school is 3.15, urban schools is 3.80, Mean values of all boys schools is 2.66 and 4.03 of all girls' school. Urban schools score a bit higher (Mean = 3.80 out of 5) than Rural schools score

(Mean = 3.15 out of 5), it also indicates that Girls schools scores higher (Mean = 4.03 out of 5) than Boys schools (Mean = 2.66 out of 5).

Table 3
Difference between the academic performance of students

	Area	N	Mean	SD	Std Error Mean	t	df	Sig.(2-tailed)
GPA	Urban	63	3.80	.964	.121	4.126	5.126	6.126
	Rural	96	3.15	.982	.100			

*P<0.05**P<0.01

Table 3 displays the mean values for academic performance, with urban sectors scoring 3.80 and rural sectors scoring 3.15. The table also shows a t-value of 4.126 and a p-value of 6.126, which is statistically insignificant at the 0.05 level of significance since the p-value exceeds 0.05. Therefore, the hypothesis H0H_0: "There is no significant difference between the academic performance of students enrolled in urban and rural areas of Islamabad," was accepted.

Table 4
Difference between the academic performance of male students

	Area	N	Mean	SD	Std Error Mean	t	df	Sig.(2-tailed)
GPA	Urban	29	2.99	.694	.129	3.229	70	.002
	Rural	43	2.43	.751	.115			

P<0.05P<0.01*

Table 4 indicates that the t-value of 3.229 is statistically significant at the 0.02 level, suggesting a notable difference in the academic performance of male students in urban and rural areas of Islamabad. The mean academic performance of male students in urban schools (Mean = 2.99 out of 5) was higher compared to those in rural schools (Mean = 2.43). Consequently, the null hypothesis H01.aH_{01.a}: "There is no significant difference between the academic performance of male students enrolled in urban and rural areas of Islamabad," was rejected.

Table 5
Difference between the academic performance of female students

	Area	N	Mean	SD	Std Error Mean	t	df	Sig.(2-tailed)
GPA	Urban	34	4.49	.524	.090	5.238	85	.000
	Rural	53	3.73	.729	.100			

P<0.05P<0.01*

Table 5 reveals a t-value of 5.238, which is statistically significant at the 0.00 level of significance. This indicates a significant difference in the academic performance of female students in urban and rural areas of Islamabad. Female students in urban schools demonstrated higher academic performance (Mean = 4.49 out of 5) compared to their counterparts in rural schools (Mean = 3.73 out of 5). Thus, the null hypothesis H01.bH_{01.b}: "There is no significant difference between the academic performance of female students enrolled in urban and rural areas of Islamabad," was rejected.

Table 6
Difference on the basis of gender

	Gender	N	Mean	SD	Std Error Mean	t	df	Sig.(2-tailed)
GPA	Boys	72	2.66	.776	.091	11.299	157	.000
	Girls	87	4.03	.751	.081			

P<0.05P<0.01*

Table 6 shows a t-value of 11.299, which is statistically significant at the 0.00 level of significance. This indicates a significant difference in the academic performance of male and female students enrolled in government schools in Islamabad. Male students exhibited lower academic performance (Mean = 2.66 out of 5) compared to female students (Mean = 4.03 out of 5). Therefore, the null hypothesis H02H_{02}: "There is no significant difference on the basis of gender in the academic performance of students enrolled in government schools of Islamabad," was rejected.

Table 7
Inter-sector difference in academic performance of students

Variable	Group	Mean	SD	F	Sig.
	Bhara Ka	3.2320	.56006		
	Nilore	3.0195	.44526		
Inter-sector	Sihala	2.5111	.35019	5.914	.000
	Tarnoul	2.4562	.11093		
	Urban-I	3.9187	.75730		
	Urban-II	3.2607	.69970		
	Total	3.2447	.73570		

P<0.05P<0.01*

Table 7 above shows that F value (5.914) was statistically significant at 0.00 level of significance. A considerable inter-sector difference in academic performance of students enrolled in government school of Islamabad has been found. So the null hypothesis H03: 'There is no significant inter-sector difference in academic performance of students enrolled in government schools of Islamabad', was rejected.

Table 8
Correlation between students' strength and students' academic performance of government owned schools of Islamabad

	Value	Asymptotic Standardized Error[a]	Approximate T[b]	Significance
Pearson's R	.129	.074	1.624	.106[c]
Spearman Correlation	.100	.084	1.261	.209[c]

Table 8 above indicates correlation values of Pearson R as .129 and Spearman Correlation values for students' strength which indicates a weak correlation between students' strength and academic performance. Table further indicates p values a .106 and .209 which is statistically insignificant at α =0.05 as p-value is greater than .05 level of significance so our null hypothesis was accepted stating H04: 'There is no significant correlation between students' strength and students' academic performance of government owned schools of Islamabad'.

The findings of this study reveal that there is no significant difference in the academic performance of rural and urban schools in Islamabad at the SSC level, as indicated by a t-value of 4.126 and a p-value of 6.126, which are not significant at the 0.05 level. However, the gender-based analysis shows a significant difference in academic performance, with a t-value of 11.299 and a p-value of 0.000, leading to the rejection of the null hypothesis.

When comparing rural and urban boys' schools, the results show a significant difference, with a t-value of 3.229 and a p-value of 0.002, also rejecting the null hypothesis. Similarly, the academic performance of rural and urban girls' schools demonstrates a statistically significant difference, with a t-value of 5.238 and a p-value of 0.000, resulting in the rejection of the null hypothesis.

Additionally, the F value of 5.914 and a p-value of 0.000 indicate a statistically significant difference at the 0.05 level across the sectors of Islamabad Public Schools. Since

the p-value is less than the 0.05 threshold, the null hypothesis of no significant difference in performance among the sectors is rejected. In conclusion, the analysis highlights substantial differences in academic performance among Islamabad Public Schools across various sectors.

Discussion

The primary objective of this study was to examine the academic performance of students in Islamabad public schools. The findings showed that the overall academic performance of students in Islamabad public schools was satisfactory but not very good. In Sindh province, researchers conducted a study to measure the characteristics of public primary schools and assess the performance of students. Data was collected from 55 public primary schools in Sukkur district. The study found that schools with satisfactory student performance were superior in terms of physical facilities, teaching resources, level of professional support, professional commitment of teachers and principals themselves. In schools with poor student performance, lack of resources was one of the main reasons (Hussain, 2018).

The second objective of this study was to compare the academic performance of students in urban and rural areas of Islamabad. The findings revealed that there was no significant overall difference between the two groups. However, when examining the academic performance of male and female students in urban and rural areas separately, the results showed that urban students, both male and female, outperformed their rural counterparts. Similarly, a study by Tayyaba (2012) found comparable results in some learning areas for rural and urban students, with variations by region: rural students in Balochistan performed better, while urban students in Punjab and Sindh outperformed their rural peers.

The third objective focused on gender-based comparisons of academic performance in Islamabad public schools. The study revealed a significant difference, with female students outperforming male students. These findings align with a study conducted on primary, secondary, and college students in Karachi, which identified gender as a factor influencing academic performance (Iqbal, Aslam, & Niazi, 2021). However, a study by Goni et al. (2015) on college students in Borno State found no significant difference in academic performance between genders. The findings of Parajuli and Thapa (2017) also support this study, showing that eighth-grade female students performed better than their male counterparts.

The fourth objective of this study aimed to analyze the variations in academic performance among students in different sections of Islamabad Public Schools. The findings revealed significant differences in academic performance across these sections, indicating notable disparities in student outcomes between them. The fifth objective of this study was to explore the impact of students' class strength on the academic performance of students in Islamabad Public Schools, the findings showed that students' class strength had no impact on students' academic performance. A study conducted by Iqbal, Aslam, and Niazi (2021) aimed to investigate the factors that affect students' performance in school and college, the findings showed that the results were different, indicating that class strength was one of the factors that affect students' academic performance (Iqbal, Aslam, and Niazi, 2021).

Conclusion

This study explored the academic performance of students in Islamabad public schools, revealing important insights into the factors influencing their outcomes. Overall, the academic performance of students was satisfactory but not outstanding, aligning with findings from Sindh, where schools with better physical facilities, teaching resources, and

professional commitment achieved superior outcomes. While no significant difference was found between urban and rural students overall, urban students—both male and female—outperformed their rural counterparts, reflecting regional disparities in educational achievement observed in other studies. Gender-based comparisons showed that female students consistently outperformed male students, a trend supported by prior research, though some studies indicate mixed results in other contexts. Additionally, the study identified significant variations in academic performance across different sections within Islamabad public schools, highlighting disparities that require targeted interventions. Interestingly, class strength was found to have no impact on academic performance, diverging from some prior studies that identified it as a significant factor. These findings underscore the complex interplay of geographic, gender, and institutional factors in shaping educational outcomes, emphasizing the need for resource equity, gender-inclusive practices, and targeted strategies to address disparities. Further research is recommended to explore these dynamics and inform policy measures aimed at enhancing student performance.

Recommendations

1. It is recommended that further research studies may be carried out to comparee the teaching styles of malee and female teachers to identify the effect of teaching styles of male and female teachers on academicc performance of students.

2. It is recommended that research studies may be carried out on the availability of physical facilities in rural and urban areas, parental education, socio economic background of students.

3. Further researches may be conducted at institutional levels to know about the causes of difference among the academic performance of boys' and girls'.

4. It is recommended that seminars, workshops and training sessions may be conducted on leadership and management styles for the Heads of the Institutions and Education Officers of rural and urban schools.

References

Abdullah, N. A., & Bhatti, N. (2018). Failure in quality of academic performance of students in public sector schools of Sheikhupura. *Journal of Education and Educational Development, 5*(2), 289–305.

Adeyemo, D. A. (2001). Teachers' job satisfaction, job involvement, career, and organizational commitments as correlates of student academic performance. *Nigerian Journal of Applied Psychology, 6*(2), 126–135.

Bjorklund-Young, A. V., & Ronda, V. (2017). The multidimensionality of teacher quality: Teaching skills and students' noncognitive skills (Working paper). John Hopkins University.

Davison, C. B. (2015). Assessing IT student performance using virtual machines. *Tech Directions, 74*(7), 23–25.

Farooq, M. S., Chaudhry, A. H., Shafiq, M., & Berhanu, G. (2011). Factors affecting students' quality of academic performance: A case of secondary school level. *Journal of Quality and Technology Management, 7*(2), 1–14.

Goni, U., Yagana, W. S. B., Ali, H. K., & Bularafa, W. M. (2015). Gender difference in students' academic performance in colleges of education in Borno State, Nigeria: Implications for counselling. *Journal of Education and Practice, 6*(32), 107–114.

Hussain, S. (2018). An analysis of government primary schools' characteristics influencing student achievement in Northern Sindh. *Bulletin of Education and Research, 40*(1), 89–98.

Iqbal, S., Aslam, R., & Niazi, S. (2021). Critical analysis of the academic performance of students at the higher secondary level. *Pakistan Social Sciences Review, 5*(4), 547–557.

Khan, S., Reba, A., & Shahzad, A. (2021). A comparative study of academic self-efficacy levels of secondary school students in rural and urban areas of District Peshawar, Pakistan. *International Journal of Innovation, Creativity and Change, 15*(5), 754–761.

Linn, R. L. (2001). A century of standardized testing: Controversies and pendulum swings. *Educational Assessment, 7*(1), 29–38.

Mwihia, C. (2020). Gender differences in academic achievement of students in Kinangop SubCounty, Nyandarua County, Kenya. *European Journal of Social Sciences Studies, 5*(4), 19 35.

Myers, C. B., & Myers, S. M. (2006). Assessing assessment: The effects of two exam formats on course achievement and evaluation. *Innovative Higher Education, 31*(4), 227–236.

Narad, A., & Abdullah, B. (2016). Academic performance of senior secondary school students: Influence of parental encouragement and school environment. *Rupkatha Journal on Interdisciplinary Studies in Humanities, 3*(2), 12–19.

Parajuli, M., & Thapa, A. (2017). Gender differences in the academic performance of students. *Journal of Development and Social Engineering, 3*(1), 39–47.

Raza, A., Noorani, K. P. A., & Naseer, N. (2018). Effects of class size on learning achievement of students at grade five private school level in Karachi, Pakistan. *International Journal of Scientific & Engineering Research, 9*(6), 1559–1567.

Rono, K., Onderi, H., & Owino, J. (2014). Perceptions of causes of poor academic performance amongst selected secondary schools in Kericho Sub-County: Implications for school management. *Kenya Journal of Educational Planning, Economics & Management*, 7(2), 1–10.

Saeed, M., Gondal, M. B., & Bushra. (2005). Assessing achievement of primary-grade students and factors affecting achievement in Pakistan. *International Journal of Educational Management, 19*(6), 486–499.

Shabbir, M., Wei, S., Fu, G. Y., Chong, R., Marwat, A. M., Nabi, G., & Ahmed, B. (2014). A comparative study of public versus private primary schools: Evidence from Azad Kashmir (Pakistan Administrative Kashmir). *Journal of Education and Practice, 5*(9), 154–168.

Shoaib, M., & Ullah, H. (2019). Female and male students' educational performance in tertiary education in the Punjab, Pakistan. *Pakistan Journal of Social Issues, 10*, 83–100.

Siang, J. J., & Santoso, H. B. (2016). Learning motivation and study engagement: Do they correlate with GPA? Evidence from Indonesia. *Researchers World: Journal of Arts, Science andCommerce, 7*(1), 111–118. https://doi.org/10.18843/rwjasc/v7i1(1)/12

Siddique, M. H. (2012). Education sector-related rural-urban gap in Pakistan and programs to reduce it promoting integrated development. *GMSARN International Journal, 6*, 115–120.

Singh, S. P., Malik, S., & Singh, P. (2016). Factors affecting academic performance of students. *Indian Journal of Research, 5*(4), 176–178.

Tayyaba, S. (2012). Rural-urban gaps in academic achievement, schooling conditions, student, and teachers' characteristics in Pakistan. *International Journal of Educational Management, 26*(1), 6 – 26.

UKEssays. (2018). Students' performance in rural and urban areas. Retrieved from https://www.ukessays.com/essays/education/students-performance-in-rural-and-urban-areas-education-essay.php.

Voyer, D., & Voyer, S. D. (2014). Gender differences in scholastic achievement: A meta-analysis. *Psychological Bulletin, 140*(4), 1174–1204.

York, T. T., Gibson, C., & Rankin, S. (2015). Defining and measuring academic success. *Practical Assessment, Research, and Evaluation, 20*(1), 5.

Yousuf, M. I., Imran, M., Sarwar, M., & Ranjha, A. N. (2011). A study of non-cognitive variables of academic achievement at higher education: Nominal group study. *Asian Social Science, 7*(7), 53.