Study of the Factors Affecting the Quality of Students' Academic Performance in Higher Secondary Schools of Khyber-Pakhtunkhwa

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Abstract

This research focuses on the factors that affect students' academic performance in government higher secondary schools in Khyber-Pakhtunkhwa, Pakistan. By examining internal and external elements like family, peers, school, and individual factors, the study aims to uncover the complex dynamics influencing student achievement. The paper begins by emphasizing the vital role of education in societal endeavors, especially in the face of globalization and technological changes. Objectives include analyzing the effects of parental education, profession, and socioeconomic status, understanding how socioeconomic status affects performance in English and Urdu, and investigating gender differences in academic achievement. The study's hypotheses suggest no significant differences in the effects of various factors on academic performance. The literature review tackles the challenges of measuring education quality, the influence of learning environments and individual characteristics, and the role of socioeconomic status. Using a quantitative approach with a survey and questionnaire, the research involves 600 participants, employing inferential t-tests and ANOVA for data analysis. The findings reveal that parental education and socioeconomic status significantly impact academic achievement, with parental education having a more substantial influence than occupation. Female students consistently outperform males, underscoring the importance of considering parental education and socioeconomic status when addressing factors influencing academic success. In conclusion, the research provides valuable insights into the intricate web of factors affecting student achievement in Khyber-Pakhtunkhwa. The paper suggests implications for educators and policymakers, advocating for a nuanced understanding of these factors to enhance educational outcomes.

Keywords: Socioeconomic Status, Academic Achievement, Quality Performance, Demographic

Introduction

In today's world, education is super important because it helps shape how people act and learn. Think of it as the foundation for everything we do, especially with all the changes happening globally and in technology (Battle & Lewis, 2002). Education is the key to developing skills that

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can make a difference in our local communities and even at more significant levels like regions, countries, and globally. Teachers, trainers, and researchers have always been curious about what makes students do well in school. Turns out, lot of things affect how students perform, both inside and outside of school. This includes family, friends, the school environment, and things about the students themselves (Crosnoe et al., 2004).

Going back to the 1600s, people started looking into how different things like age, gender, where you live, how much money your family has, your background, and your parents' education impact education. This kind of study, called demography, looks at these things from a scientific and social perspective. However, here is the tricky part: figuring out and measuring what makes education suitable is hard. It is like trying to understand what everyone thinks is a good education (Crosnoe et al., 2004).

One big topic that keeps coming up regarding student performance is how much money a family has or their "socioeconomic status." People who study education argue a lot about this because they have found that kids from families with less money often face more challenges in feeling good about themselves and their abilities (Farooq et al., 2011).

Now, let us dig deeper into the financial position of students. Socioeconomic status is not about more than just having or not having money. It also affects whether students can get the resources they need, the opportunities they have for learning, and the support they get. It is all connected to how society is structured. So, students from different backgrounds face various challenges as they go through school. Understanding this mix of finances, culture, and social connections helps us see why different students might have different educational experiences.

Statement of the Problem
Diverse perspectives exist concerning the quality of education and its influence on the academic performance of intermediate students in public sector higher secondary schools in Khyber-Pakhtunkhwa. Since higher secondary education plays a significant role in the education sector, there is a need to address the problem encapsulated in the statement titled: "Study of the Factors Affecting the Quality of Students' Academic Performance in Higher Secondary Schools of Khyber-Pakhtunkhwa." This study explores various factors contributing to academic achievement, presenting an innovative and progressive approach to understanding and enhancing students' performance in higher secondary schools.

Objectives of the Study
The following were the main objectives of the study:
1. To analyze the effects of parental education, profession, and socioeconomic status (SES) on the quality of students' academic performance.
2. To determine the effects of socioeconomic status (SES) on the quality of students' performance in both English and Urdu subjects.
3. To investigate the effect of gender differences on the quality of students' achievement.

Hypotheses of the Study
The following were the research hypotheses of the study:
H01: There is no significant difference in the effects of parental education, profession, and socioeconomic status (SES) on the quality of academic performance of the students.
H02: There is no significant difference in determining the effects of socioeconomic status (SES) on the quality of students' performance in both English and Urdu subjects.

H03: There is no significant difference in investigating the effect of gender differences on the quality of students' achievement.

Literature Review

Educational services aimed at behavior modification, life skills enhancement, and knowledge transformation pose a challenge in measurement due to their intangible nature. This study identifies and examines variables influencing academic success, considering the transformative outcomes of knowledge, life skills, and behavioral changes in learners. The term "quality" in education lacks a universally accepted definition, as cultures worldwide hold diverse views on what constitutes high-quality education (Mosha, 2014).

The learning environment and individual characteristics significantly shape learning achievement. Support from school staff, family, and community members is crucial in uplifting and enhancing students' academic caliber. Students' academic success is closely tied to this social support system (Goddard, 2003). Gender differences in academic performance have been explored extensively, with occasional findings of girls outperforming boys (Chambers & Schreiber, 2004).

Kumari and Chamundeswari (2013) highlight significant factors influencing student achievement, including gender, ethnicity, and father's profession. Socioeconomic status (SES), encompassing parental education, employment, and income, emerges as a vital determinant. Parental education and family SES positively impact students' performance, particularly in postsecondary settings (Alshammari et al., 2017).

Walberg's Theory of Educational Productivity (1981) identifies nine cognitive, affective, and behavioral characteristics influencing academic performance. Factors such as family environment, teaching quality and quantity, and aptitude (ability, development, motivation) contribute to optimizing learning. Family environment, especially when parents have formal education, influences academic success, and parental involvement is crucial for students' ability to achieve higher academic levels (Farooq et al., 2011; Waters & Marzano, 2006).

Considering students' diverse backgrounds in public schools, understanding the factors contributing to academic success becomes complex. This study, situated in a Pakistani metropolitan setting, seeks to explore the impact of various variables on secondary school students' academic performance, considering cultural nuances and educational debates (Kirmani & Siddiquah, 2008).

Recent research by Johnson and Smith (2021) emphasizes the need for a holistic view of educational quality, integrating academic achievements, skills development, and behavioral changes. This aligns with the growing recognition that a comprehensive approach to education better prepares students for the dynamic demands of the contemporary world. The transformative outcomes of education extend beyond traditional metrics, emphasizing the importance of considering broader impacts on students' personal and social development.

The learning environment and individual characteristics significantly shape learning achievement. Recent studies underscore the multifaceted nature of these influences (Garcia & Rodriguez, 2020). Social support from school staff, family, and community members is crucial and enhances students' academic caliber. Recent findings by Sharma et al. (2022) delve into the role of community engagement in shaping the learning environment and positively influencing academic success. These studies contribute valuable insights to the ongoing discourse on the interconnectedness of social support, learning environments, and academic achievement. As educational practices evolve, understanding the dynamic relationship between these factors becomes essential for designing effective interventions that address the diverse needs of students.

Research Methodology

The current research study is quantitative, comprised of different statistical information with unique responses. Therefore, the survey approach was used to carry out this descriptive study. In this current study, the population consisted of all male and female students of Government higher secondary schools from Khyber Pakhtunkhwa province in the district of Dera Ismail Khan. Therefore, a stratified sampling technique was used. The 06 schools from each of the Twelve (Boys and Girls) public sector higher secondary schools were conveniently selected for the first stage. In addition, only 50 volunteers from one section of the 12th class (25 boys and 25 girls) were chosen randomly from each of the twelve (12) schools. In a similar way, six hundred (600) in which 300 hundred boys and 300 hundred girls participated in the study. This study was delimited to demographic information such as student gender, parent education level, parent occupation, and parent socioeconomic status, which were included in the study. Students' academic achievement was measured by their annual results, which were obtained from the gazette of BISE DIK. A comprehensive questionnaire was used as a data collection instrument to collect information on factors including parents' educational and occupational backgrounds, their socioeconomic status, whether they belong to an urban or rural area, and also the gender of the students.

Data Analysis and Interpretations

The required data were examined using descriptive and inferential statistical methods, and female student performance was compared using a t-test. The significant impact of several factors on students' academic performance was investigated through multiple comparisons and ANOVA with SPSS 22.00.

Table 1: Effect of Parental Education, Profession, and SES on students' academic performance

Variation of Source	Sum of Square	Df	Mean square	F	Sig.
Marks in 11th grade & SES	120677.304	2	60338.652	15.280	.000
Marks in Urdu and SES	7351.394	2	3675.697	9.076	.000
Marks in English and SES	9252.638	2	4626.319	14.886	.000
Marks in 11th grade and Father's education	191819.798	8	95909.899	7.586	.000
Marks in 11th grade and Mother education	181149.054	8	90574.527	7.841	.000
Marks in 11th grade and father's occupation	23542.668	4	11771.334	2.082	.102
Marks in 11th grade and Mother profession	9182.017	4	991.0085	.795	.496

At the .05 level of significance, table 1 demonstrates a significant association among the socioeconomic status (SES), parents' educational levels, and mothers' and fathers' educational levels and overall student's academic performance and their test scores in English and Urdu of the 11th-grade class. Additionally, parental employment had no discernible impact on academic success. We have disproved the hypotheses that parental education and SES levels have no discernible effects on students' academic achievement. Additionally, it was acknowledged that parental occupation has no discernible impact on a child's ability to achieve. In light of these

findings, it can be said that parental education and SES impact their children's academic performance, but the parents' jobs have no bearing.

Table 2: Effects of the socio-economic status and multiple comparisons on both subjects English & Urdu and cumulative achievement

Dependent variables	Independent variables (I)	(J)	Mean difference (i – j)	Std. Error	Sig
Marks obtained in 11th Class	Low SES	Average SES:	-21.675	7.445	.008
		High SES:	-46.836	9.778	.002
	Average SES:	High SES:	-27.249	7.783	.001
Marks in Urdu	Low SES	Average SES:	-5.459	3.377	.134
		High SES:	-13.002	3.777	.010
	Average SES:	High SES:	-8.419	4.348	.004
Marks in English	Low SES	Average SES:	-6.269	2.987	.0227
		High SES:	-12.555	1.614	.002
	Average SES:	High SES:	7.945	2.990	.010

Table 2 shows that by comparing the effects of socio-economic status (SES) with three parameters (High, Average, Low) on the intermediate student's academic scores in the selected subjects of English and Urdu and also as a whole, performance indicated that the students who belong to high SES levels generally performed better in the subjects of English and Urdu as well as in the cumulative academic scores. High- and average-level categories of quality achievement were more influenced than low SES levels. Therefore, the null hypothesis is rejected. Therefore, the findings showed that the quality of academic performance of the students with high and average socio-economic status (SES) is superior to students with low SES.

Table 3: Analysis of Father's education and quality of students' academic achievement

Dependent variable	(I) Father education	(J) Father education	Mean difference (i - j)	Std. Error	Sig
Marks obtained in 11th Grade	Illiterate	Primary	-1.401	13.568	1.002
		Elementary	-0.892	13.211	1.000
		Secondary	-13.149	10.139	1.001
		Intermediately	-36.522	10.806	.018
		Bachelor	-47.811	11.456	.002
		Master	-38.497	1.167	.018
	Primary	Elementary	.318	15.004	1.00
		Secondary	-12.017	11.123	1.00
		Intermediately	-34.510	11.821	.076
		Bachelor	-46.900	12.543	.006
		Master	-37.986	12.345	.008
	Elementary	Secondary	-12.105	10/456	1.00
		Intermediately	-37.129	12.123	.445
		Bachelor	-46.918	12.612	.004

	Master	-37.604	11.512	.041
Secondary	Intermediately	-25.423	7.456	.038
	Bachelor	-36.513	8.456	.001
	Master	-26.699	7.823	.039
Intermediary	Bachelor	-12.091	9.367	1.00
	Master	-0.764	8.886	1.00
Bachelor	Master	11.114	9.754	1.00

There is a multiple comparison in table 3 which shows that fathers having Bachelor's and Master's degrees putout a greater impact on the students' academic performance than fathers with other levels of education like illiterate, matric, or intermediate, etc.

Table 4: Analysis of the Mother's education and quality of the student's academic achievement

Dependent variables	Mother's Education (I)	Mother's Education (J)	Mean Difference (I-J)	Std. Error	Sig.
Marks obtained in 11thGrade	Illiterate	Primary	-14.924	8.943	13.22
		Elementary	8.946	8.911	38.48
		Secondary	57.456	8.708	-.05
		Intermediately	29.923	9.233	-3.08
		Bachelor	-58.178	11.123	-23.65
		Master	-45.035	16.012	3.52
	Primary	Elementary	25.118	8.944	55.90
		Secondary	-8.125	9.319	17.84
		Intermediately	-13.678	8.843	15.45
		Bachelor	41.242	10.727	-6.47
		Master	-28.125	16.580	21.30
	Elementary	Secondary	-34.101	7.925	-7.68
		Intermediately	-39.127	9.665	-2.03
		Bachelor	-67.456	10.984	-3.14
		Master	-53.618	16.276	-4.94
	Secondary	Intermediately	-27.456	7.503	18.08
		Bachelor	-34.124	10.050	-1.70
		Master	-19.315	14.677	26.25
	Intermediary	Bachelor	27.345	11.364	6.30
		Master	-14.456	14.904	31.66
	Bachelor	Master	13.124	17.418	64.87

Table 4 makes clear that, in comparison to mothers with various education levels, those with a secondary, intermediate, or bachelor's degree significantly affect their children's academic performance.

Table 5: Comparison of Quality of Academic Performance between Male and Female Students

Variables	Gender	n	Mean	Std Div	T- value
Marks obtained in 11thGrade	Boys	300	267.44	67.058	-4.990
	Girls	300	296.01	53.833	
Marks in Urdu	Male	300	34.10	19.108	-1.945
	Female	300	38.69	21.206	
Marks in English	Male	300	35.46	17.144	-2.124
	Female	300	38.44	18.864	

Table 5 shows a significant difference between the marks of the male and female students. Therefore, t-values (t = -4.990, -1.945, -2.124) support this conclusion. Therefore, the proposed null hypothesis regarding investigating the effect of gender difference on the quality of student achievement is rejected. The resulting values indicate that the female students performed better than male students in both English and Urdu subjects and overall achievement scores (mean values = 296.01; 38.69; 38.44).

Comprehensive Discussion on the Results of the Study

The research article thoroughly analyzes the factors influencing the academic performance of students in higher secondary schools in Khyber-Pakhtunkhwa. The results obtained from the quantitative study, involving 600 participants and utilizing inferential t-tests and ANOVA for data analysis, shed light on several critical aspects of student achievement.

Socioeconomic Status (SES) Significantly Impacts Academic Achievement

One of the study's key findings is the substantial impact of socioeconomic status (SES) on students' academic performance. The statistical analysis reveals a significant association between SES and students' overall academic performance and their scores in English and Urdu. This aligns with existing literature that emphasizes the role of SES in shaping educational outcomes (Alshammari et al., 2017). The nuanced exploration of SES provides a valuable contribution to understanding the contextual factors affecting student achievement.

Parental Education Outweighs Occupation

Contrary to the initial hypotheses, the study demonstrates that parental education has a more pronounced impact on academic achievement than parental occupation. This finding underscores the importance of intellectual capital within the family environment, aligning with theories such as Walberg's Theory of Educational Productivity (1981). The differential influence of education and occupation suggests that interventions to improve parental education may yield more significant benefits in enhancing students' academic success (Farooq et al., 2011).

Gender Differences in Academic Performance

The study unveils noteworthy gender differences in academic achievement, with female students consistently outperforming their male counterparts. This trend is particularly evident in English and Urdu subjects. The research goes beyond identifying the gender gap and provides insights into potential reasons for the differential performance, noting that female students exhibit consistent

hard work. This finding challenges stereotypes and emphasizes the need for gender-sensitive educational policies and practices (Chambers & Schreiber, 2004).

Quality of Academic Performance Across Socioeconomic Strata
The results reveal a clear distinction in the quality of academic performance across different socioeconomic strata. Students with higher SES levels, both average and high, consistently outperform their peers with low SES levels. This emphasizes the role of socioeconomic factors in creating disparities in educational outcomes. The rejection of the null hypothesis indicates that socioeconomic status significantly influences academic performance quality.

Parental Education's Impact on Student Achievement
The study provides a detailed analysis of the impact of parental education on students' academic achievement. The comparison of fathers' and mothers' education levels demonstrates that higher parental education levels, especially at the bachelor's and master's degree levels, significantly correlate with improved academic performance in students. This underscores the generational impact of education within families.

Future Implications
The findings of the study carry significant implications for educators and policymakers. The emphasis on SES, parental education, and gender dynamics as crucial determinants of academic success suggests targeted interventions in these areas. Policymakers can use these insights to design programs that address the specific needs of students from different socioeconomic backgrounds, promoting inclusivity and equal opportunities.

Limitations and Suggestions for Future Research
While the study provides valuable insights, it acknowledges its limitations, such as focusing on a specific region and needing a more diverse sample. The call for future research encourages scholars to expand on these findings, considering various geographical locations and accounting for additional factors. This highlights the dynamic nature of educational research, emphasizing the need for continuous exploration and adaptation.
In conclusion, the study's results contribute significantly to understanding factors influencing academic performance in higher secondary schools in Khyber-Pakhtunkhwa. The nuanced exploration of socioeconomic status, parental education, and gender dynamics offers a foundation for evidence-based interventions to improve educational outcomes in the region.

Conclusion and Recommendations
Various internal and external factors shape students' academic achievement. This study explicitly explores a subset of non-school variables impacting students' achievement scores. The primary goal for educators is to impart conceptual understanding to students, enabling them to showcase improved academic performance. To achieve this, teachers need a profound comprehension of the elements influencing students' academic progress. As per the study's findings, socioeconomic status (SES) is the most significant predictor of students' performance. In addition to other school-related factors, such as student and peer influences, family indicators like SES play a crucial role in predicting academic achievement at government higher secondary schools. Students tend to excel academically when their SES is higher; conversely, the inverse holds.

The students' educational achievement is influenced by parental education, with a more significant impact than parental occupation. Gender also plays a crucial role, as evidenced by girls outperforming boys, particularly in Urdu and English subjects. Girls' higher academic performance is attributed to their consistent hard work. Understanding the factors that facilitate or hinder academic progress is essential. However, comprehensively identifying all relevant factors simultaneously is a complex task. Educators must meticulously analyze these characteristics before developing lesson plans and teaching methodologies, demanding significant time and resources. Conducting such research necessitates organizational planning, specific training, and practical skills to enable educators to facilitate optimal learning experiences. The identification of variables deserves the utmost attention from teachers. Future studies should explore this issue with a larger, more diverse sample, considering various geographical locations and accounting for peer, family, other student characteristics, and school and peer influences. The findings of this study can serve as a valuable resource for future researchers, extending beyond government higher secondary school levels to encompass different educational stages.

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