

## **FACTORS AFFECTING STUDENTS' QUALITY OF ACADEMIC PERFORMANCE: A CASE OF SECONDARY SCHOOL LEVEL**

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### **ABSTRACT**

*This study was conducted to examine different factors influencing the academic performance of secondary school students in a metropolitan city of Pakistan. The respondents for this study were 10<sup>th</sup> grade students (300 male & 300 female). A survey was conducted by using a questionnaire for information gathering about different factors relating to academic performance of students. The academic performance was gauged by the result of their 9th grade annual examination. Standard t-test and ANOVA were applied to investigate the effect of different factors on students' achievement. The results of the study revealed that socio-economic status (SES) and parents' education have a significant effect on students' overall academic achievement as well as achievement in the subjects of Mathematics and English. The high and average socio-economic level affects the performance more than the lower level. It is very interesting that parents' education means more than their occupation in relation to their children's academic performance at school. It was found that girls perform better than the male students.*

**Keywords:** *Quality performance, achievement, socioeconomic status, demographic factors, gender and academic achievement.*

### **INTRODUCTION**

In this era of globalization and technological revolution, education is considered as a first step for every human activity. It plays a vital role in the development of human capital and is linked with an individual's well-being and opportunities for better living (Battle & Lewis, 2002). It ensures the acquisition of knowledge and skills that enable individuals to increase their productivity and improve their quality of life. This increase in productivity also leads towards new sources of earning which enhances the economic growth of a country (Saxton, 2000). The quality of

students' performance remains at top priority for educators. It is meant for making a difference locally, regionally, nationally and globally. Educators, trainers, and researchers have long been interested in exploring variables contributing effectively for quality of performance of learners. These variables are inside and outside school that affect students' quality of academic achievement. These factors may be termed as *student factors, family factors, school factors and peer factors* (Crosnoe, Johnson & Elder, 2004). The formal investigation about the role of these demographic factors rooted back in 17<sup>th</sup> century (Mann, 1985). Generally these factors include age, gender, geographical belongingness, ethnicity, marital status, socioeconomic status (SES), parents' education level, parental profession, language, income and religious affiliations. These are usually discussed under the umbrella of demography (Ballatine, 1993). In a broader context demography is referred to as a way to explore the nature and effects of demographic variables in the biological and social context. Unfortunately, defining and measuring the quality of education is not a simple issue and the complexity of this process increases due to the changing values of quality attributes associated with the different stakeholders' view point (Blevins, 2009; Parri, 2006).

Besides other factors, socioeconomic status is one of the most researched and debated factor among educational professionals that contribute towards the academic performance of students. The most prevalent argument is that the socioeconomic status of learners affects the quality of their academic performance. Most of the experts argue that the low socioeconomic status has negative effect on the academic performance of students because the basic needs of students remain unfulfilled and hence they do not perform better academically (Adams, 1996). The low socioeconomic status causes environmental deficiencies which results in low self esteem of students (US Department of Education, 2003). More specifically, this study aims to identify and analyze factors that affect the quality of students' academic performance.

## **REVIEW OF LITERATURE**

Educational services are often not tangible and are difficult to measure because they result in the form of transformation of knowledge, life skills and behaviour modifications of learners (Tsinidou, Gerogiannis, & Fitsilis, 2010). So there is no commonly agreed upon definition of quality that is applied to education field. The definition of quality of education

varies from culture to culture (Michael, 1998). The environment and the personal characteristics of learners play an important role in their academic success. The school personnel, members of the families and communities provide help and support to students for the quality of their academic performance. This social assistance has a crucial role for the accomplishment of performance goals of students at school (Goddard, 2003). Besides the social structure, parents' involvement in their child's education increases the rate of academic success of their child (Furstenberg & Hughes, 1995).

The relationship between gender and the academic achievement of students has been discussed for decades (Eitle, 2005). A gap between the achievement of boys and girls has been found, with girls showing better performance than boys in certain instances (Chambers & Schreiber, 2004). Gender, ethnicity, and father's occupation are significant contributors to student achievement (McCoy, 2005; Peng & Hall, 1995).

Above and beyond the other demographic factors, the effects of SES are still prevalent at the individual level (Capraro, M., Capraro, R., & Wiggins, 2000). The SES can be deliberated in a number of different ways; it is most often calculated by looking at parental education, occupation, income, and facilities used by individuals separately or collectively. Parental education and family SES level have positive correlations with the student's quality of achievement (Caldas & Bankston, 1997; Jeynes, 2002; Parelius, D., & Parelius, A., 1987; Mitchell & Collom, 2001; Ma & Klinger, 2000). The students with high level of SES perform better than the middle class students and the middle class students perform better than the students with low level of SES (Garzon, 2006; Kahlenberg, 2006; Kirkup, 2008).

The achievement of students is negatively correlated with the low SES level of parents because it hinders the individual in gaining access to sources and resources of learning (Duke, 2000; Eamon, 2005; Lopez, 1995). Low SES level strongly affects the achievement of students, dragging them down to a lower level (Sander, 2001). This effect is most visible at the post-secondary level (Trusty, 2000). It is also observed that the economically disadvantaged parents are less able to afford the cost of education of their children at higher levels and consequently they do not work at their fullest potential (Rouse & Barrow, 2006).

Krashen (2005) concluded that students whose parents are educated score higher on standardized tests than those whose parents were not educated. Educated parents can better communicate with their children regarding the school work, activities and the information being taught at school. They can better assist their children in their work and participate at school (Fantuzzo & Tighe, 2000; Trusty, 1999).

Theory of Educational Productivity by Walberg (1981) determined three groups of nine factors based on affective, cognitive and behavioral skills for optimization of learning that affect the quality of academic performance: Aptitude (ability, development and motivation); instruction (amount and quality); environment (home, classroom, peers and television) (Roberts, 2007).

The home environment also affects the academic performance of students. Educated parents can provide such an environment that suits best for academic success of their children. The school authorities can provide counseling and guidance to parents for creating positive home environment for improvement in students' quality of work (Marzano, 2003). The academic performance of students heavily depends upon the parental involvement in their academic activities to attain the higher level of quality in academic success (Barnard, 2004; Henderson, 1988; Shumox & Lomax, 2001).

There is a range of factors that affect on the quality of performance of students (Waters & Marzano, 2006). A series of variables are to be considered when to identify the affecting factors towards quality of academic success. Identifying the most contributing variables in quality of academic performance is a very complex and challenging job. The students in public schools belong to a variety of backgrounds depending upon their demography. This diversity is much vast and complex as ever before in Pakistani culture. Keeping in view all these discussions, researchers conducted this study to examine the effect of different factors on the students' quality of academic achievement at the secondary school level in a metropolitan city of Pakistan.

## **OBJECTIVES OF THE STUDY**

The main objectives of the study were to:

- a) analyze the effect of socio-economic status, parental education and occupation on quality of students' academic performance.
- b) explore the effect of socio-economic status on student's achievements in the subjects of Mathematics and English.
- c) find the difference in quality of students' achievement in relation to their gender.

### **Null Hypotheses:**

- a) There is no significant effect of socio-economic status, parental education and occupation on quality of students' academic performance.
- b) There is no significant effect of socio-economic status on student's achievements in the subjects of Mathematics and English.
- c) There is no significant difference in quality of students' achievement in relation to their gender.

## **METHOD AND PROCEDURE**

This descriptive study was conducted by using a survey method. The population was the secondary school male and female students from a metropolitan city of Pakistan. At the first stage twelve male and female public sector secondary schools (six each) were selected conveniently. Secondly, only fifty volunteer students (25 male and 25 female) out of all volunteers from one section of the 10<sup>th</sup> grade were selected randomly from each of the 12 schools. Thus the sample size for the study was 600 students (300 male and 300 female). The study was delimited to only demographic factors such as students' gender, parents' education, parents' occupation and socio economic status. The quality of academic performance was measured by their achievement scores of the 9<sup>th</sup> grade annual examination verified from the Board of Intermediate and Secondary Education, Lahore and school records. Data regarding the variables such as parents' education, parents' occupation, SES, urban/rural belongingness, and students' gender were collected by using a questionnaire.

## DATA ANALYSIS AND INTERPRETATIONS

The collected data were analyzed by applying descriptive and inferential statistical measure. A *t*-test was used to compare the achievements of male and female students. The significant effect of different factors on students' achievement was explored through multiple comparisons by applying ANOVA using SPSS 16.

*Table 1: Effect of SES, Fathers' and Mothers' education & occupation on students' achievement*

Source of Variation	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.
SES & Marks in 9 <sup>th</sup> Grade	110977.403	2	55488.701	15.270	.000*
SES & Marks in Math	7254.485	2	3627.243	9.086	.000*
SES & Marks in English	9154.629	2	4577.314	14.896	.000*
Father education & Marks in 9 <sup>th</sup> Grade	191918.849	7	27416.978	7.576	.000*
Mother education & Marks in 9 <sup>th</sup> Grade	191049.052	7	27292.722	7.831	.000*
Father occupation & Marks in 9 <sup>th</sup> Grade	23541.570	3	7847.190	2.072	.103
Mother occupation & Marks in 9 <sup>th</sup> Grade	9088.016	3	3029.339	.795	.497

*\*Significant at the .05 level.*

Table1 shows that socio-economic status (SES), fathers' education, and mothers' education, had a significant effect on students' overall academic achievement as well as on Mathematics and English scores in 9<sup>th</sup> grade at the .05 level of significance. Further it is obvious that parental occupation had no significant effect on academic achievement. Hence the hypotheses that there are no significant effects of SES level and parental education level on students' academic achievement have been rejected. Also the hypothesis that there is no significant effect in achievement on the basis of parental occupation was accepted. It is therefore concluded that SES level and parental education affect the achievement of their children, but the parents' occupation had no effect.

**Table 2: Multiple comparison of effect of SES on Mathematics, English, and cumulative achievements**

Dependent Variable	Independent Variable		Mean Difference (I-J)	Std. Error	Sig.
	(I)	(J)			
Marks obtained in 9 <sup>th</sup> Grade	Low SES	Average SES	-20.666(*)	6.869	.008*
		High SES	-47.615(*)	8.679	.000*
	Average SES	High SES	-26.949(*)	6.783	.000*
Marks in Mathematics	Low SES	Average SES	-4.589	2.277	.133
		High SES	-12.009(*)	2.877	.000*
	Average SES	High SES	-7.420(*)	2.248	.003*
Marks in English	Low SES	Average SES	-5.277(*)	1.997	.025*
		High SES	-13.524(*)	2.524	.000*
	Average SES	High SES	-8.248(*)	1.972	.000*

\*Significant at the .05 level.

As shown in Table 2, comparison of effect of SES levels (Low, Average & High) on students' achievement scores in the subjects of Mathematics, English & Cumulative achievement indicated that students belonging to high SES level overall perform better in the subjects of Mathematics and English as well as show better performance in cumulative achievement scores. Average and high SES levels have more effect than low SES level in all types of achievement quality. The null hypothesis that there is no significant difference in academic performance of students due to their socio-economic status is therefore rejected. The students with high and average SES exhibit better quality of performance than the students with low level of SES.

*Table 3: Analysis of Fathers' education and cumulative achievement*

<b>Dependent Variable</b>	<b>(I) Father's Education.</b>	<b>(J) Father's Education</b>	<b>Mean Difference (I-J)</b>	<b>Std. Error</b>	<b>Sig.</b>
Marks obtained in 9 <sup>th</sup> Grade	Illiterate	Primary	-1.311	13.558	1.000
		Elementary	-.993	13.161	1.000
		Secondary	-12.399	10.049	1.000
		Intermediary	-37.222(*)	10.905	.019*
		Bachelor	-48.311(*)	11.494	.001*
		Master	-37.897(*)	1.068	.019*
	Primary	Elementary	.318	14.006	1.000
		Secondary	-11.087	11.133	1.000
		Intermediary	-35.911	11.912	.075
		Bachelor	-47.000(*)	12.453	.005*
		Master	-36.586	12.061	.07
	Elementary	Secondary	-11.405	10.646	1.000
		Intermediary	-36.229(*)	11.458	.046*
		Bachelor	-47.318(*)	12.020	.003*
		Master	-36.904(*)	11.613	.044*
	Secondary	Intermediary	-24.823(*)	7.685	.037*
		Bachelor	-35.913(*)	8.500	.001*
		Master	-25.499(*)	7.914	.038*
	Intermediary	Bachelor	-11.089	9.497	1.000
		Master	-.675	8.976	1.000
	Bachelor	Master	10.414	9.684	1.000

*\*Significant at the .05 level. (Bachelor= Bachelor degree/Graduation, Master= Master degree/ Post graduation)*

The multiple comparisons in Table 3 show that fathers with Bachelor degree and Master degree education have more affects on students' achievement than any other level of education (e.g., illiterate, secondary, intermediary).

Table 4: Analysis of Mothers' education and quality of academic performance (overall marks obtained)

Dependent Variable	(I) Mothers' Education	(J) Mothers' Education	Mean Difference (I-J)	Std. Error	Sig.
Marks obtained in 9th Grade	Illiterate	Primary	-16.271	9.394	13.22
		Elementary	9.542	9.221	38.48
		Secondary	-24.558(*)	7.807	.05*
		Intermediary	-30.025(*)	8.583	-3.08*
		Bachelor	-57.799(*)	10.880	-23.65*
		Master	-44.375	15.258	3.52
	Primary	Elementary	25.813	9.744	56.40
		Secondary	-8.287	8.419	18.14
		Intermediary	-13.753	9.143	14.95
		Bachelor	-41.528(*)	11.327	-5.97*
		Master	-28.103	15.580	20.80
	Elementary	Secondary	-34.100(*)	8.225	-8.28*
		Intermediary	-39.567(*)	8.965	-1.43*
		Bachelor	-67.341(*)	11.184	-2.24*
		Master	-53.917(*)	15.476	-5.34*
	Secondary	Intermediary	-5.467	7.503	18.08
		Bachelor	-33.241(*)	10.050	-1.70*
		Master	-19.817	14.677	26.25
	Intermediary	Bachelor	-27.774	10.664	5.70
		Master	-14.350	15.104	33.06
	Bachelor	Master	13.424	16.518	65.27

\*Significant at the .05 level. (Bachelor= Bachelor degree/Graduation, Master= Master degree/ Post graduation)

It is evident from Table 4 that mothers with Secondary, Intermediary, and Bachelor degree-education levels have significant effects on the achievement of their children as compared to other education levels.

Table 5: Comparison of achievement for Male and Female students

Variable	Gender	N	Mean	Std. Deviation	t-value
Marks obtained in 9th Grade	Male	300	268.42	66.252	-5.405*
	Female	300	295.03	53.686	
Marks in Mathematics	Male	300	34.20	19.009	-2.745*
	Female	300	38.71	21.209	
Marks in English	Male	300	35.50	17.045	-2.034*
	Female	300	38.47	18.687	

\*P<.05 level of significance, df=598.

As shown in Table 5,  $t$ -values ( $t = -5.405, -2.745, -2.034$ ) indicate that there is a significant difference in the marks of male and female students. The null hypothesis that there is no significant difference in the quality of academic performance of students in relation to their gender is therefore rejected. It is concluded from the results that female students perform better than the male (mean values = 295.03; 38.71; 38.47) in the subjects of Mathematics and English as well as in the overall achievements scores.

## **CONCLUSIONS AND RECOMMENDATIONS**

There are various factors inside and outside school that contribute for the quality of academic performance of students. This study only focused on some of the factors outside school that influence the student's achievement scores. The key aspect for the educators is to educate their students effectively so that they may be able to show quality performance in their academics. To achieve this objective it is necessary for the educators to understand better about the factors that may contribute in the academic success of students.

This study concluded that the higher level of SES is the best indicator contributing towards the quality of students' achievement. Family characteristics like socio economic status (SES) are significant predictors for students' performance at school besides the other school factors, peer factors and student factors. Higher SES levels lead to higher performance of students in studies, and vice versa (Hanes, 2008). Parental education also has effects on students' academic performance. Parental occupation has little effect on their child's performance in studies than their education. Student's gender strongly affects their academic performance, with girls performing better in the subjects of Mathematics, and English as well as cumulatively. Girls usually show more efforts leading towards better grades at school (Ceballo, McLoyd & Toyokawa, 2004). It is very important to have comprehensible understanding of the factors that benefit and hinder the academic progress of an individual's education.

To determine all the influencing factors in a single attempt is a complex and difficult task. It requires a lot of resources and time for an educator to identify all these factors first and then plan the classroom activities and strategies of teaching and learning. It also requires proper training, organizational planning and skills to conduct such studies for determining the contributing factors inside and outside school. This

process of identification of variables must be given full attention and priority so that the teachers may be able to develop instructional strategies for making sure that all the children be provided with the opportunities to arrive at their fullest potential in learning and performance. Further research is needed to explore the problem on a large sample from more scattered geographical regions including other student factors, family factors, school factors and peer factors.

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