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Original Article

Impact of Socioeconomic Factors on Academic Performance: A Gender-Based Study among University Students

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Abstract

The study examined the effect of gender and socioeconomic characteristics on the academic performance of university students, as measured by their academic scores. The study aimed to i) examine the socioeconomic factors affecting undergraduates, ii) investigate the academic performance of undergraduates, and iii) analyze the comparative impact of socioeconomic factors on the academic scores of undergraduates. Data from 480 students enrolled in the BS program at three selected universities in Khyber Pakhtunkhwa was collected using a questionnaire that investigated the socioeconomic status of their parents. The data analysis indicated that factors such as parental qualifications, parental income, parental work type, and the family's social position do not influence academic performance based on gender. Regardless of parents' social class, the quality of learning facilities impacts student's academic success, indicative of parents' involvement in the studies. It is suggested to provide scholarships and establish assistance programs aimed at enhancing the academic performance of undergraduates whose parents possess fewer resources due to poor income and job positions.

Keywords: Academic performance, Learning facilities, Parental education, Parental job status

INTRODUCTION

Socioeconomic factors often refer to social and economic situations. Socioeconomic status (SES) is a term that describes an individual's position in society based on aspects such as their family's wealth, political influence, educational setting, and professional reputation (Hossain et al., 2022; Parsons et al., 2001). It refers to the overall measure of an individual or family's financial and social status in relation to others, considering their income and occupation (Carlisle & Maloney, 2023). Previous research has found substantial evidence supporting a direct correlation between a family's socioeconomic level and individuals' academic performance (Caro et al., 2009). The idea of SES lacks a solid consensus. However, it is typically measured by indicators such as parents' level of education, parental professional prestige, and family income (Hauser, 1994; Sirin, 2005). Research conducted by Osonwa et al. (2013) has shown that inadequate parental care, which results in significant deprivation of children's needs, is associated with low academic performance.

Conversely, Caro et al.'s study (2009) found that adolescents from different socioeconomic backgrounds perform similarly academically during primary school. Education is the systematic development of an individual's skills and potential to prepare them for success in society. Education begins at birth and continues throughout life (Korotkova et al., 2022). Students' progress is measured through their performance in the competitive world. Parents always want to see their children at the top in their academic performance. Consequently, the education system, including all stakeholders, focuses on the learners' academic scores. Therefore, all the struggles of the educational system move around the student's academic performance (Klepar et al., 2022; Waters & Marzano, 2006).

Previous research (Goni et al., 2015; Peng & Kievit, 2020) has investigated gender differences in academic achievement. It has been revealed that an individual's background traits substantially impact their cognitive abilities, a crucial factor in determining academic performance. Gender role in society is a specially characterized phenomenon that assigns different roles and behaviors to males and females as distinct members of society. Therefore, their personality develops according to the central components of their self-conception. Being male and female is a biological difference, while individual self-conceptualization is the main foundation for personality attributes like identity, orientation, and roles (Mazzuca et al., 2020).

Gender is a primary distinction that defines different societal roles for males and females. It means that it is the gender of an individual that defines their cultural/social, political, and economic roles in the social system (Ellemers, 2018; Grunspan et al., 2016). Gender has long been considered a factor contributing to the gender difference in academic achievement in all learning circles (Marc Jackman & Morrain-Webb, 2019; Morita et al., 2016). Regarding academics, it is usually determined by the scores and marks an individual gains through instructions provided to the learners through a formal or informal education system. It is generally the result of an organized and planned set of experiences and is termed a learning outcome (Lamas, 2015). As independent variables for academic achievement, there are

relevant factors to academic performance, such as expertise and skills. There are some factors, such as the learning environment, the institution's physical environment, motivation of the teachers and support staff, emotional relations of the individuals in the system, and assessment procedures, which indirectly affect the student's academic performance. These factors also needed to be considered dependent (Chan & Dai, 2023; Gutiérrez-Monsalve et al., 2023).

Nowadays, some schools have high fee structures and weak academic quality. However, the relationship between SES is a primary factor that may influence the students' academic scores. However, there may be variation regarding the relationship between SES and academic performance of students belonging to different SES. For example, it remains unclear in the Chinese context, where the Ministry of Education is responsible for the link between academic performance and SES (Liu et al., 2020). A family is a person's initial educational institution, from which an individual is educated regarding wanted behaviors, values, norms, and culture. It is evident from another study by Abylkassymova et al. (2019) that students learn a lot from their home environment, behaviors, and parents' attitudes. Hence, family is vital in inspiring and motivating them to learn. The findings of other studies indicate that well-educated and well-disciplined family members and peers work as inspirational for learners, and they show better learning outcomes. Students get motivated to learn when provided with a conclusive environment for learning at home or institutions. Parents and teachers may provide favorable learning conditions to the students, which may result in the learners' academic success (Gándara & Contreras, 2020). Studies indicate that external forces like time limits, fears, threats, discouraging commands, and behaviors may lead to poor performance and academic failure (Ibabe, 2016). Studies indicate that parental support motivations and expectations lead to better performance than parental control (Westerlund et al., 2013).

Similarly, providing a conclusive learning environment by parents at home and a supportive learning environment provided by teachers and school administration at the institution motivates the students to learn. Vansteenkiste et al. (2020) state that family status includes net income, parents' educational background, and community capital. Family income or parental financial status significantly influences the education of children. Parents with good financial status are more capable of providing better learning facilities. Hence, family, net income, and community capital are crucial factors that directly influence children's education and academic performance. Gándara and Contreras (2020) believe that in previous studies, these factors have been ignored, while they have found that they are helpful in children's personality development and educational process. Another study has indicated that families with low status and low income perform as compared to those with high status and income.

Similarly, it has been evident that higher educated mothers have paid more attention to their kids' education, and child development has been focused on making them stronger and more intelligent regardless of socioeconomic class. Because parents are the first teachers, their education and competence enable them to play a more positive role in their children's education. Hence, the parents' education significantly contributes to their children's academic performance and influences their children's educational success (Boonk et al., 2018). Well-educated parents may have the potential to educate their children better. They can help them improve language skills, e.g., they may help them to practice reading and writing. They can also teach basics at home from an early stage. Children supported in learning at home can do better in their educational lives (Salzberger-Wittenberg et al., 2019). A family with meager financial resources cannot create an environment conducive to learning and education (LeBaron et al., 2018).

Problem Statement

The study investigates the multifaceted effect of socioeconomic factors on the academic performance of undergraduate university students, with a specific focus on gender differences. Previous research has established the crucial role of family dynamics in shaping children's habits, personalities, and learning abilities, including parental behavior, attitudes, and the overall home environment. Additionally, financial resources within a family have been identified as a significant factor affecting the educational environment, with limited resources potentially hindering the creation of conducive learning atmospheres. Furthermore, gender has been acknowledged as a long-standing contributor to performance variations between male and female students across various academic settings. Through an analysis of these interrelated elements,

this study aims to offer a thorough comprehension of how socioeconomic elements impact the academic success of undergraduate students and whether these influences differ based on gender.

Research Questions

- What is the socioeconomic status (SES) of undergraduate male and female students in terms of parents' academic qualifications, job status, living style, accommodation, and status in society?
- What is the academic performance of undergraduate male and female students?
- What is the effect of the SES of undergraduates on gender and academic performance?

Hypothesis

For the third question, a hypothesis was formulated.

- $H_0$1: There is no significant effect of the socioeconomic status (SES) of undergraduates on both gender distribution and academic performance.

RESEARCH METHODOLOGY

The researchers used a predictive correlational research design for conducting this study. It was a quantitative study for which the students' socioeconomic backgrounds and academic performances were collected through a questionnaire. Correlation refers to a statistical connection or link between variables (Warner, 2013). Regression correlation, when used appropriately, can be employed for prediction purposes (Cohen et al., 2003). Therefore, this research design seemed most plausible for conducting the research.

Population and Sample

This study included three public sector universities in Khyber Pakhtunkhwa province. Hence, all the 5,875 students enrolled in BS programs of these universities formulated the population of this study. For drawing samples, a two-stage stratified random sampling technique was used. In the first stage, eight departments from the selected universities were chosen using random sampling. In the second stage, from each selected department, 20 students were selected using random sampling. Thus, a sample of 160 students was drawn from each university, formulating a total sample size of 480 respondents, as suggested by Eisner et al. (2019).

Research Instrument

A questionnaire was developed considering the objectives of the research and after a thorough review of related literature. A Likert-type scale-based questionnaire was constructed to collect the responses. The scale had the following options: 'to great extent,' 'to some extent,' and 'not at all'. This tool probed several demographic factors like the qualification of parents, the income of the family, the nature of parents' job, the nature of accommodation, the type of family system, transportation means used for university, the family's status in society, and learning facilities available at home. Students were required to record their grades in the previous semester in the biographic information. A checklist was used to cross-check and obtain students' grades from their respective departments. In the current study, academic performance is the achievement of the students, the grade they obtained in their studies in the previous semester.

Moreover, the validity of the research instrument was ensured through experts' opinions. To conduct a pilot test of the scale, 24 students were selected from various departments of Hazara University Mansehra, encompassing both natural and social sciences. The questionnaires were disseminated among a group of 24 specifically chosen students, and the researcher directly monitored the process of completing the instruments and addressed any inquiries from the participants. The questionnaire was enhanced based on the comments obtained from students during the pilot testing phase. The coefficient of Cronbach alpha can be used to measure/estimate the internal consistency of scales in the quantitative research approach. The calculated value of alpha was 0.85.

Data Collection

The researchers visited the selected universities with prior permission from the universities'

administrations. The sample respondents were adequately briefed about the research objectives and assured that the information they provided would be kept confidential and used only for research purpose. The cooperation from faculty and administration made it possible to administer and collect questionnaires with maximum turnout. Overall data was collected from four hundred eighty (480) BS program students.

Results & Findings

For analyzing the collected data, the SPSS version 21 was used. The percentages, correlation, and regression were carried out. The analyzed data has been presented and interpreted in the following.

Table 1
Academic Qualification of Parents of Undergraduate Students

S. No.	Academic Qualification	Gender	Illiterate	Primary /Middle	SSC/HHSC	Bachelor	Master	M.Phil./ Ph.D.
1	Father	Male	17%	21%	17%	21%	17%	7%
		Female	21%	27%	21%	10%	16%	5%
2	Mother	Male	22%	26%	16%	17%	15%	4%
		Female	28%	30%	10%	14%	15%	3%

Table No. 1 signifies the academic qualifications of the fathers and mothers of both genders of students. The data shows that the fathers of 17% of male students and 21% of female university students were illiterate. In comparison, the fathers of 21% of male and 27% of female students had primary or middle qualifications. The fathers of 17% of male and 20% of female students had SSC/HSSC level qualifications. The fathers of 21% of male and 10% of female students were holders of bachelor's degrees. The fathers of 17% of male and 16% of female students were master's degree holders, whereas 7% of male and 5% had fathers with M.Phil./Ph.D. degrees.

There were 22% male students and 28% of female students with illiterate mothers;26% of male students and 30% of female students had mothers with primary or middle qualifications; 16% of male students and 10% of female students were with mothers SSC/HSSC degree holders, and 17% male students and 14% female students had mothers with bachelor degree qualification; 15% male students and 15% female students had mothers with master degree, and 4% male students and 3% female students had mothers who were M.Phil./Ph.D. degree holders.

Table 2
Nature of Job/Profession of Parents of Undergraduate Students

S. No.	Job Nature	Gender	None	Un-skilled/ Daily Wages	Skilled low wages	Self-employed/ Businesses	Govt. employees (grade less than 17)	Govt. employees Above grade 17)	Govt. employees (Professionals Doctors/Engineers
3	Father's	Male	6%	8%	21%	28%	17%	4%	16%
		Female	6%	18%	23%	27%	13%	6%	7%
4	Mother's	Male	31%	4%	4%	2%	4%	2%	53%
		Female	20%	3%	9%	3%	8%	2%	55%

Table No. 2 indicates the gender-based fathers' and mothers' job nature of university-level students. Male students, 6% similar female students, 6% fathers had no job. Of male students, 8% were female students, 18% of fathers were unskilled or working on daily wages, 21% were female students, and 23% were skilled with low wages. Of the male students, 28% of female students and 27% of fathers were self-employed or business. Male students accounted for 17%, while 13% of female students belonged to fathers who had government employment (below grade 17). Four percent (4%) of the male students and 6% of the female students belonged to fathers who were government employees (with grade 17 and above). In contrast, 16% of the male students and 7% of the female students were government employees (with professional status, i.e., Doctor/Engineers or business four percent (4%) of the male students and 8% of the female students belonged to the mothers with Govt. belonged to the mothers with Govt. employment (below grade-17). Two percent (2%) of the male students as well as 2% of female students belonged to mothers with Govt. employment (with grade 17 and above). In contrast, 53% of male students and 55% of the female students belonged to mothers who were Govt. employee with professional status (i.e., Doctors and Engineers).

Table 3
Gender-based Means of Transportation for University Students

Transportation Means	Male		Female	
	f	%	f	%
On foot	72	25%	28	15%
Public transportation	51	18%	54	28%
University conveyance	120	41%	83	44%
Family car	47	16%	25	13%
Total	290	100.0	190	100.0

Table. No.3 implies a type of transportation means used by both genders. Among the respondents, 25% of male students and 15% of female students used to go to university on foot, and 18% of male students and 28% of female students had public transport. Furthermore, 41% of male and 44% of female students had university transport, and 16% of male and 13% of female students had personal or family vehicles.

Table 4
Gender-based Type of Family Living Style of University Students

Description	Gender	Joint	Partially Joint	Independent
System of family living style	Male	46%	10%	44%
	Female	50%	17%	33%

Table. No.4 depicts the type of family of both genders. The data shows that 46% of male and 50% of female students had joint families, 9% of male and 17% of female students had partially joint families, and 44% of male and 32% of female students belonged to independent families.

Table 5
Gender-based Status of Students' Families in Society

Status in Society	Male		Female	
	f	%	f	%
Upper class/elite	40	14%	11	6%
Upper middle class	57	20%	46	24%
Middle class	152	52%	101	53%
Lower middle class	32	11%	27	14%
Working/poor class	9	3%	5	3%
Total	290	100.0	190	100.0

Table. No. 5 indicates the status of both genders of students in society at the university level. Fourteen percent (14%) of male students and 6% of female students belonged to the upper class or elite, 20% of male students and 24% of female students belonged to the upper-middle class, and male students 52%. In contrast, 53% were middle class, male students, 11% were female stuudents14% had a lower middle class, male students 3% were male students and 3% were in a working or poor class.

Table 6
Gender-based Comparison of Available Facilities at Home and Family Social Status of University Students

Category	Gender	N	Mean	SD	t	%
Available facilities at home	Male	290	18.82	2.89	6.584	0.00
	Female	190	20.54	2.64		
Family social status	Male	290	19.05	3.69	1.080	0.281
	Female	190	19.40	3.29		

Table 6 displays the presence of facilities at home for the academic accomplishments of both genders of students at the university level. The data analysis ($t=6.584$, $p<0.05$) indicates significant differences between both genders of students regarding the accessibility of home facilities. It further signifies the difference in students' family social status scores of both genders. The statistical value of the data ($t=1.080$, $p>0.05$) indicates no significant difference between male and female students regarding the family's social status.

Table 7

Measurement of Performance Score of Male and Female Undergraduate Students

Gender	Category	f	%
Male	Low achievers	75	25.9
	Average achievers	149	54.4
	High achievers	66	22.8
	Total	**290**	**100.0**
Female	Low achievers	45	23.7
	Average achievers	91	47.9
	High achievers	54	28.4
	Total	**190**	**100.0**

Table 7 indicates the measurement of performance scores of male and female students. Data indicates that 30% of male and 24% of female students were lower achievers; 51% of male and 50% of female students were average achievers; and 23% of male and 28% of female students were high achievers.

Table 8

Comparative Influence of Socioeconomic Factors on Academic Performance of Male and Female Students

Contributing/influencing factors	M (R2 =.077, F=1.414)			F (R2 =.149, F=1.896)		
	Coefficient Beta	t	p	Coefficient Beta	t	p
(Constant)	37.488	6.626	.000	42.998	4.629	.000
Fathers' academic qualification	.045	.057	.955	2.185	1.943	.054
Mothers' academic qualification	.535	.527	.599	1.719	1.239	.217
Fathers' nature of job	.047	.102	.919	1.967	2.778	.006
Mothers' nature of job	.067	.119	.905	.803	1.465	.145
Family living style	-.459	-.676	.500	1.052	1.192	.235
Type of accommodation	.101	.144	.886	.765	841	.401
Transportation means	.200	.352	.725	1.871	-2.084	.039
Society Status	.378	.577	.565	2.095	1.894	.060
Total learning facilities at home	.428	1.913	.057	.946	2.706	.007
Total socioeconomic status factors	.125	.728	.467	.189	.707	.480

Table 8 compares male and female students regarding the effect of socioeconomic factors on their academic performance. The values R2=0.149 and F=1.896 for females, and R2=.077 and F=1.414 for males indicate that the model for females produces a 14.7% variation in the dependent variable. In contrast, it produces a 7.7% variation in the dependent variable for males. It shows that the regression model fits for female students compared to male students. The table further reflects that none of the socioeconomic factors appears to a significant contributor to academic performance for male students except total facilities at home (B=1.983, P<0.05), while for female students, transport facility (B=2.084, P<0.05) has the significant impact on academic performance while other socioeconomic factors like parent's academic qualification, monthly income, job status; living style, number of family members, and accommodation/ living space have no significant impact on academic performance of the students. The null hypothesis ($H_0$1) is partially rejected. Specific socioeconomic characteristics have been found to have a statistically significant influence on academic achievement for both male and female pupils.

Discussion

The findings of this study reflected that male and female undergraduates at universities in Khyber Pakhtunkhwa had no significant differences in academic performance in terms of academic scores. Goni et al. (2015), Regis-Onuoha and Chukwu (2022) also come up with similar findings, claiming that gender findings do not significantly affect academic performance. Lakhan et al. (2021) also reported no significant difference in academic performance between both genders. The present study shows that only learning facilities at home significantly impact the academic performance of both genders of students. In contrast, other elements, like parents' education and job status, have no impact on the academic performance of university students individually.

Similarly, the social status of the family, space for accommodation, living style of the family (joint or

nucleus), and monthly income have no impact on the academic performance of the male and female students. The results of the study align with Westerlund et al. (2013) findings, indicating that parental participation is a more reliable predictor than a parent's social class. Farwa et al. (2019) conducted a study at school and reported that the SES of the families/parents positively correlates with the students. However, this outcome lacks uniformity when considering cultural, ethnic, and SES variations. The current study has reflected a significant factor of SES, i.e., the availability of home facilities in Pakistan, significantly affecting the student's academic performance. This phenomenon could be attributed to increased parental engagement in their children's education, as prior research has demonstrated a notable correlation between parental involvement and academic performance in children (Gonzalez-Pienda et al., 2002; Ibabe, 2016). The socioeconomic factors examined do not have a consistent impact on academic performance for both genders, and the importance of particular elements differs across male and female students. Within the parameters of the study and the factors analyzed, it is possible to infer that SES may not consistently predict academic performance for all students. This finding has efficient implications for improving students' academic performance. Because learning facilities at home symbolize parents' involvement in students' learning process, they provide learning materials, study rooms, internet, laptops, or computers for learning. They also have high expectations from their children that may drive students to strive for high academic performance.

CONCLUSION

Both male and female students exhibit comparable academic performance levels at the university. The SES of parents and family shows no significant impact on students' academic performance. However, among the socioeconomic indicators, home learning facilities are a significant factor influencing university students' academic success. Specifically, providing learning resources at home plays a pivotal role in gender-enhancing academic performance. In this context, it is recommended to offer support and training to parents, encouraging them to arrange conducive learning environments for their children at home.

Recommendations

Transportation facilities provided by parents prove to influence female students' academic performance positively. Building upon this finding, it is suggested to consider extending transport facilities to female students at the university, thereby contributing to an encouraging environment for their learning processes. Furthermore, recognizing the financial constraints faced by parents with low SES, who may need more resources to provide learning facilities, it is proposed that the government offer assistance. This support could be in the form of accessible loans or need-based scholarships, aiming to alleviate the financial burden and ensure that all students have equal opportunities for academic success.

Competing Interest

The authors had no competing interests.

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