Impact of Socio-Economic Factors on the Educational Attainment of the Students in Pakistan: A Case Study of Bahawalpur District

Umm-e-Salma[1], Muhammad Omer Chaudhry[2]

[1] Ph.D. Scholar, School of Economics, Bahauddin Zakariya University Multan, Pakistan.
  Email: salma.ummeali@yahoo.com
[2] Associate Professor, School of Economics, Bahauddin Zakariya University Multan, Pakistan.

ARTICLE INFO	ABSTRACT
	Analyzing factors of student's educational attainment is imperative and needs special attention. Therefore, this study analyzes the influence of socioeconomic factors on the educational attainment of students utilizing the data of 700 students from both public and private educational institutions in the Bahawalpur district. For data analysis, the ordinary least square method, independent sample t-test, and One-Way ANOVA analysis are used. The outcomes show that the variables family background, gender of the respondent, family system, household size, father education, parental involvement, household income, and wealth index are the significant factors of the student's educational attainment. An Independent sample t-test analysis shows a significant mean difference in students' educational attainment concerning family background, gender of the respondent, father's occupation, mother's participation in the labor force, and family system. One-Way ANOVA analysis shows a significant mean difference in students' educational attainment concerning father education, mother education, and household income. It is proposed that socioeconomic status is imperative and should be taken into consideration to improve the educational attainment of students.

Corresponding Author's Email: salma.ummeali@yahoo.com

1. Introduction

Academic performance of students is probably used to measure student's attainment (Shakeel & Peterson, 2020). Achievement scores are frequently employed in educational systems to assess a student's abilities for a certain level of teaching. Examining the relationship between various factors and student attainment is one way to estimate how effective the educational process is (i.e. a measure of student performance). Infrastructure and resources, the standard of the learning environment, textbooks, teacher preparation, teacher salary, supervision, curriculum, and familial and socioeconomic background are a few examples of the inputs. The outcomes of the students' assessments or annual tests are typically used to measure the outputs (Fuller, 1986; Lockheed & Verspoor, 1991). Similarly, several socio-economic factors impact students' educational attainment including family background, teaching quality, learning abilities and educational infrastructure (Shakeel & Peterson, 2020). Socioeconomic factors are lifestyle factors of one's social standing and financial sustainability. One of the most active areas of educational research has placed the socioeconomic position at its center. Parents' socioeconomic position is also significant in influencing student outcomes and often calculated by adding their income, employment and educational background (Jeynes, 2007). Student's cognitive abilities and academic accomplishment fluctuate depending on their family's socioeconomic level (SES). Students from lower socioeconomic status families generally struggle more to get good grades and score well on cognitive tests than students from higher SES families (Bradley & Corwyn, 2002; Hart & Risley, 1996). The knowledge, skills, education and values of father's substantially impact student's outcomes. A more education-friendly environment and the educational

success of students are both facilitated by parents' improved communication, educational experience sharing, effective household administration and educational compassion (Jeynes, 2007). Similarly, according to Thompson, Alexander, and Entwisle (1988), students' educational outcomes and beliefs are influenced by their mothers' education also. A mother may foster trust in her children and support their academic performance by modelling facilitation, nurturing and unconditional acceptance. Mothers who work can increase a family's financial resources and can put more money into their children's education, leading to better educational outcomes.

Students are the most important resource for any educational institute. Academic success among students is closely correlated with the socioeconomic well-being of a country. CGPA is extensively utilized in Pakistan as a measure of student educational performance. The CGPA represents the mean of all semester grades throughout a student's undergraduate career. Student's academic performance is evaluated using uniform standards around the globe (Agus & bin Mohamed Makhbul, 2002). Over the past few years, literacy figures and educational outputs in Pakistan have improved. Most of the institutes are striving to improve the educational standards and produce more knowledgeable, skilled individuals, who can meet the demands of ever ever-expanding market(Mushtaq & Khan, 2012). Keeping in view the above discussion this analysis determines the key factors influencing the academic success of graduate students in the Bahawalpur district. The study evaluates the new integration of the variables and the impact of parental participation, parental wealth, and college/university facilities on academic success. The index of institute physical facilities and the index of parental wealth are used. This work broadens our understanding of assessing the learning outcomes of ADP students, BS students and MSC students. This study may also be useful for parents and teachers to guide students in the right direction and improve students' attitudes towards the study by providing a guideline to educational institutes, policymakers and parents. Helping students, improving teaching methods and advising the college administration as a policy guide can improve students' academic performance and consequently, the quality of education.

2. Literature Review

Several studies explored the impact of socioeconomic factors on educational attainment (STAC) of students as UNUGO (2021) explored the influence of family size on students' academic success Ebonyi State. The outcomes exhibited that household size has a substantial impact on pupils' educational performance. Ene (2021) investigates the connection between social studies educational attainment and family characteristics. The findings showed that students' academic progress in social studies was highly influenced by their family size and type. Khan, Asif, Khan, and Azeem (2020) investigated the aspects influencing the STAC in the Malakand area. The findings demonstrated that family characteristics, college characteristics, education of the father, size of house, libraries, electricity, and a moderately small class size have a substantial influence on the STAC in Pakistan's Malakand district. Olufemi et al., (2018) explored the variables influencing STAC in southwest Nigeria. The study found that parents, school infrastructure, and instructors have a significant influence on STAC. It was proposed that schools should be well equipped, colleges should be given proper attention and financing, and the provision of electricity should be ensured in educational institutions. Rezaei-Dehaghani, Keshvari, and Paki (2018) intended to examine the connection between family characteristics and STAC in Isfahan. The findings of this analysis demonstrated a considerable relationship between STAC and their family background.

Rajenran (2017) studied the factors that affect STAC in mathematics and science at the secondary level in rural and distant schools. The results of the study showed that parents' socioeconomic status and educational attainment have a significant influence on teenagers' overall academic achievement, including their success in science and math classes. Performance was more impacted by high and medium socioeconomic levels than by lower levels. Ogunsola, Osuolale, and Ojo (2015) investigated the influence of family background on STAC in Nigeria. The findings revealed that parental involvement significantly impacted the student's outcomes although socioeconomic status and parental education were not originated to be substantially linked to the STAC. Ella, Odok, and Ella (2015) examined the impact of family background on STAC. The findings showed that family type and size substantially impacted the STAC. It was suggested that parents should get enough sensitization on how

they may help their children, regardless of the size and type of family. Obeta (2014) identified various domestic environmental factors that impact pupils' academic achievement in Abia State, Nigeria. The results exhibited that the socioeconomic situation of the family, the shortage of suitable educational resources, and parents' unsupportive attitudes toward their children's education were the contributing factors to the STAC. Suleman, Aslam, Hussain, Shakir, Khan, and Nisa (2012) explored how parental socioeconomic status affects STAC. The study concluded that parental socioeconomic position, educational level of parent's, parent employment level, and parent income level have an impact on the STAC. Daniyal, Nawaz, Aleem, and Hassan (2011) analyzed the factors of STAC in Bahawalpur. The results showed that income, parent motivation, parent education levels, family size, participation in extracurricular activities, and instructor availability were the factors that substantially influence the students' performance. Farooq, Chaudhry, Shafiq, and Berhanu (2011) analyzed factors affecting STAC in Pakistan. The results demonstrated that parents educational level have a significant influence on children's academic success and success in math and English. Performance was more impacted by high and medium socioeconomic levels than by lower levels. It was discovered that female pupils do better than male ones.

The literature showed that multiple factors affect student performance such as family income, education, occupation, student gender, student; absentees, family environment, institute locality, institute type, facilities in institutes, number of teachers, their qualifications, experience, institute administration, absenteeism, and salary. In the literature, most of the studies measured educational achievement by conducting and regulating specially designed tests on math, reading and writing skills. Others have used the Ravens test while some studies at the university level measured the students' academic attainment by using CGPA. All the previous studies laid stress on the importance of institute facilities and parental income (as it is a popularly used indicator of socio-economic status) as the strong predictors of student achievement but all these studies used parental total income and different institute facilities separately. Therefore, this study not only considers institutional factors but also considers environmental and socio-economic factors of student educational achievement. Therefore, the outcomes of this study will contribute to the literature significantly by analyzing the socio-economic, institutional and environmental factors of students' educational achievement.

3. Data and Methodology

To analyze the impact of socio-economic factors on students' educational attainment, the data of 700 students of both public and private educational institutions in the Bahawalpur district is used. The data is collected by using a proportionate and convenient sampling technique. Different educational institutions' data are collected using a proportionate sampling technique. Table 1 shows the sampling procedure for data collection. In percentages, 73.1 percent of students were surveyed from the Islamia University Bahawalpur (IUB), 6.3 percent students were surveyed from the government Sadiq Egerton College Bahawalpur (Govt. S.E. College), 4.1 percent students were surveyed from the Allama Iqbal College, 6.9 percent students were surveyed from the government Sadiq College Women University (GSCWU), 7.3 percent students were surveyed from the National College of Business Administration & Economics (NCBA & E) and 2.3 percent students were surveyed from the Punjab Group of Colleges. For data analysis, the ordinary least square method, independent sample t-test, and One-Way ANOVA analysis is used.

Table 1: Sampling Procedure

Institute	Frequency	Percent
IUB	512	73.1
Govt. S.E. College	44	6.3
Allama Iqbal College	29	4.1
GSCWU	48	6.9
NCBA&E	51	7.3
Punjab College	16	2.3
Total	700	100.0

To analyze the impact of socio-economic factors on the educational attainment of students the following model is developed:

$$STAC = \beta_o + \beta_1 FBG + \beta_2 GEN + \beta_3 MS + \beta_4 FS + \beta_5 HHS + \beta_6 FEDU + \beta_7 FOCC +$$

$$\beta_8 MEDU + \beta_9 MPRT + \beta_{10} PINV + \beta_{11} HHI + \beta_{12} WI + \beta_{13} MOT + \beta_{14} LST + u_i$$

Where;
STAC = Educational attainment of students
FBG = Family background
GEN = Gender of the respondent
MS = Marital status
FS = Family system
HHS = Household size
FEDU = Father Education
FOCC = Father Occupation
MEDU = Mother education
MPRT = Mother participation in labor force
PNIV = Parental involvement
HHI = Household income
WI = Wealth index
MOT = Mode of transport
LST = Living status
u_i = Error term

Table 2: Description of Variables

Variables	Description of Variables		Sign	Reference
FBG	Family Background	= 1 if Rural, = 0 if Urban	+/-	Zhao & Bodovski (2020), Li & Qiu (2018)
GEN	Gender of the Respondent	= 1 if Male, = 0 if Female	+/-	Adigun et al., (2015), Dania (2014)
FS	Family System	= 1 if Joint, = 0 if Nuclear	+/-	Suleman et al., (2012), Bilal et al., (2013), O'Malley et al., (2015).
HHS	Household Size	Number of members in a household	+/-	De Haan (2010), Booth & Kee (2009); Kugler & Kumar (2017); Weng et al., (2019).
FEDU	Father Education	Completed Years of Schooling	+	Zakaria et al., (2011), Harris & Goodall (2008), Rindermann & Baumeister (2015)
FOCC	Father Occupation	= 1 if Formal Sector, = 0 if Informal Sector	+/-	Odikpo & Ejide (2021)
MEDU	Mother Education	Completed Years of Schooling	+	Araque et al., (2017), Awan & Kauser (2015), Crede et al., (2015)
MPRT	Mother Employment Status	= 1 if Participate = 0 if No	+	Awan & Hassan (2020), Raychaudhuri et al., (2010)
HHI	Household Income	Household Income Rs.	+	Belley & Lochner (2007), Ermisch & Francesconi (2001) Morrissey et al., (2014)
WI	Wealth Index	Average of Responses	+	Wiborg & Grätz (2022), Nawas (2019)
MOT	Mode of Transport	= 1 if Public, = 0 if Own	+/-	Yeung & Hoang (2019)
PINV	Parental Involvement	= 1 if Yes, = 0 if No	+	Fan & Chen (2001), Fan (2001), Boonk et al., (2018)
LST	Living Status of Students	= 1 if Hostel, = 0 if Home	+/-	Driessen et al., (2005)

4. Data Analysis

This section is designed to present the descriptive analysis, correlation analysis, ordinary least square analysis (OLS), independent sample t-test analysis and one-way ANOVA analysis.

4.1. Descriptive Analysis

This section presents the descriptive analysis of variables in the form of mean, maximum value, minimum value, standard deviation skewness and kurtosis. Table 3 displays the descriptive statistics of variables. It is found that the mean value of student's educational attainment (STAC) is 3.301, maximum value is 3.850, minimum value is 2.290, standard deviation is 0.263, skewness value is -0.522 which specifies that the data is negatively skewed, and kurtosis value is 3.347 which specify that the distribution is leptokurtic. Similarly, we can also analyze the descriptive statistics of other variables from the Table 3.

Table 3: Descriptive Statistics

Variables	Mean	Maximum	Minimum	S.D.	Skewness	Kurtosis
STAC	3.301	3.850	2.290	0.263	-0.522	3.347
FBG	0.523	1.000	0.000	0.500	-0.092	1.008
GEN	0.559	1.000	0.000	0.497	-0.236	1.056
MS	0.041	1.000	0.000	0.199	4.602	22.181
FS	0.377	1.000	0.000	0.485	0.507	1.257
HHS	6.380	19.000	2.000	2.579	1.789	8.038
FEDU	11.110	18.000	0.000	4.160	-0.632	2.667
FOCC	0.303	1.000	0.000	0.460	0.858	1.736
MEDU	10.594	18.000	5.000	3.053	-0.210	2.472
MPRT	0.271	1.000	0.000	0.445	1.028	2.057
PINV	0.411	1.000	0.000	0.492	0.360	1.130
HHI	58970.0	437000.0	19500.0	46490.0	4.680	33.068
WI	0.575	1.000	0.167	0.168	0.112	2.464
MOT	0.370	1.000	0.000	0.483	0.539	1.290
LST	0.211	1.000	0.000	0.409	1.413	2.998

Source: Author's Calculations

4.2. Correlation Analysis

Correlation analysis is vital in analyzing the degree of association between two variables. The sign and magnitude of the correlation coefficient exhibit the positive or negative and strength or weakness of the association between variables, respectively. The value of the correlation coefficient lies between -1 to +1. The value -1 indicates the perfect negative association between two variables, while the value +1 indicates the perfect positive association between the variables. The correlation coefficient value equal to zero indicates no association between the two variables. Table 4 displays the correlation matrix. It is found that the students' educational attainment (STAC) is positively correlated to the marital status (0.010), household size (0.067), father education (0.355), father occupation (0.279), mother education (0.446), mother participation in labor force (0.347), parental involvement in studies (0.283), monthly income of the household (0.331), wealth index (0.588), living status (0.155) while negatively correlated to the family background (-0.293), gender of the respondent (-0.117), family system (-0.127), mode of transport (-0.057)**.**

Table 4: Correlation Matrix

	STAC	FBG	GEN	MS	FS	HHS	FEDU	FOCC	MEDU	MPRT	PINV	HHI	WI	MOT	LST
STAC	1.000														
FBG	-0.293	1.000													
GEN	-0.177	0.078	1.000												
MS	0.010	-0.017	-0.046	1.000											
FS	-0.127	-0.030	0.051	-0.103	1.000										
HHS	0.067	-0.118	0.003	-0.039	0.598	1.000									
FEDU	0.355	-0.264	-0.001	-0.021	-0.157	-0.038	1.000								
FOCC	0.279	-0.204	-0.040	0.019	-0.102	-0.049	0.566	1.000							
MEDU	0.466	-0.319	-0.080	-0.022	-0.103	-0.012	0.693	0.492	1.000						
MPRT	0.347	-0.227	-0.111	-0.062	0.016	0.131	0.430	0.437	0.471	1.000					
PINV	0.283	-0.137	-0.005	-0.014	-0.040	-0.016	0.189	0.150	0.285	0.162	1.000				
HHI	0.331	-0.082	-0.067	-0.049	0.087	0.100	0.349	0.190	0.332	0.499	0.091	1.000			
WI	0.588	-0.285	-0.109	0.070	-0.085	0.055	0.341	0.367	0.415	0.475	0.231	0.456	1.000		
MOT	-0.057	-0.014	0.139	0.123	-0.035	0.011	-0.040	-0.035	-0.038	0.018	0.009	0.000	-0.004	1.000	
LST	0.155	0.130	-0.181	0.015	-0.136	-0.087	0.139	0.047	0.100	0.180	0.051	0.147	0.198	-0.013	1.000

Source: Author's Calculations

4.3. Ordinary Least Square Analysis

This section is designed to analyze the impact of socio-economic factors on students' educational attainment in Bahawalpur district. For this purpose, the Ordinary Least Square method is used to analyze the results. Table 5 displays the OLS outcomes of the impact of socio-economic factors on students' educational attainment. The dependent variable used in a model is the student's educational attainment while the explanatory variables are family background (FBG), gender of the respondent (GEN), marital status of the respondent (MS), family system (FS), household size (HHS), education level of the father (FEDU), occupation of the father (FOCC), education level of the mother (MEDU), labor force participation of the mother (MPRT), parental involvement (PNIV), household income (HHI), wealth index (WI), mode of transport (MOT), and living status (LST). The OLS estimates show that the variables father education, mother education, parental involvement, monthly household income, wealth index and living status are positively related to the student's educational attainment while the variables household size, family background, gender of the respondent, marital status, family system, father occupation and mode of transport are negatively related to the student's educational attainment. The impact of family background, gender of the respondent, family

system household size, father education, parental involvement, household income, and wealth index on student's educational attainment is found to be statistically significant. The overall significance of the model is tested by using F-statistic. The value of F-statistic turns out to be 40.3860 and also statistically significant (*P-value* = 0.000) it exhibits that the mode is overall statistically significant. The goodness of fit of the model is also measured by using R^2 and its value if found to be 0.4521, indicates that 45.21 percent variation in the dependent variable is due to explanatory variables while 54.79 percent variation is due to other factors.

The family background of the respondent is an important variable in influencing the students' educational attainment. Family background in the form of rural or urban significantly influences the STAC. It is found that the variable family background (FBG) is negatively (*Coefficient* = -0.0452) and significantly (*t-statistic* = -2.7138; *P-value* = 0.0068) related to the STAC. The coefficient of the variable indicates that as the FBG in rural increases by one, STAC is reduced by -0.0452 units. Basic amenities are available in urban areas, but rural areas typically lack them. The location of a school also has several negative effects, such as poor attendance, which leads to low educational attainment, an increase in the dropout rate, and an intensification of a variety of social issues (Raychaudhuri, Debnath, Sen, & Majumder, 2010). These outcomes are also found in the studies of (Li & Qiu, 2018; Zhao & Bodovski, 2020). The gender of the respondent is another important variable that can influence the students' educational attainment. It is found that the variable GEN is negatively (*Coefficient* = -0.0448) and significantly (*t-statistic* = -3.0959; *P-value* = 0.0020) related to the STAC. The coefficient of the variable indicates that as the GEN as male increases by one the STAC is reduced by -0.0448 units. The fact that females and males play the role of students differently and linked to success gaps. Compared to their male counterparts, female students are more diligent, less likely to miss lectures, and more likely to think that their grades accurately reflect their abilities. In contrast, male students are more likely to skip lectures because of other activities and think participating in sports is an essential part of university life (Newman-Ford, Lloyd, & Thomas, 2009). These outcomes are also found in the studies of (Adigun, Onihunwa, Irunokhai, Sada, & Adesina, 2015; Dania, 2014).

Table 5: Impact of Socio-Economic Factors on Students Educational Attainment

Dependent Variable: Students Educational Attainment (STAC)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.6962	0.0491	54.8186	0.0000
FBG	-0.0452	0.0166	-2.7138	0.0068
GEN	-0.0484	0.0156	-3.0959	0.0020
MS	-0.0297	0.0382	-0.7784	0.4365
FS	-0.0779	0.0199	-3.9138	0.0001
HHS	-0.0127	0.00368	-3.4657	0.0006
FEDU	0.0313	0.0127	2.4645	0.0208
FOCC	-0.0146	0.0211	-0.6951	0.4872
MEDU	0.0187	0.0036	5.0883	0.0000
MPRT	0.0255	0.0225	1.1344	0.2570
PINV	0.0599	0.0159	3.7604	0.0002
HHI	0.0037	0.0020	1.8453	0.0654
WI	0.6448	0.0577	11.175	0.0000
MOT	-0.0216	0.0157	-1.3714	0.1707
LST	0.0196	0.0196	0.9983	0.3185
R^2	0.4521			
Adjusted R^2	0.4409			
F-statistic	40.3860			
Prob.	0.000			
N	700			

Source: Author's Calculations

The family system, nuclear or joint, is important in determining students' educational attainment. It is found that the variable family system of the respondent (FS) is negatively (*Coefficient* = -0.0779) and significantly (*t-statistic* = -3.9138; *P-value* = 0.0001) related to the STAC. The coefficient of the variable indicates that as the FS as joint increases by one, STAC is reduced by -0.0779 units. The joint family system consists of a large family size. Smaller family size is associated with better student academic performance. In contrast to children from large households, those with fewer siblings are more likely to have their parent's

full attention and have access to more resources. Better academic success results from added care and encouragement (Eamon, 2005). These outcomes are also found in the studies of (Bilal, Tariq, Aleem, Shabbir, & Parveen, 2013; O'Malley, Voight, Renshaw, & Eklund, 2015; Suleman et al., 2012). Household size is a crucial demographic variable that can positively or negatively influence the STAC. It is found that the variable household size of the respondent (HHS) is negatively (*Coefficient* = -0.0127) and significantly (*t-statistic* = -3.4657; *P-value* = 0.0006) related to the STAC. The coefficient of the variable indicates that as the HHS increases by one, STAC is reduced by -0.0127 units. The resource dilution theory states that having more children reduces the amount of time and resources parents can dedicate to each child (Belley & Lochner, 2007). Each child's educational opportunities are increasingly constrained, and parental resources are more diluted as the family size increases (Maralani, 2008). These outcomes are also found in the studies of (Booth & Kee, 2009; De Haan, 2010; Kugler & Kumar, 2017; Weng, Gao, He, & Li, 2019).

The father's educational level is vital in determining the STAC. Because educated fathers understand the importance of education and invest in their children's education for better educational attainment, it is found that the variable education level of the father (FEDU) is positively (*Coefficient* = 0.0313) and significantly (*t-statistic* = 2.4645; *P-value* = 0.0208) related to the STAC. The coefficient of the variable indicates that as the FEDU increases by one 0.0313 unit increase, the educational attainment of students. Parents are more conscientious and concerned about their children's education, and the greater their educational achievement (Zakaria, Kassim, Mohamad, & Buniyamin, 2011). Parents who have received formal education hold values reflected in how they set up their children's access to higher education (Harris & Goodall, 2008; Jeynes, 2007; Rindermann & Baumeister, 2015; Thompson, Alexander, & Entwisle, 1988; Zakaria et al., 2011). Mother education is also important in determining the STAC. Because educated mothers care more about their children at home. It is found that the variable education level of the mother (MEDU) is positively (*Coefficient* = 0.0187) and significantly (*t-statistic* = 5.0883; *P-value* = 0.0000) related to the STAC. The coefficient of the variable indicates that as the MEDU increases by one, 0.0187 units increase STAC. According to Good and Brophy (1990), educated parents take an interest in their children's academic progress, meet with school officials, and work with them to ensure that their children take their studies seriously. These outcomes are also found in the studies of (Araque, Wietstock, Cova, & Zepeda, 2017; Awan & Kauser, 2015; Crede, Wirthwein, McElvany, & Steinmayr, 2015; De Graaf, 1986; Martin-Chang, Gould, & Meuse, 2011; Thompson, Alexander, & Entwisle, 1988).

Parental involvement significantly influences the STAC. It is found that the variable parental involvement in studies (PINV) is positively (*Coefficient* = 0.0599) and significantly (*t-statistic* = 3.7604; *P-value* = 0.0002) related to the STAC. The coefficient of the variable indicates that as PINV increases by one, STAC is increased by 0.0599 units. Parental participation is beneficial and necessary for students' growth. Additionally, it helps to enhance student conduct in the classroom. Students feel more motivated in their classes when parents and instructors interact more; as a result, their attitudes and self-esteem in the classroom increase (Jeynes, 2007). These outcomes are also found in the studies of (Boonk, Gijselaers, Ritzen, & Brand-Gruwel, 2018; Driessen, Smit, & Sleegers, 2005; Fan, 2001; Fan & Chen, 2001; Jeynes, 2007; Reynolds, 1992). Household income is vital in impacting the STAC. High-income households can invest more in their children's education for better academic results. It is found that the variable monthly household income (HHI) is positively (*Coefficient* = 0.0037) and significantly (*t-statistic* = 1.8453; *P-value* = 0.0654) related to the STAC. The coefficient of the variable indicates that as the HHI increases by one, the STAC increases by 0.0037 units. Household with high-income levels ensures better learning material for their children. A higher household income provides better soft skills and knowledge of social connections, which may complement better hard skills taught by the educational system. As a result, a higher household income and higher educational attainment may produce greater earnings returns than either would produce alone (Jennings & Niemi, 2015). These outcomes are also found in the studies of Belley and Lochner (2007); Blanden and Gregg (2004); Ermisch and Francesconi (2001). The wealth of the households can also determine the STAC. Wealthy households have more assets and can facilitate their children for better academic results. It is found that the variable wealth index (WI) is positively (*Coefficient* = 0.6448) and significantly (*t-statistic* = 11.1750; *P-value* = 0.0000) related to the STAC. The coefficient of the variable

indicates that as the WI increases by one, the STAC is increased by 0.6448 units. These outcomes are also found in the studies of Nawas (2019); Wiborg and Grätz (2022).

4.4. Independent Sample Test Analysis

This section intends to present the independent sample t-test analysis. An Independent sample t-test is used to check the significant mean difference in students' educational attainment with respect to family background, gender of the respondent, father occupation, mother participation in the labor force, and family system. Table 6 displays the outcomes of the independent sample t-test analysis. The outcomes found a significant mean difference in educational attainment of students with respect to family background as the rural (*Mean*= 3.23, *S.D.*= 0.260) and urban (*Mean*= 3.38, *S.D.*= 0.242), gender of the respondent as male (*Mean*= 3.26, *S.D.*= 0.260) and female (*Mean*= 3.35, *S.D.*= 0.247), occupation of the father as formal sector employment (*Mean*= 3.41, *S.D.*= 0.281) and informal sector employment (*Mean*= 3.25, *S.D.*= 0.239), mother employment status as participation in labor force (*Mean*= 3.45, *S.D.*= 0.230) and no participation in labor force (*Mean*= 3.25, *S.D.*= 0.253), and family system as joint (*Mean*= 3.26, *S.D.*= 0.224) and nuclear (*Mean*= 3.33, *S.D.*= 0.281). These outcomes implies that family background, gender of the respondent, father occupation, mother participation in the labor force, and family system has a significant impact on mean educational attainment of students.

Table 6: Independent Sample t-test Analysis with Respect to Family Background

Variables	Background	N	Mean	S.D.	t-test	Prob.
Family Background	Rural	366	3.23	0.260	-8.088	0.000
	Urban	334	3.38	0.242		
Gender of the Respondent	Male	391	3.26	0.260	-4.744	0.000
	Female	309	3.35	0.257		
Father Occupation	Formal Sector	212	3.41	0.281	7.672	0.000
	Informal Sector	488	3.25	0.239		
Mother Job Status	Participation	190	3.45	0.230	9.786	0.000
	No Participation	510	3.25	0.253		
Family System	Joint	264	3.26	0.224	-3.375	0.001
	Nuclear	436	3.33	0.281		

Source: Author's Calculations

4.5. One-Way ANOVA Analysis

This section is designed to present the One-Way ANOVA analysis of the significant mean difference in students' educational attainment with respect to father education, mother education, and household income. Table 7 displays the outcomes of the One-Way ANOVA analysis to test the significant mean difference in educational attainment concerning the father's education. It is found that there is a significant mean difference between categories such as primary education (*Mean*= 3.17, *S.D.*= 0.240), middle education (*Mean*= 3.13, *S.D.*= 0.258), matriculation (*Mean*= 3.29, *S.D.*= 0.250), intermediate (*Mean*= 3.36, *S.D.*= 0.244), bachelors (*Mean*= 3.35, *S.D.*= 0.221) and masters or above (*Mean*= 3.42, *S.D.*= 0.257) concerning educational attainment of the students (*F-statistic*= 23.453, *P-value*= 0.000). This suggests that father with higher education have children with higher mean educational attainment.

Table 7: One-Way ANOVA Analysis with Respect to Father Education

Education Level	N	Mean	S.D.	F-Test	Prob.
Primary	124	3.17	0.240	23.453	0.000
Middle	77	3.13	0.258		
Matric	103	3.29	0.250		
Intermediate	114	3.36	0.244		
Bachelors	140	3.35	0.221		
Masters or Above	142	3.42	0.257		
Total	700	3.30	0.263		

Source: Author's Calculations

Table 8 displays the outcomes of One-Way ANOVA analysis to test the significant mean difference of educational attainment concerning the mother education. It is found that there is a significant mean difference between categories such as primary education (*Mean*= 3.11, *S.D.*= 0.184), middle education (*Mean*= 3.17, *S.D.*= 0.244), matriculation (*Mean*= 3.31,

S.D.= 0.253), intermediate (*Mean=* 3.31, *S.D.=* 0.227), bachelors (*Mean=* 3.46, *S.D.=* 0.246) and masters or above (*Mean=* 3.58, *S.D.=* 0.171) concerning educational attainment of the students (*F-statistic=* 43.289, *P-value=* 0.000). This suggests that mothers with higher education have children with higher mean educational attainment.

Table 8: One-Way ANOVA Analysis with Respect to Mother Education

Education Level	N	Mean	S.D.	F-Test	Prob.
Primary	84	3.11	0.184	43.289	0.000
Middle	126	3.17	0.244		
Matric	138	3.31	0.253		
Intermediate	213	3.31	0.227		
Bachelors	89	3.46	0.246		
Masters or Above	50	3.58	0.171		
Total	700	3.30	0.263		

Source: Author's Calculations

Table 9 displays the outcomes of the One-Way ANOVA analysis to test the significant mean difference in educational attainment concerning the monthly household income. It is found that there is a significant mean difference between categories such as 25000RS or less (*Mean=* 2.93, *S.D.=* 0.220), 25001 to 40000 (*Mean=* 3.24, *S.D.=* 0.225), 40001 to 55000 (*Mean=* 3.28, *S.D.=* 0.247), 55001 to 70000 (*Mean=* 3.39, *S.D.=* 0.202), 70001 to 85000 (*Mean=* 3.28, *S.D.=* 0.284) and 85001 or above (*Mean=* 3.53, *S.D.=* 0.225) concerning educational attainment of the students (*F-statistic=* 39.695, *P-value=* 0.000). This suggests that respondents with high household incomes have high mean educational attainment.

Table 9: One-Way ANOVA Analysis with Respect to Household Income

Household Income	N	Mean	S.D.	F-Test	Prob.
25000 or Less	28	2.93	0.220	39.695	0.000
25001 to 40000	245	3.24	0.225		
40001 to 55000	153	3.28	0.247		
55001 to 70000	116	3.39	0.202		
70001 to 85000	68	3.28	0.284		
85001 or Above	90	3.53	0.225		
Total	700	3.30	0.263		

Source: Author's Calculations

5. Conclusions and Recommendations

This study attempts to analyze the impact of socio-economic factors on educational attainment of students in Bahawalpur district. For this purpose, the data of 700 students of both public and private educational institutions in the Bahawalpur district is collected using a proportionate and convenient sampling technique. For analysis, ordinary least square method, independent sample t-test, and One-Way ANOVA analysis are used. The analysis found that the variables father education, mother education, parental involvement, monthly household income, wealth index and living status are positively related to the student's educational attainment while the variables household size, family background, gender of the respondent, marital status, family system, father occupation and mode of transport are negatively related to the student's educational attainment. The impact of family background, gender of the respondent, family system household size, father education, parental involvement, household income, and wealth index on student's educational attainment is found to be statistically significant. An Independent sample t-test analysis found a significant mean difference in students' educational attainment with respect to family background, gender of the respondent, father occupation, mother participation in the labor force, and family system. One-Way ANOVA analysis found a significant mean difference in students' educational attainment with respect to father education, mother education, and household income. It is concluded that socioeconomic status is important in influencing the educational attainment of students in the Bahawalpur district. Keeping in view the findings of the study following recommendations are suggested to improve the educational attainment of students:

1. It is highly recommended that parents be aware of how crucial a student's home environment is to his academic success. Teachers, educators, and leaders can play a role in educating parents about the value of a supportive home environment for their children's academic success.

2. It is strongly recommended that parents are made aware of their power to influence their children's education through encouragement, the supply of learning resources, and active participation.
3. Family size has a negative impact on a student's academic performance. Therefore, it is strongly advised that the significance of family planning be highlighted and that parents be made aware of its significance. The nuclear family system should also be implemented.
4. It is found that students with low socioeconomic positions do worse academically, it is strongly advised that unemployment be reduced. Scholarships, free textbooks, and other stationery should be made available to poor pupils.
5. It is strongly advised that engagement and communication between parents and teachers be developed for the benefit of the students because parental involvement and participation have a substantial impact on student's academic progress.
6. The study found that mother education plays a significant role in their students' academic success, hence it is advised that the government take the appropriate steps to promote and boost female education.

References

Adigun, J., Onihunwa, J., Irunokhai, E., Sada, Y., & Adesina, O. (2015). Effect of Gender on Students' Academic Performance in Computer Studies in Secondary Schools in New Bussa, Borgu Local Government of Niger State. *Journal of Education and practice, 6*(33), 1-7.

Agus, A., & bin Mohamed Makhbul, Z. K. (2002). An empirical study on academic achievement of business students in pursuing higher education: An emphasis on the influence of family backgrounds. *New paradigm of borderless education: challenges, strategies, and implications for effective education through localization and, 168*.

Araque, J. C., Wietstock, C., Cova, H. M., & Zepeda, S. (2017). Impact of Latino parent engagement on student academic achievement: A pilot study. *School Community Journal, 27*(2), 229-250.

Awan, A. G., & Kauser, D. (2015). Impact of educated mother on academic achievement of her children: A case study of District Lodhran-Pakistan. *Journal of Literature, Languages and Linguistics, 12*(2), 57-65.

Belley, P., & Lochner, L. (2007). The changing role of family income and ability in determining educational achievement. *Journal of Human capital, 1*(1), 37-89.

Bilal, H. A., Tariq, A. R., Aleem, U., Shabbir, S. I., & Parveen, M. (2013). The effect of nuclear and joint family systems on academic achievements of students. *Academic Research International, 4*(5), 543.

Blanden, J., & Gregg, P. (2004). Family income and educational attainment: a review of approaches and evidence for Britain. *Oxford review of economic policy, 20*(2), 245-263. doi:https://doi.org/10.1093/oxrep/grh014

Boonk, L., Gijselaers, H. J., Ritzen, H., & Brand-Gruwel, S. (2018). A review of the relationship between parental involvement indicators and academic achievement. *Educational research review, 24*, 10-30. doi:https://doi.org/10.1016/j.edurev.2018.02.001

Booth, A. L., & Kee, H. J. (2009). Birth order matters: the effect of family size and birth order on educational attainment. *Journal of Population Economics, 22*(2), 367-397. doi:https://doi.org/10.1007/s00148-007-0181-4

Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual review of psychology, 53*(1), 371-399.

Crede, J., Wirthwein, L., McElvany, N., & Steinmayr, R. (2015). Adolescents' academic achievement and life satisfaction: The role of parents' education. *Frontiers in psychology, 6*, 120333. doi:https://doi.org/10.3389/fpsyg.2015.00052

Dania, P. O. (2014). Effect of gender on students academic achievement in secondary school social studies. *Journal of Education and practice, 5*(21).

Daniyal, M., Nawaz, T., Aleem, M., & Hassan, A. (2011). The factors affecting the students' performance: A case study of Islamia University of Bahawalpur, Pakistan. *African journal of education and technology, 1*(2), 45-51.

De Graaf, P. M. (1986). The impact of financial and cultural resources on educational attainment in the Netherlands. *Sociology of education*, 237-246. doi:https://doi.org/10.2307/2112350

De Haan, M. (2010). Birth order, family size and educational attainment. *Economics of Education Review, 29*(4), 576-588. doi:https://doi.org/10.1016/j.econedurev.2009.10.012

Driessen, G., Smit, F., & Sleegers, P. (2005). Parental involvement and educational achievement. *British educational research journal, 31*(4), 509-532. doi:https://doi.org/10.1080/01411920500148713

Eamon, M. K. (2005). Social-demographic, school, neighborhood, and parenting influences on the academic achievement of Latino young adolescents. *Journal of youth and adolescence, 34*, 163-174. doi:https://doi.org/10.1007/s10964-005-3214-x

Ella, R., Odok, A., & Ella, G. (2015). Influence of family size and family type on academic performance of students in Government in Calabar Municipality, Cross River State, Nigeria. *International Journal of Humanities Social Sciences and Education, 2*(11), 108-114.

Ermisch, J., & Francesconi, M. (2001). Family matters: Impacts of family background on educational attainments. *Economica, 68*(270), 137-156. doi:https://doi.org/10.1111/1468-0335.00239

Fan, X. (2001). Parental involvement and students' academic achievement: A growth modeling analysis. *The Journal of Experimental Education, 70*(1), 27-61. doi:https://doi.org/10.1080/00220970109599497

Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. *Educational psychology review, 13*, 1-22.

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.

Fuller, B. (1986). *Raising School Quality in Developing Countries: What Investments Boost Learning? World Bank Discussion Papers 2*: ERIC.

Good, T. L., & Brophy, J. E. (1990). *Educational psychology: A realistic approach*: Longman/Addison Wesley Longman.

Harris, A., & Goodall, J. (2008). Do parents know they matter? Engaging all parents in learning. *Educational research, 50*(3), 277-289. doi:https://doi.org/10.1080/00131880802309424

Hart, B., & Risley, T. R. (1996). Meaningful differences in the everyday experience of young American children. *Community Alternatives, 8*, 92-93.

Jennings, M. K., & Niemi, R. G. (2015). *Political character of adolescence: The influence of families and schools*: Princeton University Press.

Jeynes, W. H. (2007). The relationship between parental involvement and urban secondary school student academic achievement: A meta-analysis. *Urban education, 42*(1), 82-110. doi:https://doi.org/10.1177/0042085906293818

Khan, M. A., Asif, M., Khan, A. S., & Azeem, M. (2020). Factors Affecting the Academic Performance of Students at Higher Secondary School Level in Malakand District. *Pakistan Journal of Society, Education and Language (PJSEL), 6*(2), 197-207.

Kugler, A. D., & Kumar, S. (2017). Preference for boys, family size, and educational attainment in India. *Demography, 54*(3), 835-859.

Li, Z., & Qiu, Z. (2018). How does family background affect children's educational achievement? Evidence from Contemporary China. *The Journal of Chinese Sociology, 5*(1), 1-21. doi:https://doi.org/10.1186/s40711-018-0083-8

Lockheed, M. E., & Verspoor, A. M. (1991). *Improving primary education in developing countries*.

Martin-Chang, S., Gould, O. N., & Meuse, R. E. (2011). The impact of schooling on academic achievement: Evidence from homeschooled and traditionally schooled students. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement, 43*(3), 195. doi:https://doi.org/10.1037/a0022697

Mushtaq, I., & Khan, S. N. (2012). Factors affecting students' academic performance. *Global journal of management and business research, 12*(9), 17-22.

Nawas, A. (2019). The influence of family wealth and parent education level on students' reading literacy. *Journal of Indonesian Social Sciences and Humanities, 9*(1), 81-90. doi:https://doi.org/10.14203/jissh.v9i1.116

Newman-Ford, L., Lloyd, S., & Thomas, S. (2009). An investigation in the effects of gender, prior academic achievement, place of residence, age and attendance on first-year undergraduate attainment. *Journal of Applied Research in Higher Education, 1*(1), 14-28. doi:https://doi.org/10.1108/17581184200800002

O'Malley, M., Voight, A., Renshaw, T. L., & Eklund, K. (2015). School climate, family structure, and academic achievement: a study of moderation effects. *School Psychology Quarterly, 30*(1), 142. doi:https://doi.org/10.1037/spq0000076

Obeta, A. O. (2014). *Home environmental factors affecting students' academic performance in Abia State, Nigeria.* Paper presented at the Rural Environment. Education. Personality.(REEP). Proceedings of the International Scientific Conference (Latvia).

Ogunsola, O. K., Osuolale, K. A., & Ojo, A. O. (2015). Parental and related factors affecting students' academic achievement in Oyo State, Nigeria. *International Journal of Educational and Pedagogical Sciences, 8*(9), 3137-3144.

Rajenran, K. R., Selvaraj, A., Rajaguru,S., Chandrasekaran, B. (2017). Affecting Factors on Students' Academic Achievement at the Secondary Level in Rural Schools. *International Journal of Informative & Futuristic Research, 4*(5), 6254-6258.

Raychaudhuri, A., Debnath, M., Sen, S., & Majumder, B. G. (2010). Factors Affecting Students' Academic Performance: A case study in Agartala Municipal Council Area. *Bangladesh e-journal of Sociology, 7*(2).

Reynolds, A. J. (1992). Comparing measures of parental involvement and their effects on academic achievement. *Early Childhood Research Quarterly, 7*(3), 441-462. doi:https://doi.org/10.1016/0885-2006(92)90031-S

Rezaei-Dehaghani, A., Keshvari, M., & Paki, S. (2018). The relationship between family functioning and academic achievement in female high school students of Isfahan, Iran, in 2013–2014. *Iranian journal of nursing and midwifery research, 23*(3), 183-187.

Rindermann, H., & Baumeister, A. E. (2015). Parents' SES vs. parental educational behavior and children's development: A reanalysis of the Hart and Risley study. *Learning and individual differences, 37*, 133-138. doi:https://doi.org/10.1016/j.lindif.2014.12.005

Shakeel, M. D., & Peterson, P. E. (2020). Changes in the performance of students in charter and district sectors of US education: An analysis of nationwide trends. *Journal of School Choice, 14*(4), 604-632. doi:https://doi.org/10.1080/15582159.2020.1811467

Suleman, Q., Aslam, H., Hussain, I., Shakir, M., Khan, F., & Nisa, Z. (2012). Effects of parental socioeconomic status on the academic achievement of secondary school students in karak district, pakistan. *International Journal of Human Resource Studies, 2*(4), 14-32. doi:https://doi.org/10.5296/ijhrs.v2i4.2511

Thompson, M. S., Alexander, K. L., & Entwisle, D. R. (1988). Household composition, parental expectations, and school achievement. *Social Forces, 67*(2), 424-451. doi:https://doi.org/10.1093/sf/67.2.424

UNUGO, L. O. (2021). FAMILY SIZES: IT'S IMPLICATIONS ON STUDENTS'ACADEMIC ACHIEVEMENT S IN SOCIAL STUDIES. *UNIZIK Journal of Educational Research and Policy Studies, 2*, 102-113.

Weng, Q., Gao, X., He, H., & Li, S. (2019). Family size, birth order and educational attainment: Evidence from China. *China Economic Review, 57*, 101346. doi:https://doi.org/10.1016/j.chieco.2019.101346

Wiborg, Ø. N., & Grätz, M. (2022). Parents' income and wealth matter more for children with low than high academic performance: Evidence from comparisons between and within families in egalitarian Norway. *Research in social stratification and mobility, 79*, 100692. doi:https://doi.org/10.1016/j.rssm.2022.100692

Zakaria, Z., Kassim, R. A., Mohamad, A., & Buniyamin, N. (2011). *The impact of environment on engineering students' academic performance: A pilot study.* Paper presented at the 2011 3rd International Congress on Engineering Education (ICEED).

Zhao, J., & Bodovski, K. (2020). The effect of family background and parental expectations on eighth graders' academic achievement in rural and urban China. *Frontiers of Education in China, 15*, 647-677.