



## **Socio Economic Factors affecting Higher Education in Pakistan**

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### **Abstract**

*The economies that have emerged in the past and are ruling now all have one common factor among them i.e. plenty of higher education. For a developing country, like Pakistan, higher education plays a very imperative and significant role in the economic development. However, one can find a sweeping deterioration in the education while ascending upwards from primary to higher education. Researchers have found out several reasons for this diminutive higher education in developing countries. Therefore, the aim of this study is to explore the factors that are associated with the continuation of higher education in Pakistan. Data is collected from university students and people doing job through structured questionnaire. Descriptive statistics, factor analysis and multiple regression analysis have been used to analyze the data. Results prove finance shortage as main hurdle against higher education. Besides, parental literacy and gender also have impact on continuation of higher education. Moreover, higher education commission of Pakistan and universities are offering insufficient number of scholarships.*

**Keywords:** Higher Education, Socio economic factors, Pakistan

## 1. Introduction

Higher education is considered as one of the vital factors for economic development of a country. No country has achieved persistent economic development without significant investment in higher education. From the under developed economies to the developed economies, all emphasis upon higher education as a significant and substantial factor which is directly linked to the economic development of a country by being innovative and raising skills levels. Hence, higher education is one of the major contributors towards growth performance, financial health and competitiveness in any country. Academicians and researchers have significantly associated higher education with the economic development of any country.

Economies with better education policies, particularly higher education policies, have better competitiveness and dynamic productivity individually as well as country as a whole (Ciburienė, Bernatonytė, Simanavičienė, & Startienė, 2019). Investment in higher education is required to accelerate economic growth. Amaghouss and Ibourk (2019) examine the panel data of sixty nine counties from all over the world and conclude that higher education has a significant and positive relationship with economic development of a country. Similar study is conducted by (Seetanah & Teeroovengadum, 2019) for eighteen African economies through Panel Vector Auto regression and conclude that higher education plays significant role in the economic development of these African economies.

More precisely, for a developing country, like Pakistan, higher education also plays a very imperative and key role in attainment of the economic development of the nation. Karim and Khan (2018) indicate that there is a positive and significant relationship between education and economic growth in Pakistan and suggest that the policy makers should concentrate on education, research and development sector in order to accelerate the economy. Similarly, Haneef (2017) concludes that higher education has a positive and significant influence on economic growth and development of Pakistan. According to him, when government incurs more expenditure on higher education, the enrollments in higher education increases and ultimately the GDP also increases.

Despite the fact that higher education is directly associated with economic development, the present condition of the higher education in Pakistan is not encouraging. Jan (2019) reports that higher education system in Pakistan is far behind from rest of the world. According to his report, Pakistan is the lowest among Asian countries in the distribution of education budget in its GDP that has never reached to 3% of its yearly GDP. Nisar (2019) also highlights that the higher education system in Pakistan is far below the required level and does not meet the international level. He believes that Pakistan cannot develop until the higher education system is qualitatively strong enough.

Economic Survey of Pakistan (2018) reveals that the current literacy rate of the country is 62.3% which is much less than the other developing countries in the region. Moreover, The Global Human Capital Report (2017) indicates that Pakistan rank is 125 out of 130 countries in terms of human capital development. Even in sub-continent South Asia; Sri Lanka, Nepal, India and Bangladesh have better ranking as compared to Pakistan. This report further says that low human capital development is because of low educational enrollment. Pakistan is ranked 86 out of 130 countries which is an alarming indicator for tertiary education attainment, even the scores of the tertiary education attainment rate (10.1 out of 100) and tertiary education

enrollment rate (9.9 out of 100) are not only the lowest in South Asia but also the lowest in the world

There are several socio economic factors that affect the decision for continuing higher education. These factors include education of mother, education of father, father's occupation, marital status, number of family members, quality of the program, quality of the university and the shortage of finance. Britt, Ammerman, Barrett, and Jones (2017) find that the financial stress of the students cause the possibility of withdrawing the education among college students who take students' loan. Although we emphasize the need of education at all fronts, we fail to understand first and foremost reason for the lack of education in Muslim world in general and Pakistan in particular, that is the shortage of finance in this sector.

Now the questions arise whether the shortage of finance is the main reason for not continuing higher education in Pakistan? What role is playing by the HEC and banks in providing scholarships or loans to students? Researchers have found out several reasons for decline in higher education like shortage of finance, higher tuition fee, mobility cost, quality of higher education, availability of education loan, interest charges related to education loan, and several other socio economic and demographic characteristics in Pakistan. Therefore, the primary objective of this study is to explore the factors that affect the continuation of higher education in Pakistan. Moreover, this study discusses the role of higher education commission of Pakistan (HEC) and universities in providing different scholarships.

This paper is structured into six different sections. Section 2 highlights literature review about the higher education, its impact on economic development, present condition of higher education in Pakistan and reasons for stumpy higher education in Pakistan. Section 3 is about the theoretical framework and hypothesis development of the study. Section 4 explains about the research methodology, population and sample and analytical procedures used in this study and section five includes results and discussions. Lastly, section 6 has conclusions and policy recommendations.

## **2. Literature Review**

### **2.1 Higher education and Economic Development**

Higher education is commonly seen as a significant contributor towards economic development of a country. According to Zhu, Peng, and Zhang (2018) , higher education shows a conspicuous part in defining the competitiveness of a country. In this study, they examine the impact of the higher education on economic development of the country in the six provinces of Central China and find that higher education has a significant and positive effect on economic growth in Central China. Pastor, Peraita, Serrano, and Soler (2018) conduct a study of European countries and find that higher education institutions are the prominent source of economic growth. Cook and Ehrlich (2018) identify human capital as the engine of growth for any country. According to them, human capital is the intangible assets of a country and by developing human capital is basically to develop the economy. They conduct this study for United States and conclude that higher education spreads a higher long term rate of growth in per capita income in United States.

Chang, Chen, and Xiong (2018) explore interactive relationship between education and economic progress in under developed countries. They look into how the structure of higher education works towards economic expansion in BRICS countries (Brazil, Russia,

South Africa, India and China) and find that there is a unidirectional statistical association between the tertiary education and economic growth. Azar (2018) examines the association between tertiary education and economic growth and per capita income to a panel of 41 counties over the period 1970-2010. The author concludes that tertiary education plays a significant role to speed up the economic growth of a country and per capital income. Hence, a significant and positive association can be established between higher education and economic development of a country (Amaghous & Ibouk, 2019; Azar, 2018; Bloom, Canning, Chan, & Luca, 2014; Boopen, 2017; Cook Adam & Ehrlich Isaac, 2018; Gaulee, 2017; Yang, 2017).

## **2.2 Higher education and Economic Development in Pakistan**

Pakistan also confirms a positive and significant association between higher education and economic development of the country. Hakim and Hussin (2016) examine the association between economic growth and higher education in Pakistan during the period of 1982-2014. The study indicates that higher education in Pakistan has a significant as well as positive impact on gross domestic product (GDP). Ali, Hakim, and Abdullah (2016) also find a significant and positive relationship between higher education and economic development in Pakistan. Similarly, Azam, Rafiq, and Nazir (2014) indicate that economic development is directly and positively related to higher education in Pakistan. This study takes GDP, GDI, Imports of goods, export of goods, and GNI as a proxy for economic development and all show a positive relationship with higher education. Moreover, Aziz, Khan, and Aziz (2010) conclude that there is a positive impact on higher education enrollments with the higher education expenditure and GDP in Pakistan. Hence, researchers find a significant and positive relationship between higher education and economic development in Pakistan (Chaudhary, Iqbal, & Mahmood, 2009; Qazi, Raza, & Jawaid, 2014)

## **2.3 Current Situation of Higher Education in Pakistan**

Although there is a proven direct linkage between higher education and economic development of a country, yet there is a very weak situation of higher education in Pakistan. Table 1 shows enrollment statistics of different educational levels in Pakistan. According to the Pakistan Education Statistics (2017-2018), 18,663,756 students are registered in Primary level during year 2017-2018. In middle level, the enrollment of students remains only less than one third. And if we talk about enrollments in tertiary level, only 1,103,446 are enrolled in 14 years of education, a steep decline in 16 years of education that is only 266,226 enrollments. In 16+ years of education, the enrollments decline to 176,844 and finally for PhD level, just 22,147 enrollments are established.

**Table 1: Enrollments Statistics of Different Educational Levels in Pakistan**

Class Level	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
<b>Primary</b>	17,567,581	17,574,849	17,869,859	18,368,810	18,751,995	19,351,834	18,663,756
<b>Middle</b>	5,952,831	6,119,197	6,295,471	6,419,404	6,445,697	6,526,628	6,422,425
<b>High</b>	2,691,595	2,835,326	2,318,840	3,366,238	3,437,306	3,325,532	3,348,964
<b>Higher Sec/Inter College</b>	1,251,787	1,356,825	1,224,481	1,665,490	1,694,443	1,583,379	1,681,927
<b>Degree Colleges (XI-XIV)</b>	497,152	641,539	674,451	1,144,826	937,132	956,395	604,614
<b>Bachelor 14 Years- (Universities)</b>	925,371	1,119,289	1,119,289	814,414	973,487	1,025,253	1,103,446
<b>Master of 16 years of Education</b>	306,959	370,536	370,536	374,235	228,912	246,663	266,226
<b>Master of 16+ years/M.Phil/MS</b>	53,064	63,616	63,616	62,456	129,562	168,992	176,844
<b>PhD</b>	19,330	23,073	23,073	26,117	15,004	18,565	22,147
<b>PGD</b>	15,075	18,134	18,134	21,938	8,684	3,806	7,130

If we look into Table 2 below, only 5.91% could reach to 14 years bachelor level education as compared to primary enrollments for the year 2017-2018. Similarly, only 1.43% enrollments are in 16 years of education and 0.95% enrollments are in 16+ years of education as a percentage of primary education. And if we talk about PhD level, only 0.12% enrollments are originated as compared to primary education. From these statistics, it can be concluded that there is a dire need to boost the education in tertiary level for the human capital development and economic growth.

**Table 2: Enrollments Percentage in Different Educational Levels in Pakistan**

Class Level	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
	%	%	%	%	%	%	%
Primary	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Middle	33.89	34.82	35.23	34.95	34.37	33.73	34.41
High	15.32	16.13	12.98	18.33	18.33	17.18	17.94
Higher Sec/Inter College	7.13	7.72	6.85	9.07	9.04	8.18	9.01
Degree Colleges	2.83	3.65	3.77	6.23	5.00	4.94	3.24
Bachelor 14 Years- (Universities)	5.27	6.37	6.26	4.43	5.19	5.30	5.91
Master of 16 years of Education	1.75	2.11	2.07	2.04	1.22	1.27	1.43
Master of 16+ years/M.Phil/ MS	0.30	0.36	0.36	0.34	0.69	0.87	0.95
PhD	0.11	0.13	0.13	0.14	0.08	0.10	0.12
PGD	0.09	0.10	0.10	0.12	0.05	0.02	0.04

Source: Authors' calculations from Table 1

Rahman (2019), the former founder of HEC Pakistan, states that HEC sent about 1700 scholars for training abroad during 2013 to 2018. This number is not an impressive number for a period of five years. According to him, this number should have been 10 times higher as compared to the other countries in the same region. He further adds that Pakistan focuses on undergraduate education and neglects higher education. He suggests that government should take notice and improve higher education otherwise this drain in higher education may lead a country towards clampdown of the economy.

### **2.3 Reasons for Low Higher Education**

Paola, Lemmer, and Wyk (2004) report that the lack of financial resources on the part of students and issue of cost and availability of funding on the part of educational institutions and universities are the foremost and crucial factors challenged by undergraduate students in order to pursue their higher education. Sadek, Mustafi, and Tauhid (2016) conclude that 80% of people live in villages in Bangladesh, out of which only 7% parents send their children to university level. According to them higher education is affected by region, parents' education, parents' income, parents occupation, family size, religion and type of place of residence. Strayhorn (2010) finds that the total

loan, tuition fee reduction and deferment status are significantly related to pursue the higher education.

Similarly, Čepar and Bojnec (2013) investigate the determinants of higher education demand in Slovenia and find that cost of education, geographical accessibility, demographic factors and travel cost are significant. Baltar (2018) says that non-affordability is one of the major reasons for many families to get higher education. Similarly, Schendel and McCowan (2016) report that low and middle income countries are facing severe issue of less expansion in enrollments of higher education. This issue is common not only in developing economies but also in developed economies like Germany, United Kingdom, Spain or United States of America (Breier, 2010; Lassibille & Navarro Gómez, 2008; Quinn, 2004, 2013; Schendel & McCowan, 2016)

## **2.4 Reasons for Low Higher Education in Pakistan**

Although we emphasize upon the need of education at all fronts, we fail to understand first and foremost reason for the lack of education in Muslim world in general and Pakistan in particular, that is the shortage of finance in this sector. According to Jessie (2015), in developing countries, higher education faces a number of hurdles and glitches all over the world. One of the major reasons for low higher education is lack of sufficient finance. While aids or scholarships are available for them but they are not sufficient in numbers. Out of these reasons, financial problem is the most prominent and most occurring cause of this drop out.

According to Chaudhry (2016), lack of finance is one of the prime reasons for less enrollments in higher education in Pakistan. Chaudhary et al. (2009) reveal that the ratio of higher educated people in Pakistan is very low so there is a dire need to provide students with ample finance to pursue their objectives of getting higher education. On the other hand, Asifa (2018) finds that higher education system in Pakistan has two major complications in its structure i.e. the weak governance dubious quality of education. In contrast, Shaukat (2016) writes that higher education cost is a burden for students. High tuition fees, utilities, transportation, food, healthcare etc. all are those expenses that students can hardly afford. Similarly, Naz (2019) argues that educational policies of Pakistan are not satisfying the national needs of the country. The government is not only unable to provide low cost higher education but also restricting less privileged students to get quality higher education due to privatization of education. Taimoor (2017) explores that lower budget allocation and lack of investment in higher education are prominent reasons for the weak higher education system in Pakistan. Hence, there are some common reasons for the students drop out in higher education studies, yet financial problem is the most prominent and most recurring cause of this drop out.

## **2.5 Education Scholarships and Loans Availability in Pakistan**

A very few number of scholarships are available for higher education in Pakistan. Less effort has been made by the government to provide sufficient numbers of scholarships for higher education. The scholarships offered by HEC and universities are not only insufficient in numbers but also have limitations like area specific, age limit, discipline restricted, hence limiting enrollments in higher education. Similarly, commercial banks loans are for specific universities, for specific area residence, age limit and many of them are interest based, therefore restricting enrollments in higher education. On the other side only few Islamic banks offer education finance but all these plans are based on long term

savings and investments for their children and not for themselves. Therefore, these financial plans are not appropriate to finance their own education.

There are developing countries with huge number of primary and secondary education enrollments but this drastically decreases at the tertiary education and thus such nations are struggling in their economic growth. Pakistan is also one such country. Regrettably, the scholarships and educational loans provided by Higher Education Commission (HEC) and the government of Pakistan are very less in numbers. This leaves us with dilemma of finance shortage for tertiary education students.

### **3. Theoretical Framework and Hypothesis Development**

Researchers have explored several factors that affect the continuation of higher education. Among several socio and economic factors, lack of finance is one of the most prominent factors. Other factors include the education of parents, father's occupation, high admission fees, high tuition fees, high hostel fees or accommodation fees, high traveling cost or transportation fees, and the quality of the present/current program and the quality of present/current university.

The quality of the current program in which a student is enrolled and the quality of the university also affect the decision of the student to further continue higher education in future (Dahill, Witte, & Wolfe, 2016; Duarte, Ramos-Pires, & Gonçalves, 2013). On the other hand, Nelson (2009) and Smoke and Vettor (2013) explore the impact of parents' education on the success of their children education and concludes that students with educated parents are more likely to continue their higher education. Shaukat, Siddiquah, and Pell (2014) discover that gender disparity even exists in the field of education. Salik and Zhiyong (2014) conclude that little attention has been given to the gender equality in higher education and recommend that female higher education should be taken care by government level at priority basis.

Based on the above discussion, the following hypothesis is constructed for the current study:

H1: Shortage of finance is the foremost problem to continue higher education.

H2: Imprecise universities' scholarships are the hurdle to continue higher education.

H3: Imprecise HEC's scholarships are the hurdle to continue higher education.

H4: Imprecise banks' educational loans are the hurdle to continue higher education.

H5: Quality of the current program and universities has impact on the continuation of higher education.

H6: Parents' qualification is associated with the continuation of higher education.

H7: Gender has an association with the continuation of higher education.

## **4. Research Methodology**

### **4.1 Research Design**

The current research is based on quantitative research approach and uses a non-experimental design such as research survey by using a structured questionnaire. Creswell and Creswell (2017) define research survey as "a quantitative description of trends, attitudes or opinions of a population by studying a sample of that population."

### **4.2 Population and Sample**

Primary data is collected from the respondents in Lahore who are currently studying in universities and/or doing jobs in offices. The final sample size is 412 respondents which are calculated by the Cochran's Formula with the 12 million population in Lahore. This



sample size method is consistent with the study of (Faham, [2019](#); Mashenene, [2019](#)). 5 point Likert scale is used. Total 500 questionnaires were distributed and 488 were returned, out of which 76 incomplete and incorrect questionnaires were discarded. Cluster sampling method is used for this study. Within the cluster, this study selects individuals for survey through random sampling and inside a strata.

#### 4.3 Analytical Procedures

The statistical software SPSS is used for data analysis. Descriptive statistics is used to examine the demographic characteristics of respondents. Then Cronbach's Alpha is used to check the reliability and internal consistency of the questionnaire. After that, factor analysis is used for data reduction and to remove any highly correlated variables from the data by replacing the many correlated variables into fewer uncorrelated components. And in last, multiple regression analysis is used to check the association between the higher education with the independent factors.

#### 4.4 Descriptive Statistics

Frequencies distribution is used to precise the respondents' background by calculating some basic indicators. This basic information includes demographic characteristics like gender, age, current education, marital status, hometown, current discipline, and future discipline choice. Table 5 shows the demographic characteristics of the respondents.

**Table 3: Frequency Distribution Table**

Demographic Information		Frequency	Percent (%)
Gender	Male	203	49.3
	Female	209	50.7
Current Status	Studying	240	58.3
	Doing Job	60	14.6
	Doing Business	7	1.7
	Doing job & Studying	84	20.4
	Doing Business & Studying	19	4.6
	Others	2	.5
Current Qualification	Matric	4	1.0
	Inter (12 years)	172	41.7
	Bachelors (14 years)	141	34.2
	Masters (16 years)	65	15.8
	M.Phil (18 years)	29	7.0
	Others	1	.2
Age	Under 15 years	0	0.0
	16 to 20 years	209	50.7
	21 to 25 years	129	31.3
	26 to 30 years	46	11.2
	31 to 35 years	14	3.4

	Above 35 years	14	3.4
Marital Status	Married	55	13.3
	Single	357	86.7
	Divorced	0	0
	Widow	0	0
Current Discipline	Arts	116	28.2
	Business and Economics	105	25.5
	Medical	5	1.2
	Social Science	21	5.1
	Commerce	122	29.6
	Engineering	6	1.5
	Computer Science	7	1.7
	Others	30	7.3
Future Discipline Choice	Arts	96	23.3
	Business and Economics	145	35.2
	Medical	6	1.5
	Social Science	17	4.1
	Commerce	76	18.4
	Engineering	8	1.9
	Computer Science	12	2.9
	Others	52	12.6

50.7% respondents are female while 49.3% are male. 58.3% respondents are currently studying, 14.6% are doing job, 20.4% are doing job as well as studying, whereas 4.6% are doing business as well as studying. While, 1% respondents are in Matric, 41.7% are in inter, 34.2% are in bachelors, 15.8% are in Masters and 7% are in M.Phil. 13.3% respondents are married whereas 86.7% are unmarried. 28.2% respondents are currently studying Arts, 25.5% respondents are studying Business and Commerce, 29.6% respondents are studying commerce, and 51% are studying social science. Similarly, 23.3% respondents would like to choose arts as a future discipline, 35.2% would like to have business and economics and 18.4% commerce.

## 5. Result and Discussion

### 5.1 Reliability Test

Cronbach's Alpha test provides a reliability coefficient which implies that how well all the items in the data set are positively linked with each other. The value of Cronbach's Alpha for all the scale questions is 0.783. This implies that 78.30% from the developed questions are acceptable. So, the internal consistency reliability of the measure used for this study can be considered as reliable and good.

## 5.2 Factor Analysis

Factor analysis is used to simplify the data by reducing many individual variables into a fewer number of construct or components. [Table 3](#) shows KMO (Kaiser-Meyer-Olkin) test of sampling adequacy and Bartlett's test of Sphericity. Both tests are the measure of how much the data is suited for factor analysis. The results of both tests (KMO value is 0.713) and Bartlett's test of Sphericity (significance level less than 0.05) show that the results of factor analysis are useful.

**Table 4: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		<b>.713</b>
Bartlett's Test of Sphericity	Approx. Chi-Square	2318.660
	Df	253
	Sig.	0.000

Next table 5 is the table of rotated component matrix that divided all 23 variables into seven components with the allocation of highly correlated variables in each component. Seven components are then named as scholarship procedure and grants, availability of finance, restricted HEC scholarships, accessibility of universities and disciplines, parental literacy, banks procedure for education loan, and HEC scholarships procedures according to the factor loadings.

**Table 5: Factor Analysis (Rotated Component Matrix)**

Questions	Component						
	Scholarship Procedures and Grants	Availability of Finance	Restricted HEC Scholarships	Accessibility of Universities and Disciplines	Parental Literacy	Banks procedure for education loan	HEC scholarship procedures
Do you think that non-availability of finance is the main reason for not continuing your higher education in future?		.579					
Do you think that your total fee of the		.808					

current program is unaffordable (or very high)?							
Do you think that the admission fee of your current program was/is very high?		.775					
Do you think that the rent/accommodation or hostel fee is unaffordable (very high)?	.395	.426					-.333
Do you think that transportation cost/travel cost is unaffordable (or very high)?		.518	.342				
Are you satisfied with the quality of education provided by your university?				.729			
Do you think that non availability of sufficient number of universities is				.801			

the reason for not continuing higher education?							
Do you think that non availability of your subject area or discipline is the reason for not continuing higher education?				.687			
Do you think that the scholarships offered by universities are less in number?	.792						
Do you think that the scholarships offered by universities are not sufficient to cover all the expenses associated with the degree tenure?	.637						
Do you think that the procedure for getting the scholarships	.631						

in universities is very difficult?							
Do you think that the procedure for getting universities scholarships takes more time?	.584						.374
Do you think that scholarships offered by HEC (higher education commission) are less in number?	.568						
Do you think that the scholarships offered by HEC are not sufficient to cover all the expenses associated with the degree tenure?	.588		.412				
Do you think that scholarships offered by HEC (higher education commission) are restricted to particular			.731				

location/geographical area?							
Do you think that scholarships offered by HEC (higher education commission) are restricted to a particular subject/faculty/discipline?			.793				
Do you think that the procedure for getting the scholarships in HEC is very difficult?			.412				.603
Do you think that the procedure for getting HEC scholarships takes more time?							.674
Do you think that education loan offered by banks/financial institutions are insufficient in numbers?	1					.775	
Do you think that the procedure of getting education						.752	

loan in banks is difficult?							
Do you think that banks charging interest on education loan is acceptable and bearable by students?			.364			.594	
Father's Qualification					.872		
Mother's Qualification					.858		
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.							

Based on the results of factor analysis, the following model is formed:

$$CHE = \alpha + \beta_1 SPG + \beta_2 AOF + \beta_3 RHS + \beta_4 AUD + \beta_5 PAL + \beta_6 BPL + \beta_7 HSP + \beta_8 GEN + \mu_{it}$$

Where;

CHE = Continuation of Higher Education

SPG = Scholarship Procedure and Grants

AOF = Availability of Finance

RHS = Restricted HEC Scholarships

AUD = Accessibility of Universities and Disciplines

PAL = Parental Literacy

BPL = Banks Procedure for Education Loan

HSP = HEC scholarship Procedures

GEN = Gender

Following table 6 shows the composite reliability test of all above seven components before running the regression analysis.



**Table 6: Composite Reliability Test**

Components	Cronbach's Alpha
Scholarship Procedure and Grants	0.802241
Restricted HEC scholarships	0.734852
Availability of finance	0.765125
Accessibility of Universities and Disciplines	0.783767
Parental literacy	0.856035
Banks Procedure for Education Loan	0.752038
HEC scholarships procedures	0.579448

### 5.3 Multiple Regression Analysis

Table 7 shows co linearity diagnostic test for multicollinearity. Both the Eigen values and condition indices indicate that there is no issue of multicollinearity among variables. Table 8 shows the results of regression analysis. The overall measure of strength of relationship between the continuations of higher education with the independent variables is measured by R-square which is 18.0%. According to Karen (2008) and Newman and Newman (2000), a small  $R^2$  is equally valid and appropriate in social science researches because in social sciences it is not possible to obtain a complete explanation of all the variables due to a specific outcome. F-stat shows whether the independent variables reliably predict the dependent variable. P-value of F-stat is less than 0.05, which shows a reliable prediction between dependent and independent variables of the current study.

**Table 7: Co linearity Diagnostic Test**

Model		Eigen value	Condition Index
1	1	2.179	1.000
	2	1.232	1.330
	3	1.110	1.401
	4	1.000	1.476
	5	.905	1.552
	6	.775	1.676
	7	.680	1.791
	8	.619	1.876
	9	.501	2.086

**Table 8: Multiple Regression Analysis**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Co-linearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	4.391	.037		118.5	0.000		
Scholarship Procedure and Grants	.110	.044	.133	2.489	*.013	.707	1.414
Availability of finance	.085	.040	.103	2.106	*.036	.850	1.177
Restricted HEC scholarships	-.052	.042	-.063	-1.238	.216	.774	1.292
Accessibility of Universities and Disciplines	.206	.038	.251	5.385	**.000	.938	1.066
Parental literacy	-.108	.038	-.132	-2.830	*.005	.940	1.064
Banks Procedure for Education Loan	-.023	.040	-.028	-.585	.559	.866	1.155
HEC scholarships procedures	.108	.044	.131	2.447	*.015	.708	1.412
Gender	.095	.038	.116	2.487	*.013	.933	1.072
Variable is Significant at 1% and 5% level of significance.							
Model Summary: $R^2 = 0.18$ , Adjusted $R^2 = 0.164$ , Durbin Watson 1.958, F-Stats = 11.080 (Sig = 0.000)							

Multiple regression analysis shows that scholarship procedures and grants, availability of finance, Number of universities and availability of disciplines, HEC scholarship procedures, gender and parental literacy are significantly associated with the continuation of higher education in Pakistan. In contrast, restricted HEC scholarships and banks procedure for educational loan are insignificant with the continuation of the higher education.

The first significant factor with the continuation of higher education is the scholarship procedures and grants provided by different universities and HEC. Less number of scholarships offered by universities and HEC, difficult and time taken procedures for getting universities scholarships and insufficient scholarship grants by universities and HEC to cover all the expenses associated with degree tenure are the main features of current scholarships of HEC and universities and are causing the hurdles in the continuation of higher education.

The second significant variable (availability of finance) includes high admission fee, high tuition fee, hostel fee and travelling costs all are associated with the continuation of higher education these results are consistent with the results of (Baltar, 2018; Breier, 2010; Cepar & Bojnec, 2013; Chapman & Sinning, 2014; Jessie, 2005; Lassibille & Navarro, 2008; Pignini & Staffolani, 2013; Quinn, 2013; Schendel & McCowan, 2016).

Next significant factor is accessibility of universities and disciplines. The universities are less in number and the disciplines or subjects offered by universities are less in number. If universities offer more subjects or disciplines then the higher education may increase.

The next significant factor includes parental literacy. Educated parents strengthen their children to continue higher education. These results are consistent with the findings of (Herrold & Donnell, 2008; Nelson, 2009; Sadek et al., 2016; Smoke & Vettor, 2013; Turk, 2019). Lastly, gender is also associated with the continuation of higher education in Pakistan. Parents generally encourage their sons to educate more as compare to their daughters. These results are consistent with the results of (Batool, Sajid, & Shaheen, 2013; Salik & Zhiyong, 2014; Shaukat et al., 2014).

## 6. Conclusion:

The current study is conducted to explore the factors that affect the continuation of higher education in Pakistan. This study also highlights the need to develop a Shariah based financing for higher education. Data is collected through closed ended questionnaires and factor analysis and multiple regression analysis are applied. This study concludes the non-availability of finance is the main reason for not continuing higher education. High tuition fees, high admission fees, high accommodation fees, and high travelling cost are the main hurdles. HEC and universities are not offering sufficient number of scholarships and these scholarships are unable to cover all the expenses associated with the whole degree tenure. Besides, parental literacy and gender also have impact on continuation of higher education. This research also proves that Finance is the main hindrance in the continuation of higher education in Pakistan. In case financial solutions are developed the sector will flourish more rapidly. The purpose is to present a viable commercial mechanism for all stakeholders i.e. students, education providers, parents and HEC.

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