

Factors Making the Change in Current Academic Performance of Business Students at the University Level

Hafiz Muhammad Naveed (Corresponding Author)

School of Finance and Economics, Jiangsu University, Zhenjiang 202113, China

Tel: 86-186-5128-9309; E-mail: Hafiznaveed778@gmail.com

Hafiz Amar Yaqoob

School of Economics, Institute of Southern Punjab, Multan 60061, Pakistan

Tel: 923-08-834-5630; E-mail: ammar.hafiz009@yahoo.com

Shoaib Ali

School of Management, Jiangsu University, Zhenjiang 212013, China

Tel: 86-286-5128-9296; E-mail: Shooaibali6@gmail.com

Jan Muhammad Sohu

School of Management, Jiangsu University, Zhenjiang 212013, China

Tel: 923-33-604-3150; E-mail: jansohu7@gmail.com

Yao Hongxing

School of Finance and Economics, Jiangsu University, Zhenjiang 202113, China

Tel: 86-88-792-098; E-mail: hxyao@ujs.edu.cn

Received: August 5, 2020 Accepted: August 18, 2020 Published: September 4, 2020

doi:10.5296/jad.v6i2.17637 URL: <https://doi.org/10.5296/jad.v6i2.17637>

Abstract

The key objectives of current empirical research study to examines the Factors making the change in the current academic performance of business students at the University level as a mediators role of Curriculum, English competency, Students Facilities, Faculty quality and Fee Remission. For this key purpose, primary data was collected by respondents via self-administrative questionnaire. Following econometric models have entertained to expose actual phenomenon: Reliability test was taken to test the consistency among the questions; descriptive statistics were used to determine the data visualizing and data normality; a correlation matrix was applied to quantify individual significance; the linear regression model was used to examine the per-unit and overall volatility in the model; mediation regression test was used for diagnosing the mediation effect and sobal test was used for robustness check of the mediation effect. The result indicates that the previous academic performance of students and the current academic performance of students have positively associated. Moreover, the consequences have acknowledged that the partially mediation effect of curriculum, English competency, Student facilities, Faculty quality and fee remission. This research study will be supported to the university administration for creating novel-legislation concerning uplift the academic performance of students.

Keywords: previous academic performance of students; current academic performance of students; Curriculum; English competency; students' facilities; faculty quality; fee remission

1. Introduction

The energy of each educational institute depends on the number of Students. Furthermore, the academic performance of students does openly hit the development of the nation. The most exceptional class alumni always based upon the educational achievements of students who provide the prodigious leader and best human resource for the country which is also responsible for the financial and public development of the country (Ali, Jusof, Ali, Mokhtar, & Salamat, 2009). In the past, the academic performances of business students have directly or indirectly affected by given environments, financial positions, psychological deference and individual consciousness.

Factors of academic achievements of students depend on the market to market and nation to nation. If we talk about Pakistan education statutes, their literacy rate had been improved from the last decade due to raising the number of new educational institutes and high qualified faculty, teaching training and others some individual efforts. But still many factors are affecting the academic performance of students at public sector Universities. There several students' culpability the semester system in public Universities at Pakistan has not been reliable for them concerning academically scoring in the form of Cumulative Grade Point Average CGPA, Grade Point average GPA (Mushtaq & Khan, 2012). Ross and Broh (2000); Stephens and Schaben (2002); (Darling-Hammond, Holtzman, Gatlin, & Heilig, 2005); (Galiher, 2006), have explored the students' academic performance by CGPA and SGPA student scoring scale. Moreover, PAPOS has a significant and reliable factor that becomes a change in the further academic performance of students (Akhtar, 2012; Alfani & Othman, 2005). Mushtaq and Khan (2012), have determent the various factors affecting

students' academic performance in Pakistan state.

Many scholars have addressed a significant factor that affects students' academic performance, especially where English has not a national language yield. They have acknowledged we can resolve this academic issue by a strong grip on speaking and writing skills of English because both directly connected with students' examination (F. Abdullah, 2006). Hansen (2000), has highlighted the performance of students' also directly related to the students' facilities. Dimensionally, the students' facilities summarized with the number of libraries, computer labs, research laboratory and study environments given by Universities (Karemera, Reuben, & Sillah, 2003). Burdick-Will et al. (2011), have determined that the students' learning has positively affected by a higher-level number of educational boards and it also influences institutional development. Darling-Hammond, Holtzman, et al. (2005); Galihir (2006), have stated that SGPA is an appropriate and uncomplicated tool to quantify the students' academic achievements for a specific semester.

Similarly, some scholars analyzed the students' performance as well they get total previous or a specific course result of the current program since from admission and it compares with the current semester result within a particular institute. But they mentioned that test students' performance by using total results since admission is a reliable way than a specific course target (Hake, 1998; Hijazi & Naqvi, 2006). Bakracevic Vukman and Licardo (2010), have highlighted that the socio-economic status of the students, formal school background and academic performance of undergraduate students are key elements of students' performance.

In the past, most studies were conducted to explore the factors of students' academic performances at different stages of students. Scholars have acquiesced the English competency, appropriate educational environment, educational background and socio-economic status of parents making the change in students' academic performances. But according to studied literature, scholars there did not seem like a comparative view among PAPOS and CAPOS. Frequently were noted in Pakistan; the PAPOS and CAPOS are going to forward in a similar direction. It also quantified that deprived PAPOS remains deprived in CAPOS. Moreover, outstanding PAPOS remains still outstanding in CAPOS. But big block students have poor PAPOS but their CAPOS are excellent as well as lots of students have outstanding PAPOS but their CAPOS are quite deprived. Finally, with respect above studies, we indicates that some other factors are working as mediator power in between the PAPOS and CAPOS.

The core problem is that we assessed inside developing and under developing countries, a lot of students have excellent previous academic achievements but their current academic achievements at university level have not admirable. For discover such problem, its obligation to examine the impact of previous academic performance on the current academic performance of students. Furthermore, exclusively we detect those students who have an excellent profile with previous academic performance and they didn't get appropriate achievements in the current academic term. Afterwards, we did distribute the questionnaire in them and tried to find the problems. The main objective of the current research study is that to expose the mediator forces which making the change among PAPOS and CAPOS at the

University level of business studies students, especially in developing countries like Pakistan. The present research study must be helpful for parents of students and university administration to promote students' academic status. It can be beneficial for university administration when they construct new educational policies to uplift the students' academic status. Moreover, this study also leaves the knowledge for responsible students and their parents for academic development.

The remaining part of the study are contained in the following regions; part 2nd; literature review and design research hypothesis, part 3rd; Data Sampling & Research Methodology, part 4th; Empirical Results, part 5th; Summary and Discussion, part 6th; Conclusion of the study.

2. Literature Review

2.1 Academic Performance of Students

Galiher (2006); Mushtaq and Khan (2012); (Darling-Hammond, Hammerness, Grossman, Rust, & Shulman, 2005), have studied students' academic performance measured via SGPA technique and they also emphasized for a best student performance scale. Some scholars adopt a slightly different method to evaluate students' performance as they collect previous years' data or specific book data from a particular institute (Hake, 1998; Hijazi & Naqvi, 2006). It has demonstrated that different factors work worldwide on the university academic level. It also scholastic execution the quality of education are varied categorical division of nations as developed, developing and under-developing nations especially on advanced educations (Li Grining et al., 2010).

***H1:** There is a positive and significant relationship between Previous Academic Performance and the Current academic Performance of business students.*

2.2 Curriculum

Accordingly, scholastic execution, the curriculum of any nation, has considered a plus of students. Often time's, curriculum brings content changing regarding society's needs via the changing in science and technology to maintain the standard of education. So every nation has its curriculum but some countries follow British and American curriculum standards. Tanner & Tanner, (Grant), have exposed the curriculum is an appropriate source of knowledge transmission constructed by educationalist experts according to the intellectual level of learners. There are many variations across the country on who leads the planning, content priorities, and instructional approaches. Due to the primary concern of students, curriculum and educational plans should be connected on the same page for student learning and development (Telmer & Shilton, 2005). Besides, the curriculum should be available in accessible language and with clear make sense for students' extreme learning. So the quality of the curriculum is a response to learner development. Therefore, curriculum designers take quite seriously for positive and productive consequences. In previous studies, scholars more emphasized on quality of curriculum because we need to well organized and problem based curricula especially in developing and under-developing countries that need students in the modern era. So Curriculum is considered the central pillar of students learning while the

present research study has enrolled it as a mediator element among PAPOS and CAPOS.

***H2:** Curriculum and Previous Academic Performance of business Students both are positively associated with each other.*

***H3:** Current Academic Performance of business Students is positively associated with Curriculum.*

2.2 English Competency

Harb and El-Shaarawi (2006), have explored that the English competency has quite a key factor that directly approaches the performance of students'. Besides, especially English non-native learners are academically affected very severely, so it can be improved by taking the strength of speaking and writing skills because it has directly connected with students' performance. A.-M. Abdullah (2011), has conducted an appropriate study to enhance the students' performance. For this purpose, he has more emphasis on open learning. Hansen (2000), has determined the students' achievements have affected by students providing the environment, gender difference and age level. The present search study has considered to EC as a mediator role among PAPOS and CAPOS.

***H4:** There is a positive and significant relationship between English Competency and Previous academic Performance of bossiness Students.*

***H5:** English Competency and Current Academic Performance of business Students are making a positive and significant relationship with each other.*

2.3 Students Facilities

Here, Students Library, Number of Laboratories, number of computer labs, leisure and peaceful dormitory has considered as student facilities that are directly associated with students' environment (Karemera et al., 2003). Burdick-Will et al. (2011), have diagnosed that the institutional development and student development have increased with up left board members. Moreover, there has a positive and significant association between students' academic performance and students' efforts; student facilities are given by students' education manner and institutes respectively (Ali et al., 2009). Furthermore, students' academic performances have significantly connected with parents' qualifications and time spend in the library (Young, 1999). Students' learning depends on the home and institution environment and grade level of the father (Kirmani & Siddiquah, 2008). So the present research study is going to examine the SF as a power of mediator among CAPOS & PAPOS.

***H6:** Student Facilities and Previous Academic Performance of business Students are moved in the same direction.*

***H7:** There is a positive and significant relationship between Student Facilities and the Current Academic Performance of business Students.*

2.4 Faculty Quality

According to the scholastic execution Faculty Quality (FQ) and students' achievements both

have positively interconnected. Moreover, institutional development and FQ have a look forward to the same way (Perkmann, King, & Pavelin, 2011). Furthermore, the work stress of faculty can be more deprived of the students' performance which indirectly will affect the quality of institutional life and its development (Johnsrud, 2002). Mirkamali and NARENJI (2008), have conducted an appropriate study for how to promote faculty quality of Sharif University of Technology and Tehran Universities. So according to scholars, the FQ of any institute can change the academic performance of students. Therefore current research study has taken to FQ as mediator power among PAPOS and CAPOS to quantify the real phenomenon.

***H8:** Faculty Quality and Previous Academic Performance of business Students are positively associated with each other.*

***H9:** Current Academic Performance of business Students and Faculty Quality both are moving together on the same path.*

2.5 Fee Remission

In developing countries like Pakistan, public sector Universities have entertained our students with semester fee remission (FR) especially on grading bases. The primary concern of such activity to just promote deserving students who seem to keep up to ourselves. For example, a student has an excellent academic record and him /her wants further studies but he cannot carry our education due to lack of finance. The public University administrations pushup such types of students for academic development. In the past, to assess the impact of financial-aid of students on their academic achievements, scholars have collected the data from different schools of students from Normal University in 2018. Consequently, the students' performances have positively associated with the financial aid of students. Besides, the amount of funding per capita is inadequate which given by school authority or University administration. The data indicates that some other poor students get mini-loans from the University which would be refundable without interest (Liu, 2019). The CAPOS is going to be quantifying with PAPOS when FR works as a mediator power, especially in developing and under-developing countries.

***H10:** There is a positive and significant relationship between Previous Academic Performance of business Students and Fee Remission in developing and under-developing counties.*

***H11:** Fee Remission in developing and under-developing counties is uplifting the Current academic Performance of business Students.*

It is also feasible that some of the elements which have received tremendous attention within the literature will indicate to be best related to pupil overall performance in this subject. But in the student performance literature are the closest aspect to a conceptual framework that emphasizes a mixture of factors that are anticipated to influence the scholars' overall performance, i.e., PAPOS, CAPOS, curriculum, English competency, student facilities, faculty quality and fee remission.

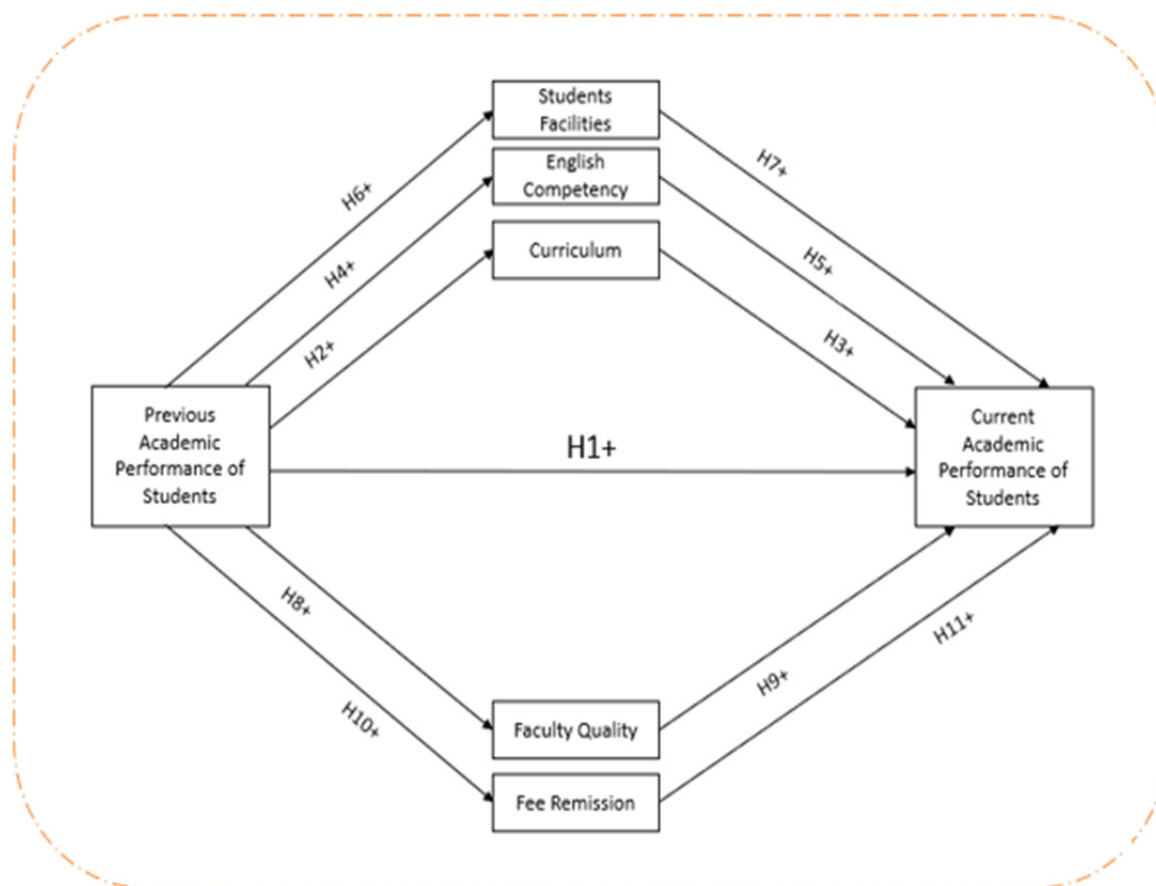


Figure 1. Conceptual Framework

3. Research Methodology

3.1 Sample Size and Sampling Technique

The present research study has contained on the Factors making the change in the Academic Performance of Business Students at the university level, especially for developing countries. For this meaningful purpose, scholars have targeted those students who are currently enrolled in Universities of Pakistan. In addition, those students have part of our study which currently has lower achievements but they had prior excellent academic records. The entire research study has got a total of 300 sample size to execute the concealed phenomenon. Lockard III, Laux, Ritchie, Piazza, and Haefner (2014), had conducted an empirical study on the academic performance of students by taken medical students as respondents. Moreover, they have define the sampling criteria like as 150 => poor; 200 => Not bad; 300 => Good; 500 => very good; 750 => Excellent and 1000 and above => Too Excellent. Moreover, an empirical research study requires a sample data set that should have must be sub-part of the population data set.

3.2 Data Collection Techniques

An adapted questionnaire was used as a tool for data collection from respondents. Printed questionnaires with choice of answers have distributed among randomized selected Universities business studies students and earlier express the key objective of this empirical study. The response has taken by the Five Point Likert-scale which ranged from Strongly Disagree to Strongly Agree.

3.3 Econometric Methods

Econometric methods are a crucial part of quantitative research studies while the employ of a specific model should be regarding the data nature. If the model does not support to research study, it might be a study to lose their validity. This research study has entertained with the following research methods to quantify the first-hand data collection;

3.3.1 Reliability Test

Reliability Test has quite famous approach among primary research studies. Usually, the reliability test uses to examine the consistency of the questions. If questions are reliable that consequences can be applicable. In addition, the reliability has been quantified when it accomplish consistently and without biases (Sekaran & Bougie, 2003). Dikko (2016), has conducted an appropriate study to determine the reliability and validity criteria. Scholar has yield if the value of $r = 0.60$ or $r > 0.60$, then it would be accepted otherwise not. So the reliability executed by the following formula;

$$r = \frac{n}{n-1} \left[1 - \frac{\sum pq}{\sigma_x^2} \right]$$

Where;

n = number of items in the test

$$p = \frac{\text{Number of persons answering item correctly}}{\text{Number of persons taking the test}}$$

$$q = \frac{\text{Number of persons answering item wrongly}}{\text{Number of persons taking the test}}$$

Σ = Summation sign indicating pq is summated over

σ_x^2 = Variance of the total test

r = reliability of the test

3.4.2 Pearson Correlation Matrix

Pearson correlation test is quite prominent and useful to expose the connectivity of the variables. Usually, this test is applied in time series, secondary base research studies to determine the significance among the variables but we can also use it on the primary data set. Pearson was designed by (Pearson, 1948). In addition to being the first of the co-relational measures to be developed, it is also the most commonly used measure of association. Most

scholars have utilized the Pearson correlation matrix approach to executing the relationship of factors and academic performance of students (Chen, Elchert, & Asikin-Garmager, 2018; Khan, 2012). Coefficient of the variables computed with;

$$r_{x,y} = \frac{\sum dx*dy}{\sqrt{\sum dx^2*\sum dy^2}} \text{ or } \frac{\sum dx.dy}{n.\delta x.\delta y}$$

$$dx = x_1 - \bar{x}[\text{deviation of } x \text{ variable}]$$

$$dy = y_1 - \bar{y}[\text{deviation of } y \text{ variable}]$$

$$\delta x = S.D \text{ of } x \text{ variable}$$

$$\delta y = S.D \text{ of } y \text{ variable}$$

$$n = \text{total no. of observation}$$

3.4.3 Linear Regression Model

Goldberger (1962), was designed the linear regression function for executing the coefficient variation of the variables. This test has very useful to determine the association-ship among linear variables. By linear regression model, scholars could be enabled to quantify the per-unit variation in the dependent variable due to independent variables and a total change in the model. The fundamental use of the linear regression model to examines the cause and effect relationship among the linear variables. Comparatively, a linear regression model is the best and superior use model in the social and business field to test the significance of the variables than other models (Draper & Smith, 1998). Seber and Lee (2012), have concise, mathematically and comprehensive treatment of the subject. (Bates & Watts, 1988) have exposed to where and how they could be the use of a linear regression model.

$$\hat{y}_i = \beta_0 + \beta_1 X_1 + \dots + \beta_n X_n + \varepsilon_i$$

Where: Here, y_i is the dependent variable; x 's are the predictor variables, β_0 is the intercept, β_1 to β_n are coefficient/slope and ε_i is a stochastic error term.

The least-squares approach chooses β_1 and β_2 to minimize the RSS. The linear model could be considered a good fit when reduction error inside the model.

$$\hat{\beta}_1 = \frac{\sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{\sum_{i=1}^n (x_i - \bar{x})^2}$$

$$\hat{\beta}_0 = \bar{y} - \hat{\beta}_1 \bar{x},$$

3.4.4 Sobal Test

The sobal test is an old but quite effective and reliable test to determine the mediation effect which hypnotized as 3rd variable among the predicted and dependent variables. Many scholars have used this statistical approach to calculate the indirect impact of the variable. The use of the method is quite easy and quick.

ST test has assembled as;

$$Z = \frac{ab}{SE_{ab}}$$

Where: a and b are coefficients of two different econometric linear models and SE_{ab} are indicating to standard errors of the models.

3.4.5 Goodman test

The probability values have entirely interconnected with t-stat, standard error and variable coefficient. When the coefficient amount will uplift then standard error deprive as well as when t-stat goes up then p-value goes down. The probability value is assembled from the standard distribution unit of the assumption of 2-tailed of the test-z which mediates hypnotized. Furthermore, at 5% significant level or 95% central where +/- 1.96 critical values of test ratio normal distribution test. Goodman test was constructed by (L. A. Goodman, 1960).

3.4.6 Aroian Test

Aroian test is also used to examine the mediation or indirect effect among dependent and independent variables. It can be summarized as;

$$Z = \frac{a * b}{\sqrt{b^2 SE_a^2 + a^2 SE_b^2 + SE_a^2 + SE_b^2}}$$

Where: a and b are represented linear regression Coefficients of two different models and SE_a and SE_b are representing to standard errors of the models

4. Empirical Results and Discussion

Table 1. Descriptive State

Model	N	Minimum	Maximum	Mean	Std.Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std.Error	Statistic	Std.Error
CC	300	1.00	4.40	2.0353	.55562	.559	.141	.546	.281
EC	300	1.00	4.25	2.2613	.58069	.076	.141	-.251	.281
SF	300	1.00	4.67	2.3317	.71644	.441	.141	-.057	.281
FQ	300	1.00	5.00	2.3575	.71373	.422	.141	.183	.281
FR	300	1.00	4.60	2.2073	.75231	.844	.141	.270	.281
PAPOS	300	1.20	4.70	2.6683	.66310	.322	.141	.405	.281
CAPOS	300	1.00	4.10	2.2653	.52738	.478	.141	1.054	.281

Several techniques are used to expose the normality of the data set and visualization. For actual consequences summarization the data must be normalized; if the data is not on standard form earlier it makes standardized by using a log method. According to scholars, Skewness and Kurtosis both are more powerful tools to test the data normality. Gamst, Meyers and Guarino (2008), have justified that normality can be accepted if Skewness and kurtosis values are between ± 1.0 and ± 2.00 respectively. Thus, table-1 indicates that normality of data has accepted because Skewness and kurtosis values have within ± 1.0 and ± 2.00 respectively. Normality is often viewed as an unnecessary and possibly inappropriate addition to the regression model (Greene, 2010).

Table 2. Factor Wise Reliability Statistics

Name of the Factor	Cronbach Alpha	No of Items
CC	0.632	4
EC	0.726	8
SF	0.724	6
FQ	0.849	8
FR	0.67	5
PAPOS	0.763	10
CAPOS	0.673	10

Reliability tests utilized to appearance how many conventional outcomes are created by respondents. Maximum consistency among questions of the questionnaire is considered more reliable for empirical study. Kuder and Richardson (1937), have mentioned that if the Alpha value is higher than 60%, then the reliability of the questionnaire accepted. Furthermore, Hair, Black, Babin, Anderson, and Tatham (1998) have addressed the multivariate data analysis phenomenon and they also highlight the acceptance criteria of question reliability. According to them, if the Alpha value has higher or equal to 0.65, then reliability would be accepted. Table-2 shows that Alpha values of number of questions have higher than 0.60, hence reliability have been accepted.

Table 3. Correlation Matrix

Variables	Model	CC	EC	SF	FQ	FR	PAPOS	CAPOS
CC	P E A R S O N C O R R E L A	1	.471**	.267**	.464**	0.109	.140*	.353**
EC			1	.164**	.328**	.287**	.258**	.320**
SF				1	.411**	.363**	.247**	.356**
FQ					1	.222**	.372**	.344**
FR						1	.397**	.330**
PAPOS							1	.282**
CAPOS								1

**Correlation is significant at the 0.01 level on 2-tailed

*Correlation is significant at the 0.05 level on 2-tailed

In Table-3, we have estimated cause and effect relationship among the categorical variables as following PAPOS, CAPOS, CC, EC, SF, FQ and FR. In this table, scholars measured the strength and direction of the linear relationship between two variables. All numeric values are visualized with single * or double **; Here, single * represents the relationship among two categorical variables at 5% level. Similarly, double** represents the association-ship among two categorical variables at 10% level. Consequently, the PAPOS has associated with CC at 5% level but all others pairs have significant at 10% level.

Table 4. Linear Regression Test between CAPOS & PAPOS

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	Constant	1.666	.122	-	13.714	.000
	PAPOS	.224	.044	.282	5.079	.000

R square = .080; F = p < 0.05; DW=2.080 **Significance, p < .05

Table-4 shows that the relationship between Previous academic performance of students and the current academic of students. Consequently, the probability value of PAPOS is less than 0.05 at ** level and t-statistic are also higher than two which indicate that the PAPOS has associated with the CAPOS. Moreover, the coefficient value verified that if 1-unit variation in PAPOS, then it makes 22.4-unit variation in CAPOS. Both categorical variables have positively associated with each other. Our results are supported by the following scholars (Galiher, 2006; Hake, 1998; Hijazi & Naqvi, 2006).

Table 5. Linear Regression Test between CC & PAPOS, CC & CAPOS

Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	1.723	0.132	-	13.041	0.000
PAPOS	0.117	0.048	0.14	2.433	0.016
<i>R square = .140; F = p < 0.05; DW=1.908 **Significance & p= .016</i>					
Constant	1.584	0.109	-	14.593	0.000
CC	0.335	0.051	0.353	6.508	0.000
<i>R square = .350; F = p < 0.05; DW=1.880 **Significance & p= .000</i>					

Table-5 has contained two linear models. The 1st model quantifies the relationship between CC and PAPOS whenever CC taken as a dependent variable. In addition, the results show that the PAPOS has positively influenced to CC. Moreover, if 1-unit variation comes in PAPOS, it brings 11.7-units change in CC. Furthermore, 2nd model examines the relation among CAPOS and CC and CAPOS has as a dependent variable. The result shows that both variables have positively associated with each other. Moreover, in this model 33.5-unit variation in the CAPOS due to 1-unit change in the CC respectively. R-square value is .350 which shows that overall, 35% has changed in this model 10% significant level. Our results are supported by (Allinder & Oats, 1997; Hattie & Anderman, 2013; Luciano, 2014; Tarr et al., 2008).

Table 5.1. Regression Test for Mediate effect-CC

Steps	Variables		R2	F Stat	B	Beta	t-value	sig.
1	IV	DV	0.08	25.792	0.224	0.282	5.079	0.000
2	IV	MV	0.019	5.921	0.117	0.14	2.433	0.000
3	MV	DV	0.124	42.357	0.335	0.353	6.508	0.000
4	IV&MV	DV	0.18	32.557	0.189	0.238	4.478	0.000

Table 5.1 has deliberated the mediation effect of CC among the PAPOS and CAPOS. The regression mediation test is also a reliable tool to examine the mediation effect among two categorical variables transmitted by the third variable is known as the mediator variable. A mediation model is one that seeks to identify the mechanism that underlies an observed relationship between the predictor and a dependent variable via the inclusion of a third hypothetical variable, known as a mediator variable. This table has conceived on R-square, F-stat, Beta, T-stat and Probability values of all four econometric linear models. Under such circumstances, CC has declared as a partial mediator force among PAPOS and CAPOS because the coefficient value of the 1st model is higher than the 4th model.

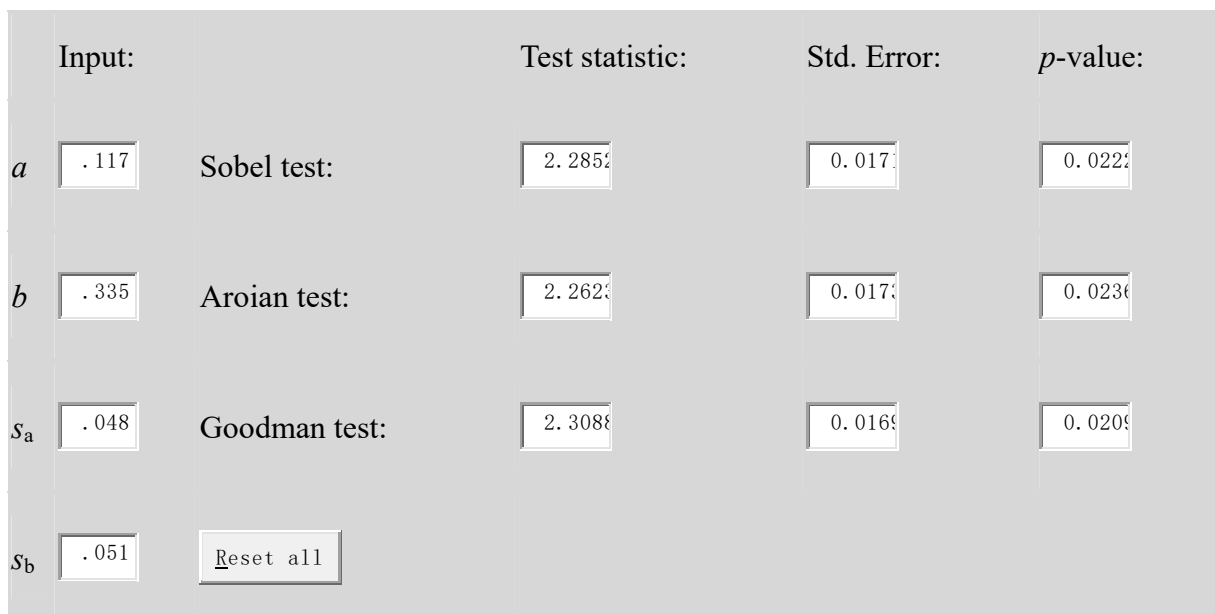


Figure 2. Robustness test for Mediation effect-CC

Figure 2 is contained in the following models Sobal test, the Aroian test and Goodman test. Scholars acknowledged that is quite powerful tool to examine the mediation effect. Furthermore, scholars could be enabled for testing mediation after enrolled in the value of

coefficient and standard error of the model. The result shows that the mediation effect has incorporated among predictor & dependent variables; hence the probability value is less than 5%. In addition, the coefficient value of the Sobal Test is higher than other both models. Authentically, our mediation effect has also certified by these models.

Table 6. Linear Regression Test between PAPOS & EC, CAPOS & EC

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	1.658	0.135		12.303	0.000
PAPOS	0.226	0.049	0.258	4.617	0.000
<i>R square = .258; F = p < 0.05; DW=1.669 **Significance & p= .000</i>					
Constant	1.608	0.116		13.822	0.000
EC	0.291	0.05	0.32	5.829	0.000
<i>R square = .320; F = p < 0.05; DW=2.030 **Significance & p= 0.000</i>					

In Table 6, both linear regression models have entertained simultaneously. In 1st, scholars have tested the PAPOS and EC, here EC is taken as a dependent variable. The result shows that both variables have positively associated with each other. EC could be enhanced 22.6-unit with 1-unit growing the PAPOS. In addition, the R-square value indicates that the total 25.8% variation in the model at **significant level. In 2nd, CAPOS has considered as a dependent variable and EC as an Independent variable. In this aspect, $T > 2$ and $P < 0.05$; hence the model has significant at 10% level. The coefficient value shows the direction of the association and per-unit change in CAPOS by EC. Consequently, bring 0.291-unit positive change in the CAPOS by 1-unit change in EC. But R-Square value indicated that total 32% have variation in the model. Our results have supported by the following scholars (A.-M. Abdullah, 2011; Hansen, 2000; Martirosyan, Hwang, & Wanjohi, 2015).

Table 6.1. Regression Test for Mediation effect-EC

Steps	Variables		R2	F Stat	B	Beta	t-value	sig.
1	IV	DV	0.8	25.792	0.224	0.282	13.714	0.000
2	IV	MV	0.067	21.313	0.226	0.258	4.617	0.000
3	MV	DV	0.102	33.977	0.291	0.32	5.829	0.000
4	IV&MV	DV	0.145	25.189	0.17	0.214	3.851	0.000

Table 6.1 has contained on four linear regression models to test mediation penetration among IV & DV. All models have significant because the probability value of each model has less than 0.05. This table has scrolled with R-square, F-stat, B-stat, Beta-stat, t-value and probability values. Here the scholars concerned with coefficient values of 1st and 4th models. Statistically, the coefficient value of the 1st model has more magnificent than the coefficient value of the 4th model hence partially mediation incorporated in the model.

Input:	Test statistic:	Std. Error:	p-value:
A <input type="text" value=".226"/>	Sobel test: <input type="text" value="3.6147"/>	<input type="text" value="0.0183"/>	<input type="text" value="0.0003"/>
B <input type="text" value=".291"/>	Aroian test: <input type="text" value=""/>	<input type="text" value="0.0183"/>	<input type="text" value="0.0003"/>
s _a <input type="text" value=".049"/>	Goodman test: <input type="text" value="3.6480"/>	<input type="text" value="0.0183"/>	<input type="text" value="0.0003"/>
s _b <input type="text" value=".050"/>	<input type="button" value="Reset all"/>		

Figure 3. Robustness test for Mediation Effect-EC

In Figure 3, Scholars have utilized the Robustness test to examine the confirmatory mediation effect. Following Scholars (Baron & Kenny, 1986; H. Goodman & Foster, 1962; MacKinnon,

Warsi, & Dwyer, 1995), have constructed this evocative tool test for mediation. Furthermore, the mediation effect has existed among in subject because the probability values of the Sobal test, Aroian test and Goodman test have less than 0.05.

Table 7. Linear Regression Test between SF & PAPOS, CAPOS & SF

Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	1.619	0.167	-	9.712	0.000
PAPOS	0.267	0.061	0.247	4.402	0.000
<i>R square = .247; F = p < 0.05; DW=1.819 **Significance & p= 0.000</i>					
Constant	1.654	0.097	-	17.022	0.000
SF	0.262	0.04	0.356	6.576	0.000
<i>R square = .356; F = p < 0.05; DW=2.007 **Significance & p= 0.000</i>					

Table 7 explores the relationship between the PAPOS and SF; CAPOS and SF. This table also contained on two-part of econometric models; in 1st one, scholars evaluate the relation among PAPOS and SF, here SF has taken as a dependent variable. In this case, both variables have interconnected because of the $P < 0.05$ and $T > 2$. In addition, if the 1-unit change in PAPOS brings 26.7 units change in SF at the university level. Furthermore, 24.7% total altered in the model at **significant level. Similarly, in the 2nd one, scholars have tested CAPOS with SF when CAPOS has been working as a dependent variable. Consequently, $P < 0.05$ and $T > 2$, while our model becomes a significant outcome. The coefficient value of the model indicates that if the one-unit change in SF, it might be possibly made 0.262 units change in CAPOS at the university level. Furthermore, $R^2 = 35.6$ which shows that total variation in the model at **significant level. (Price, Matzdorf, Smith, & Agahi, 2003) have an experiment on the high school level of students. They have executed that the high school level students prefer to join those schools where they found more facilities. Later on, those students have got excellent academic achievements. (Alimi, Ehinola, & Alabi, 2012) have conducted an empirical research study how student facilities boost the students' academic performance at senior secondary schools of Nigeria. They have determined that SF and student's performance have positively significant to each other. Thus, several studies have supported our results.

Table 7.1. Regression Test for Mediation effect-SF

Steps	Variables		R ²	F Stat	B	Beta	t-value	sig.
1	IV	DV	0.08	25.792	0.224	0.282	5.079	0.000
2	IV	MV	0.061	19.38	0.267	0.247	4.402	0.000
3	MV	DV	0.127	43.244	0.262	0.356	6.576	0.000
4	IV&MV	DV	0.167	29.754	0.165	0.207	3.785	0.000

In Table 7.1, scholars have summarized four linear regression mediation models to the execution of the mediation effect. In 1st model, the $P < 0.05$; $T > 2$; $Beta = .282$ & $R^2 = .08$ which shows that our model is significant. Similarly, in 4th model, $R^2 = .167$; $Beta = .207$; $T > 2$ & $P < 0.05$ which indicating that our model has significant. To examine the mediation effect here, we shall compare the coefficient values of 1st and 4th models. After visualizing table 7.1, we have confirmed the coefficient value of the 1st model is greater than the coefficient value of the 4th econometric model while SF is working as partially mediating within PAPOS and CAPOS at the university level.

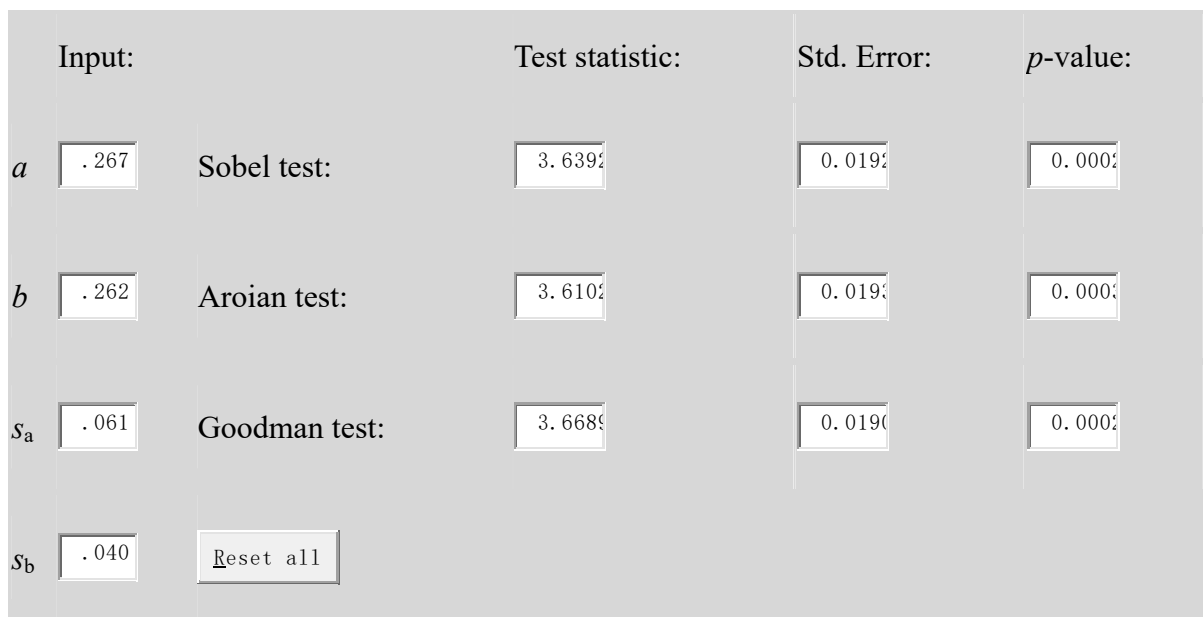


Figure 4. Robustness test for Mediation Effect-SF

Figure 5 has executed the robustness exploration for the test of mediation effect-SF within PAPOS and CAPOS. For this purpose, here we insert the coefficient and standard error values in the input cell body and this machine automatically quantify it either has mediator effects between dependent and independent variables. Sobal test has a reliable source to test the mediation effect among dependent and independent variables via coefficient and standard error of the linear regression models. Here, the mediation effect has been reorganized among

IV and DV by the probability value of the robustness test.

Table 8. Linear Regression Test between FQ & PAPOS, CAPOS & FQ

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	1.29	0.159	-	8.105	0.000
PAPOS	0.4	0.058	0.372	6.913	0.000
<i>R square = .372; F = p < 0.05; DW=1.679 **Significance & p= .000</i>					
Constant	1.666	0.099	-	16.831	0.000
FQ	0.254	0.04	0.344	6.327	0.000
<i>R square = .344; F = p < 0.05; DW=1.952 **Significance & p= .000</i>					

Table 8 has contained linear regression modeling to test the relationship between PAPOS and FQ; CAPOS and FQ. In the linear regression model, prob., T Stat, std. Error and Coefficient values have interconnected with each other. In addition, when the coefficient value goes up, then Std. Error value will go down. Similarly, when Std. Error goes down, then T-Stat will go up, most likely when T-Stat value goes up then the prob. value becomes significant. According to table statistics, our models have substantial. Our results have supported by the following studies (Hoffmann & Orepo ulos, 2009; Lundberg & Schreiner, 2004; Ogenler & Selvi, 2014; Woodside, Wong, & Wiest, 1999).

Table 8.1. Regression Test for Mediation effect-FQ

Steps	Variables		R ²	F Stat	B	Beta	t-value	sig.
1	IV	DV	0.08	26	0.224	0.282	5.079	0.000
2	IV	MV	0.138	48	0.4	0.372	6.913	0.000
3	MV	DV	0.118	40	0.254	0.344	6.327	0.000
4	IV&MV	DV	0.146	25	0.142	0.179	3.1	0.000

Table 8.1 shows the mediation effect of 3rd hypnotized variable among PAPOS and CAPOS. For this purpose, we have summarized four linear regression models in this table. We can

visualize significant status via prob. and t-stat values. Furthermore, the coefficient value of the 1st model has more than a coefficient value of the 4th model. In this case, FQ also has as a partial mediation among PAPOS and CAPOS.

	Input:		Test statistic:	Std. Error:	p-value:
<i>a</i>	<input type="text" value=".400"/>	Sobel test:	<input type="text" value="4.6714"/>	<input type="text" value="0.0217"/>	<input type="text" value="0.0000"/>
<i>b</i>	<input type="text" value=".254"/>	Aroian test:	<input type="text" value="4.6450"/>	<input type="text" value="0.0218"/>	<input type="text" value="0.0000"/>
<i>s_a</i>	<input type="text" value=".058"/>	Goodman test:	<input type="text" value="4.6982"/>	<input type="text" value="0.0216"/>	<input type="text" value="0.0000"/>
<i>s_b</i>	<input type="text" value=".040"/>	<input type="button" value="Reset all"/>			

Figure 5. Robustness Test for Mediation Effect-FQ

In the Robustness test, the scholars have used three standardized statistical models consistently. Consequently, the probability value shows that the mediation effect has come among PAPOS & CAPOS at higher-level educational institutions. So there has no contradiction among all models.

Table 9. Linear Regression Test between FR & PAPOS, CAPOS & FR

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	1.006	0.166	-	6.066	0.000
PAPOS	0.45	0.06	0.397	7.463	0.000
<i>R square = .397; F = p < 0.05; DW=1.878 **Significance & p= .000</i>					
Constant	1.754	0.089	-	19.628	0.000
FR	0.232	0.038	0.33	6.043	0.000
<i>R square = .330; F = p < 0.0); DW=2.054 **Significance & p= .000</i>					

In the Linear regression model, the T-Stat and prob. values have significant explanatory power of the model because it's recommended the significance level of the variables. Scholars have yielded that if the $T > 2$ and P value has less than 5%, while models become significant otherwise insignificant. Consequently, we can instantaneously view two linear models in table 9. In the 1st model, scholars have tested FR with PAPOS. In this model, the PAPOS has positively influenced to FR. The model shows that just one-unit variation in PAPOS it brings 0.45 units variation in FR. In addition, 39.7 has changed in the model at **significant level. Most likely, model 2nd also indicates that there is a positive and meaningful relationship among FR and CAPOS on advanced education.

Table 9.1. Regression Test for Mediation effect-FR

Steps	Variables		R2	F Stat	B	Beta	t-value	sig.
1	IV	DV	0.08	25.792	0.224	0.282	5.079	0.000
2	IV	MV	0.157	55.698	0.45	0.397	7.463	0.000
3	MV	DV	0.109	36.52	0.232	0.33	6.043	0.000
4	IV&MV	DV	0.136	23.43	0.143	0.179	3.053	0.002

In Table 9.1, scholars are discussing the fifth and last indirect effect of the third variable among PAPOS and CAPOS. According to this table, all models have positively significant thus, $p < 0.05$. Cooperatively, the coefficient value 4th model has less than the coefficient value of the 1st model, so partial mediation has scrolled down in the model.

Input:		Test statistic:	Std. Error:	p-value:
a	<input type="text" value=".450"/>	Sobel test:	<input type="text" value="4.7348"/>	<input type="text" value="0.0220"/>
b	<input type="text" value=".232"/>	Aroian test:	<input type="text" value="4.7097"/>	<input type="text" value="0.0000"/>
s_a	<input type="text" value=".060"/>	Goodman test:	<input type="text" value="4.7603"/>	<input type="text" value="0.0000"/>
s_b	<input type="text" value=".038"/>	<input type="button" value="Reset all"/>		

Figure 6. Robustness Test for Mediation Effect-FR

Sobal, Aroian and Goodman tests are considered the most powerful tools for the inspection of the mediation effect. The validity of the test model is very high because scholars can be used in all three models simultaneously. Consequently, here prob. values have less than 0.05 of all three standardized models that indicate FR is working as a mediating among the PAPOS and CAPOS. Comparatively, there is no opposite problem among the models.

5. Summary and Discussion

The key objective of the empirical research study is to examine the Factors making a change in the Current Academic Performance of Business Students at the university level in developing or under developing states. We have taken five mediating variables as following; Curriculum, English Competency, Students Facilities, Faculty Quality and Fee Remission.

In developing or under developing countries, we have noted several students who have excellent PAPOS but they don't perform as well in CAPOS, but why? For this purpose, it most obligatory to check the prior impact of previous academic performance of students on the current academic performance of students. Furthermore, foremost we detect those students who have an excellent profile of previous academic performance and they didn't get appropriate achievements in the current academic term. Later that, we did distribute the questionnaire in them and tried to find the problems. Consequently, it scholastic execution the PAPOS and CAPOS have positively associated with each other because those students are more capable, intelligent, hard workers and intense academic basement. But some students still face difficulties at University level as CC since pre-admission. In the current study, the CC is contributed as a third mediator variable among PAPOS and CAPOS. Similarly, EC, SF, FQ & FR are also quantified as mediator powers among PAPOS and CAPOS. In developing and under-developing countries, CC is making a change in students' academic performance because CC is not equivalent to everywhere in the whole state of Pakistan. EC has also affected the academic performance because the syllabus is not available as the same medium of language for whole pupils. Moreover, SF is also affected the Students' academic progress because the lack of student facilities.

Similarly, FC has also affected the student's academic performance because FC is less in developing countries than in developed countries. Finally, FR is a significant factor which changes the academic performance of students in developing countries. In growing counties, due to lack of finance, the students can't afford semester fees, so they doing the job part-time, which brings effects on their studies. Although there have other factors that also affect the student's academic performance but the objective of the current study was to expose the major elements of students' academic performance in developing countries. In developing countries, University administration can promote academic performance of their shining students' by finance supporting via scholarships. Although there have other factors that also affect the student's academic performance but the objective of the current study was to expose the major factors of students' academic performance in developing countries.

6. Conclusion

This study attempted to examine the Factors making the change in CAPOS at the university level in developing countries, i.e., Pakistan. Consequently, academic performances of business students are changing at the university level by changing PAPOS. The findings show that both variables have positively associated with each other. The results are supported by (Galiher, 2006; Hake, 1998; Hijazi & Naqvi, 2006). In addition, CC, EC, SF, FC & FR have partially mediated among PAPOS and CAPOS.

The findings of the current study disclose the significance of CAPOS with PAPOS on the university level in developing & under-developing countries. In this subject, CC is affecting the academic performance of students because there has not equal opportunity as a whole for CC. Similarly, EC is also making change the academic performance of students because there syllabus has not available in a single medium of language. Moreover, SF is also a cause of variation in the academic status of students because there have fewer student facilities. FC has also exaggerated the student's academic performance because FC has less in developing countries than in developed countries. FR is a major factor that changes the academic performance of students in developing countries. In developing countries, due to lack of finance, the students can't afford semester fees, so they doing jobs like part-time, which affects their development of studies. In developing countries, University administration could be promoted their students' academic performance by controlling these factors. Although there have other factors that also affect the student's academic performance but the objective of the current study was to expose the major factors of students' academic performance in developing countries.

Author Contributions

Idea Assemble, H.M.N.; Writing Manuscript, H.M.N.; Results and discussion, H.M.N.; Methodological contribution, H.M.N.; Software utilization, H.M.N.; Data Analysis, H.M.N.; M.H.; Review and editing, S.A.;M.A.; Under Supervision, H.Y.; project administered, H.Y.; attainment of funding, H.Y.

Acknowledgments

The authors have yielded the valuable and effective comments and suggestions. We were unable to complete this empirical study without their assistance. We are appreciating to all of them who participated in this research study. Especially thanks to Professor Yao Hongxing for quite contribution in this study.

Conflicts of Interest

The authors do not have conflict of interest.

References

Abdullah, A.-M. (2011). Factors affecting business students' performance in Arab Open University: The case of Kuwait. *International Journal of Business and Management*, 6(5), 146. <https://doi.org/10.5539/ijbm.v6n5p146>

- Abdullah, F. (2006). Measuring service quality in higher education: HEDPERF versus SERVPERF. *Marketing Intelligence & Planning*.
<https://doi.org/10.1108/02634500610641543>
- Akhtar, Z. (2012). Socio-economic status factors effecting the students' achievement: a predictive study. *International Journal of Social Sciences and Education*, 2(1), 281-287.
- Alfan, E., & Othman, N. (2005). Undergraduate students' performance: the case of University of Malaya. *Quality assurance in education*. <https://doi.org/10.1108/09684880510626593>
- Ali, N., Jusof, K., Ali, S., Mokhtar, N., & Salamat, A. S. A. (2009). The Factors Influencing Students' performance at Universiti Teknologi Mara Kedah, Malaysia. *Management Science and Engineering*, 3(4), 81-90.
- Alimi, O. S., Ehinola, G. B., & Alabi, F. O. (2012). School Types, Facilities and Academic Performance of Students in Senior Secondary Schools in Ondo State, Nigeria. *International Education Studies*, 5(3), 44-48. <https://doi.org/10.5539/ies.v5n3p44>
- Allinder, R. M., & Oats, R. G. (1997). Effects of acceptability on teachers' implementation of curriculum-based measurement and student achievement in mathematics computation. *Remedial and Special Education*, 18(2), 113-120.
<https://doi.org/10.1177/074193259701800205>
- Bakracevic Vukman, K., & Licardo, M. (2010). How cognitive, metacognitive, motivational and emotional self - regulation influence school performance in adolescence and early adulthood. *Educational Studies*, 36(3), 259-268.
<https://doi.org/10.1080/03055690903180376>
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, 51(6), 1173.
<https://doi.org/10.1037/0022-3514.51.6.1173>
- Bates, D. M., & Watts, D. G. (1988). *Nonlinear regression analysis and its applications* (Vol. 2). Wiley New York. <https://doi.org/10.1002/9780470316757>
- Burdick-Will, J., Ludwig, J., Raudenbush, S. W., Sampson, R. J., Sanbonmatsu, L., & Sharkey, P. (2011). Converging evidence for neighborhood effects on children's test scores: An experimental, quasi-experimental, and observational comparison. *Whither opportunity*, 255-276.
- Chen, W.-L., Elchert, D., & Asikin-Garmager, A. (2018). Comparing the effects of teacher collaboration on student performance in Taiwan, Hong Kong and Singapore. *Compare: A Journal of Comparative and International Education*.
<https://doi.org/10.1080/03057925.2018.1528863>
- Darling-Hammond, L., Hammerness, K., Grossman, P., Rust, F., & Shulman, L. (2005). The design of teacher education programs. *Preparing teachers for a changing world: What teachers should learn and be able to do*, 390-441.

- Darling-Hammond, L., Holtzman, D. J., Gatlin, S. J., & Heilig, J. V. (2005). Does teacher preparation matter? Evidence about teacher certification, Teach for America, and teacher effectiveness. *Education Policy Analysis Archives/Archivos Analíticos de Políticas Educativas*, 13, 1-48. <https://doi.org/10.14507/epaa.v13n42.2005>
- Dikko, M. (2016). Establishing Construct Validity and Reliability: Pilot Testing of a Qualitative Interview for Research in Takaful (Islamic Insurance). *Qualitative Report*, 21(3).
- Draper, N. R., & Smith, H. (1998). *Applied regression analysis* (Vol. 326): John Wiley & Sons. <https://doi.org/10.1002/9781118625590>
- Galiher, S. (2006). *Understanding the effect of extracurricular involvement*. A Research Project Report M. Ed., Indiana University, South Bend.
- Gamst, G., Meyers, L. S., & Guarino, A. (2008). *Analysis of variance designs: A conceptual and computational approach with SPSS and SAS*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511801648>
- Goldberger, A. S. (1962). Best linear unbiased prediction in the generalized linear regression model. *Journal of the American Statistical Association*, 57(298), 369-375. <https://doi.org/10.1080/01621459.1962.10480665>
- Goodman, H., & Foster, J. (1962). Effect of local corticosteroid injection on median nerve conduction in carpal tunnel syndrome. *Rheumatology*, 6(7), 287-294. <https://doi.org/10.1093/rheumatology/6.7.287>
- Goodman, L. A. (1960). A note on the estimation of variance. *Sankhyā: The Indian Journal of Statistics*, 221-228.
- Grant, A. M. (2007). Relational job design and the motivation to make a prosocial difference. *Academy of management review*, 32(2), 393-417. <https://doi.org/10.5465/amr.2007.24351328>
- Greene, W. (2010). Testing hypotheses about interaction terms in nonlinear models. *Economics Letters*, 107(2), 291-296. <https://doi.org/10.1016/j.econlet.2010.02.014>
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (1998). *Multivariate data analysis* (Vol. 5). Prentice hall Upper Saddle River, NJ.
- Hake, R. R. (1998). Interactive-engagement versus traditional methods: A six-thousand-student survey of mechanics test data for introductory physics courses. *American journal of Physics*, 66(1), 64-74. <https://doi.org/10.1119/1.18809>
- Hansen, J. B. (2000). *Student Performance and Student Growth as Measures of Success: An Evaluator's Perspective*.
- Harb, N., & El-Shaarawi, A. (2006). *Factors affecting students' performance* (Munich Personal RePEc Archive Paper No. 13621). Accessed on November, 2, 2011.

- Hattie, J., & Anderman, E. M. (2013). *International guide to student achievement*. Routledge. <https://doi.org/10.4324/9780203850398>
- Hijazi, S. T., & Naqvi, S. (2006). Factors Affecting Students' Performance. *Bangladesh e-journal of Sociology*, 3(1).
- Hoffmann, F., & Oreopoulos, P. (2009). Professor qualities and student achievement. *The Review of Economics and Statistics*, 91(1), 83-92. <https://doi.org/10.1162/rest.91.1.83>
- Johnsrud, L. K. (2002). Measuring the quality of faculty and administrative worklife: Implications for college and university campuses. *Research in Higher Education*, 43(3), 379-395. <https://doi.org/10.1023/A:1014845218989>
- Karemera, D., Reuben, L. J., & Sillah, M. R. (2003). The effects of academic environment and background characteristics on student satisfaction and performance: The case of South Carolina State University's School of Business. *College Student Journal*, 37(2), 298-309.
- Khan, Z. (2012). The Factors Affecting the Students' Performance: A Case Study of University of Malakand, Pakistan. *City University Research Journal*, 3(1).
- Kirmani, N. S., & Siddiquah, A. (2008). Identification and analysis of factors affecting students' achievement in higher education. *Paper presented at the 2nd International Conference on assessing quality in higher education*.
- Kuder, G. F., & Richardson, M. W. (1937). The theory of the estimation of test reliability. *Psychometrika*, 2(3), 151-160. <https://doi.org/10.1007/BF02288391>
- Li Grining, C., Raver, C. C., Champion, K., Sardin, L., Metzger, M., & Jones, S. M. (2010). Understanding and improving classroom emotional climate and behavior management in the "real world": The role of Head Start teachers' psychosocial stressors. *Early Education and Development*, 21(1), 65-94. <https://doi.org/10.1080/10409280902783509>
- Liu, J. (2019). A Quantitative Study on Student Financial Aid of a Local Undergraduate College in China. *World Journal of Education*, 9(6)7-14. <https://doi.org/10.5430/wje.v9n6p7>
- Lockard III, F. W., Laux, J. M., Ritchie, M., Piazza, N., & Haefner, J. (2014). Perceived leadership preparation in counselor education doctoral students who are members of the American Counseling Association in CACREP-accredited programs. *The Clinical Supervisor*, 33(2), 228-242. <https://doi.org/10.1080/07325223.2014.992270>
- Luciano, J. (2014). The influence of curriculum quality on student achievement on the New Jersey Assessment of Skills and Knowledge (NJ ASK) Language Arts and Mathematics for fifth-grade students in the lowest socioeconomic school districts.
- Lundberg, C. A., & Schreiner, L. A. (2004). Quality and frequency of faculty-student interaction as predictors of learning: An analysis by student race/ethnicity. *Journal of College Student Development*, 45(5), 549-565. <https://doi.org/10.1353/csd.2004.0061>

- MacKinnon, D. P., Warsi, G., & Dwyer, J. H. (1995). A simulation study of mediated effect measures. *30*(1), 41-62. https://doi.org/10.1207/s15327906mbr3001_3
- Martirosyan, N. M., Hwang, E., & Wanjohi, R. (2015). Impact of English proficiency on academic performance of international students. *Journal of International Students*, *5*(1), 60-71.
- Mirkamali, S. M., & NARENJI, S. F. (2008). A study on the relationship between the quality of work life and job satisfaction among the faculty members of the university of Tehran and Sharif University of technology.
- Mushtaq, I., & Khan, S. N. (2012). Factors Affecting Students Academic Performance. *Global journal of management and business research*, *12*(9).
- Ogenler, O., & Selvi, H. (2014). Variables affecting medical faculty students' achievement: a Mersin university sample. *Iranian Red Crescent Medical Journal*, *16*(3). <https://doi.org/10.5812/ircmj.14648>
- Pearson, K. (1948). *Early statistical papers*. University Press.
- Perkmann, M., King, Z., & Pavelin, S. (2011). Engaging excellence? Effects of faculty quality on university engagement with industry. *Research Policy*, *40*(4), 539-552. <https://doi.org/10.1016/j.respol.2011.01.007>
- Price, I., Matzdorf, F., Smith, L., & Agahi, H. (2003). *The impact of facilities on student choice of university*. Facilities. <https://doi.org/10.1108/02632770310493580>
- Ross, C. E., & Broh, B. A. (2000). The roles of self-esteem and the sense of personal control in the academic achievement process. *Sociology of education*, 270-284. <https://doi.org/10.2307/2673234>
- Seber, G. A., & Lee, A. J. (2012). *Linear regression analysis* (Vol. 329). John Wiley & Sons.
- Sekaran, U., & Bougie, R. (2003). *Research Methods for Business, A Skill Building Approach*. John Willey & Sons. Inc. New York.
- Stephens, L. J., & Schaben, L. A. (2002). The effect of interscholastic sports participation on academic achievement of middle level school students. *Nassp Bulletin*, *86*(630), 34-41. <https://doi.org/10.1177/019263650208663005>
- Tarr, J. E., Reys, R. E., Reys, B. J., Chavez, O., Shih, J., & Osterlind, S. J. (2008). The impact of middle-grades mathematics curricula and the classroom learning environment on student achievement. *Journal for Research in Mathematics Education*, 247-280.
- Telmer, P. G., & Shilton, B. H. (2005). Structural studies of an engineered zinc biosensor reveal an unanticipated mode of zinc binding. *Journal of molecular biology*, *354*(4), 829-840. <https://doi.org/10.1016/j.jmb.2005.10.016>
- Woodside, B. M., Wong, E. H., & Wiest, D. J. (1999). The Effect of Student-Faculty Interaction on College Students' academic Achievement and Self Concept. *Education*,

119(4), 730-730.

Young, J. (1999). *The exclusive society: Social exclusion, crime and difference in late modernity*. Sage.

Copyright Disclaimer

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).