

## RESEARCH ARTICLE

# Factors Affecting Students' Performance a Case of Private Colleges in Lebanon

Mortada L, Bolbol J and Kadry S\*

*Department of Mathematics and Computer Science, Faculty of Science, Beirut Arab University, Lebanon*

\***Corresponding author:** Kadry S, Department of Mathematics and Computer Science, Faculty of Science, Beirut Arab University, Lebanon, Tel: 37-00512, Email: skadry@gmail.com

**Citation:** Mortada L, Bolbol J, Kadry S (2018) Factors Affecting Students' Performance a Case of Private Colleges in Lebanon. *J Math Stat Anal* 1: 105

**Article history:** **Received:** 24 September 2018, **Accepted:** 16 October 2018, **Published:** 17 October 2018

## Abstract

Every educational system consists of an examination system through which the qualities and abilities of the students are assessed by giving those grades and positions [1]. And according to Mathews "Examination tests the efficiency of the education provides, we shall need to test what is, students can do, rather what they know" and this leads us to the main objective of the examination which is to measure the performance level of a students to find out if they have reached a certain standard of academic learning and knowledge, and according to the dictionary of education, examination is defined as: "it is a test of a person s knowledge or proficiency in which he or she is required to answer questions or perform tasks" [2]. However, there are many factors that can affect the student's performance in examination, thus we find a lot of students fail in their examination despite their high I.Q level , and yet we can find another categories of students with low IQ that get high grades and do well in their performance examination, this lead us to the hypothesis that the performance in examination could be affected not only by intelligence factor but also by other factors that are not related to intelligence and smartness of the student.

**Keywords:** Student Performance; Examinations; IQ test

## Introduction

Over the years, a lot of empirical studies were established to find out the factors affecting college students' performance , and as a result of these studies , many researchers has supported the hypothesis that the performance was affected by socio-economic and psychological factors considering that their researches has focused on these aspect in particular, and according to a study by joe Hansen in 2000 students performance is affected by variety of factors for example their learning abilities , however there is also other factors like their age, race and gender that should also be considered [3].

On the other hand, there were a number of researcher that adopted the hypothesis that there is a link between student's achievement, economic circumstances and the risk of becoming a drop-out of college and the results of these research were positive [4].

however, thought that students with low learning abilities could do better when associated with students of the same learning ability level in groups, and as implied by Zajonac' analysis of older siblings it shows that when grouped with students that face same problems, students' performance increased [5,6].

On the other hand, Zimmerman said that there are different factors affecting students' performance and that weak peers could affect negatively the grades of strong students [7].

Kirby, Winston *et al.* (2002) examined the relation between students' academic performance and their impatience [8].

Samia Rasul and Qadir Bukhsh (2011), examined different factors like extrinsic factors (lights, temperature, sound...) intrinsic factors (questions pattern, strict marking...), personal factors (family problems, tensions, lack of confidence...) and miscellaneous factors (handwriting, selective study, exam phobia...) and their results showed that in some areas females students had better responses than male, and that some faculties were affected by the factors already mentioned than other faculties [9].

Sayed Hijazi and S.M.M Raza Naqvi, examined the relationship between mother's age, mother education, family income, study hours, class attendance in respect to the students' performance and their results showed that the mother's age has a huge impact on their children's performance in examination considering that aged mothers has less control in their children, on the other hand their research also showed a positive relationship between students attendance in class and their performance , in addition,

a positive relationship was also proved between the family's income and the students' performance since money can provide comfort and luxury which can lead students to better concentrate on their studies and finally mother's education showed that it can contribute to a better performance in examination because as assumed they can help their children in their studies.

There were mixed results on whether the gender has an effect on the students' performance or not.

## The Objective of this Study

In the previous years, a lot of research has been held, and added a knowledge to the existing literature regarding the students' performance and the factors affecting it, however, most of these research have only relied on socio-economic factors and were held in developed countries, and regarding the lack of resources and accessibility to different universities in different countries, we have chosen a private university in Lebanon as our setting considering it is based in a not developed country. The ages of the students in our study ranges between 18 and 24 years old, gender is male or female and Lebanon is a multi-ethnic society. There are Arabs, Armenians, Kurds, Turks, Assyrians, and Iranians etc.

The main objective of this study is to find out the factors affecting the students' performance, however, we will only focus on factors that we feel that they have been neglected by other researchers and hasn't been focused on yet, and these factors will be: the study hours before examination, their height and weight, their intelligence (measured by I.Q scores) and their gender.

For that our research question would be RQ1: is the weight, height, revision time, gender affecting the performance in examination?

## Hypothesis

To verify these relationships a hypothesis is formed based on students' profile collected through questionnaire assuming that students carry their profiles as it is

H: students study hours before examination, their height and weight, their intelligence and their gender are significantly related to their performance in examination

## Methodology

This study is quantitative research

Data were collected personally through questionnaire distributed personally to individuals participating in this research, and I.Q test was conducted electronically, we asked participant to take an online I.Q test and then we collected the results. The university is located in the capital of Lebanon Beirut. The IQ test is valid and standard follows MENSA requirements. The test was ethically approved from local authority.

A multiple linear regression test was performed by S.P.S.S to analyze and test our hypothesis (Table 1)

		id	height	weight	iq score	Age	revision time	midterm score
N	Valid	30	30	30	30	30	30	30
	Missing	0	0	0	0	0	0	0
Mean		15.50	170.23	71.57	118.83	21.03	7.40	75.10
Median		15.50	170.00	66.50	119.00	21.00	7.50	74.00
Std. Deviation		8.803	6.135	19.084	3.524	2.092	3.470	9.661
Sum		465	5107	2147	3565	631	222	2253

Table 1: Analyses and Discussion of the Results

A descriptive statistics showed that the mean height of students participating in our research was 170.23 cm with standard deviation of 6.135 on the other the mean weight was 71.57 kg with standard deviation of 19.084, moreover, the mean I.Q score was 118.83 with standard deviation of 3.524, however, the mean age of participant was 21.03 with standard deviation of 2.092 and the mean for the revision time was 7.4 hours with standard deviation of 3.47 and finally the mean for the examination performance was 75/100 with standard deviation of 9.661 (Table 2).

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
IQ score	30	118.83	3.524	.643
age	30	21.03	2.092	.382
midterm score	30	75.10	9.661	1.764

Table 2: One-Sample Statistics

```
REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT midtermscore
/METHOD=ENTER id height weight age iqscore revisiontime.
```

One sample t-test was conducted to test the hypothesis H0: there is no difference between IQ score based on gender (Male, Female). H1: there is difference between IQ based on gender

The results showed that mean I.Q score for females was 118.81 and for males was 118.86 on the other hand the p-value was 0.976 which is less than 0.05 therefore we cannot reject H0 which indicate that there is no significant difference between the IQ mean score of male and female (Table 3).

One-Sample Test						
	Test Value = 0					
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
<b>IQ score</b>	184.691	29	.000	118.833	117.52	120.15
<b>age</b>	55.058	29	.000	21.033	20.25	21.81
<b>midterm score</b>	42.577	29	.000	75.100	71.49	78.71

Table 3: One-Sample Test

### Regression

The list of variable is given in Table 4

Variables Entered/Removed <sup>a</sup>			
Model	Variables Entered	Variables Removed	Method
1	revision time, height, id, iq score, age, weightb	.	Enter
a. Dependent Variable: midterm score			
b. All requested variables entered.			

Table 4: Variables Entered/Removed<sup>a</sup>

Adjusted R square tells us that at least 36% of the variation of the examination performance can be explained by the variation of the independent variable taken together as a set which leave 64% unexplained could be related to other variables (Table 5).

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.688 <sup>a</sup>	.473	.336	7.872
a. Predictors: (Constant), revision time, height, id, iq score, age, weight				

Table 5: Model Summary

### Anova Hypothesis

ANOVA <sup>a</sup>						
Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	1281.588	6	213.598	3.447	.014 <sup>b</sup>
	Residual	1425.112	23	61.961		
	<b>Total</b>	<b>2706.700</b>	<b>29</b>			
a. Dependent Variable: midterm score						
b. Predictors: (Constant), revision time, height, id, iq score, age, weight						

Table 6: ANOVA<sup>a</sup>

H<sub>0</sub>: b<sub>1</sub>=b<sub>2</sub>=0

H<sub>a</sub>: at least one b<sub>1</sub>≠0

Significance level 0.05 and p-value =0.14 which is less than 0.05 therefore we reject H<sub>0</sub> and at least there exist enough evidence to conclude that at least one of the predictors is useful (Table 6).

### Regression equation

The coefficient of the regression equation are given in Table 7

$$Y=229.571+289x_2+908x_3+314x_4+986x_5+93x_6+1875x_6$$

Coefficients <sup>a</sup>						
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	229.571	110.794		2.072	.050
	id	-.289	.182	-.264	-1.592	.125
	height	-.908	.535	-.576	-1.698	.103
	weight	.314	.173	.620	1.812	.083
	age	-.986	.739	-.214	-1.334	.195
	iq score	-.093	.449	-.034	-.207	.838
	revision time	1.875	.456	.673	4.111	.000

a. Dependent Variable: midterm score

Table 7: Coefficients<sup>a</sup>

GET

FILE='C:\Users\user\Downloads\project.sav'

DATASET NAME DataSet1 WINDOW=FRONT.

T-TEST GROUPS=gender ('female' 'male')

/MISSING=ANALYSIS

/VARIABLES=iqscore

/CRITERIA=CI(.95).

### Regression Analysis

H<sub>0</sub>: there is no relationship between dependent variable and independent variable

H<sub>1</sub>: there is a relationship between dependent variable and independent variables

The regression test showed the height of the individual has no significant effect on the performance in examination since p-value =0.125 which is greater the alpha then we cannot reject H<sub>0</sub>

On the other hand, the test showed that the weight also has no significant effect on the examination performance since p-value is 0.103 which is greater than alpha 0.05 thus we cannot reject H<sub>0</sub>.

Moreover, the age has no effect on the examination performance because p-value 0.083 which is greater than alpha therefor we cannot reject H<sub>0</sub>

Also the iq score has no effect on the performance in examination since its p-value is 0.838 which is greater than alpga 0.05 therefore we cannot reject H<sub>0</sub>. Furthermore, the revision time is the only variable tested that has a significant effect on the performance in examination since its p-value is 0.000 which is less than alpha 0.05 therefore we reject H<sub>0</sub> (Table 7).

### Conclusion

The results of the studies have showed that the independent variables studied (height, weight, I.Q score, gender and age ) has no significant effect on the performance in examination except for the revision time that showed that it has a significant effect on the examination performance (Table 8).

	Expected result	Actual result
<b>I.Q</b>	Positive	negative
<b>Height</b>	Positive	negative
<b>Weight</b>	Positive	negative
<b>Age</b>	Positive	negative
<b>Gender</b>	Positive	negative
<b>Revision time</b>	Positive	positive

Table 8: final result

## References

1. Lena Svennberg, Jane Meckbach Karin Redelius (2018) Swedish PE teachers struggle with assessment in a criterion-referenced grading system. Sport Educ Soc 23: 381-93.
2. Dwyer C (2008) The Future of Assessment: Shaping Teaching and Learning New York.
3. Funda Erdogan, Erkan Erdogan (2015) The impact of access to ICT, student background and school/home environment on academic success of students in Turkey. Comput Educ 82: 26-49.
4. Brian Jacob, Susan Dynarski, Kenneth Frank, Barbara Schneider (2017) Are Expectations Alone Enough? Estimating the Effect of a Mandatory College-Prep Curriculum in Michigan, Educ Eval Policy Anal 39: 333-60.
5. Kleppin, Karin (2005) The promotion of self-evaluation skills in foreign language learning 6.
6. Hijazi ST, Naqvi SMM (2006) Factors Affecting Students' Performance a Case of Private Colleges, Bangla J Sociol 3.
7. Daniel K. Korir, Felix Kipkemboi (2014) The Impact of School Environment and Peer Influences on Students' Academic Performance in Vihiga County, Kenya. J Edu Practice 5: 11.
8. Kirby, Winston (2002) focused on student's impatience (his time-discount behavior) that influences his own academic performance.
9. Rasul S, Bukhsh Q (2011) A study of factors affecting students' performance in examination at university level, Procedia Social Behav Sci15: 2042-7.