

# Factors Affecting Academic Performance of University Students: A Study Among the Students of MBSTU

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## Abstract

The students' academic performance (CGPA) plays an important role in producing the best quality graduates as well as the country's economic and social development. So, for the sustainable economic and social development of a country, it is essential to produce the best quality graduates who will lead the country in near future. Normally, the quality of a student is represented by academic performance which is determined by Cumulative Grade Point Average (CGPA). Basically, the study is conducted with the objective of investigating the factors affecting academic performance at undergraduate level in Mawlana Bhashani Science and Technology University. This paper aims to identify the most important and significant factors. There are many factors that contribute to determine whether the CGPA is excellent, moderate or low. Simple Random Sampling has been used to collect data. A sample of 250 undergraduate students' information was taken. Among the respondents in that sample size, male students are 130 and female 120. Findings shows that family responsibility, average study hour per day before exam or during preparatory leave (PL) have positive impact and positive association with CGPA. On the contrary, spending more time on tuition or part time job have a negative impact on CGPA. Dissatisfaction on studying subject, current education system and job market have significant impact on CGPA which is negative. Job related preparation alongside academic study has a negative impact on CGPA. One thing we have noticed that students who are not satisfied with their studying subject and dissatisfied about the current education system and job market in Bangladesh; their CGPA is lower than those who are satisfied.

**Keywords:** Academic Performance, CGPA, Correlation, Part time job, Regression model, Study hour, internet using

**DOI:** 10.7176/JESD/11-20-03

**Publication date:** October 31<sup>st</sup> 2020

## 1. Introduction:

For any educational institute students are the most important asset. Universities and colleges have no value without students. Economic and social development of a country is directly associated with academic performance of students. Basically, Education is germane to individual, economic, social and cultural development. It is a catalyst for positive societal change. Therefore, academic performance can be defined as an outcome of education, the degree to which a student has attained the institutional objectives. Academic performance has been recognized as a weighting scale for checking the mental capabilities and abilities of students. It is the reflector of the educational set up of a country. The academic performance shows students' levels of skill, knowledge and identity; personal efforts, fixed factors and more. Good academic performance is an outcome of sound education and produces good outcomes that could improve students' value, exempt students from criminal activities, open the students to huge opportunities, reduce menace, and give the students better self-esteem in the society. Therefore, the priority of every parents and student is sound education, leading to good academic performance (Olufunke O. Oladipupo *et al.*,) By acquiring knowledge, ability, skills and attitudes, education enables the individuals and society to make an all-round participation to determinate development process.

In our country the number of people who are graduated from a university has increased and there is a high competition among the graduates in job market. The performance of students is not only important for labor market but also important for the administrators, educators. For that, students have to place the greatest effort in their study to acquire a good result in order to fulfill the employer's demand. Students' academic achievement is measured by the Cumulative Grade Point Average (CGPA). CGPA shows the overall students' academic performance where it considers the average of all examinations' grade for all semesters during the tenure in university.

### 1.1 Rationale of the Study:

Academic performance plays a vital role in producing competent graduates that are well equipped with knowledge and skills. Students' academic performance is measured by the Cumulative Grade Point Average (CGPA). The performance of student plays important role to quality education which produce quality graduates. So, they took part into development of the country and become leader of that county, they are the backbone of their country. Academic performance is affected by most of factors. Some variables are according to result such as, age of students, traveling time, father's income not directly affected the student performance. On the other hand, some

variables such as study hour, part time job, face booking, marital status, residence, extra curriculum activities, university facilities are directly affected the students' performance. There are many factors that contribute to the CGPA result that reflect students' overall academic performance. Hence, this paper is produced to look into the factors that involved in students' CGPA. This study will show the major factors which have impact on CGPA. Taken into consideration these issues, this research topic has been selected by the researcher.

## 1.2 Objective of the study

The objectives of the study are:

1. To explore the factors that affect the academic result in university level and correlation between CGPA and the explanatory variables.
2. To find out the impact of all the explanatory variables on the dependent variable.

## 2. Literature Review

There have been studies in the literature to identify which factors have impact on the student's academic performance in higher education and secondary and about other institutions. As academic result is considered as the measurement of qualification of the students, different studies have been performed to find the behind reasons of the diverse academic results.

**Kasantra a/p Tangarajuet et al., (2013)**, perform a research on factors influencing the academic performance of tertiary educational students in Kampar. The principal objective of this study is to analyze the factors influencing the academic performance of tertiary educational students in Kampar. Findings shows that teaching method, time management, attendance of students, and sleep has a positive influence towards the academic performance of tertiary education students. Racial ideology has a negative effect on tertiary education student's academic performance.

**ShaheenFajaret et al., (2019)**, Carry out the Factors Affecting Academic Performance of Undergraduate Nursing Students. Researcher find that Gender of the participant has negative association with education of the participant. Gender of the participant has association with marital status and has weak correlation. Gender of the participant has association with student related factor and has negative correlation.

**Ali Abdi Mohamed et al., (2018)**, perform a research on factors Affecting Student Academic Performance: Case Study from University of Somalia in Mogadishu-Somalia. The study finds that there is strong positive relationship between learning techniques and student academic performance. This shows that if students get well learning technique, they will come with good performance. The findings indicate that there is strong positive relationship between home related aspect and student academic performance. The result displays strong positive relationship between study habits and student academic performance

**Prof. S. P. Singh et al., (2016)**, conduct a research to investigate the factors influencing students' academic performance. The study reveals that there is a positive and statistically significant impact of learning facilities, communication skills and proper guidance from parents on student academic performance.

**Hijazi and Naqvi (2006)**, find out that students' performance, in intermediate examination is negatively related with family income. The method is employed to examine the relationship between socio-economic variables and the CGPA is different from that of previous studies in which student performance was treated as a five categorical like scale that consists of five different percentiles.

**Rosemary WahuMbogo (2016)**, conduct a research on antecedent Factors Affecting Academic Performance of Graduate Students at the Nairobi Evangelical Graduate School of Theology. The paper reviews the effect of lack of finance on academic performance; the effect of age on academic performance; the effect of language proficiency on academic performance; the effect of family responsibilities on academic performance; the effect of academic aspirations on academic performance; and the effect of student-faculty interactions on academic performance. The researcher recommends that time management, regulation of work load and commitment to seeking academic mentorship, are significant components that students need to embrace to enhance their academic performance.

**Iqbal and Pervaiz (2014)**, provides emphasize on the factors affecting the performance of BS honors students: University of Education, Okara campus. This performance is determined by students' personal information, social factors, Facebook factors, computer factors, uses of smart phone, family contribution, university environment, teachers' personality, personal activities and peers relationship. Therefore, without any hesitation, it can be strongly recommended that these factors play a very significant role and should be taken care of in order to enhance the academic performance of students.

**Abdelnaser Omran1 and Mohamed Saad Hamad Sale (2019)**, they investigate the factors affecting academic performance of students at College of Business of University Utara Malaysia located in Kedah State, Malaysia. This study reveals that teaching style, English language and communication, language assessment, students' academic stress, students' self-concept are all playing a significant role on the students' academic performance at College of Business, Universiti Utara Malaysia.

### 3. Methodology and Research Design

In this research, CGPA is used as the dependent variable on the other hand, average study hour before exam or during PL (preparatory leave), family responsibility, satisfaction on studying subject, spending time on internet, job related preparation except academic, spending time on part time job or tuition, satisfaction on current education system and job market in Bangladesh etc. as independent variables. This research is mainly based on primary data. The research is being conducted among the students of Mawlana Bhashani Science and Technology University, Tangail, Bangladesh. Primary data is used for the purpose of the analysis and secondary data for the background study and initial understanding. A Simple random sampling method has been used to collect data from the respondents.

Participants of this research are the undergraduate students from 2014-15 session to 2018-19 session at Mawlana Bhashani Science and Technology University in Bangladesh. This study is based on a primary survey where the data are collected primarily by the Questionnaire method from the students from 2014-15 session to 2018-19 session at Mawlana Bhashani Science and Technology University. Data were collected from 15 departments randomly.

We know that if the population is finite but when we have **no idea about a population's behavior**, it would be better to use Slovin's formula to find the sample size. The formula (sometimes written as Sloven's formula). So, Applying the Slovin's (*Elementary statistics: A Modern Approach' 2003 Ed.*) formula.

The ideal sample size  $n$  can be obtained by using the formula:

$$n = \frac{N}{1 + Ne^2}$$

Where,

$N$  = population size and

$e$  = margin of error, which denotes the allowed probability of committing an error in selecting a sample representative of the population.

The margin of error ( $e$ ) could range between 1% and 10% depending on the desire or intention of the researcher. But every researcher should be careful about that the larger the size of the sample, the closer its characteristics would be to the characteristics of the entire population.

So, with 5% margin of error or the acceptable error value, by using this formula for my research the ideal sample size would be 364 as the total number of undergraduate students is four thousand.

$$n = \frac{4000}{(1+4000 \times .05^2)} = 364$$

But, due to various reasons like financial, physical, limited time and institutional constraints, I could not collect more than 250 samples. And which reflects 6.123% margin of error.

A pilot survey has been conducted. A few questionnaires of 15 were given to a few respondents before the actual study to determine whether the questions were understood by the respondents. Later from 15 departments, by drawing simple random sampling techniques a total 250 number of student's information have been collected. Taken 130 male and 120 female students. The research instruments used in this study are questionnaires and interviews. A fully structured questionnaire was used. The same questionnaire was given to all the respondents. Data were collected through the questionnaires and interview method. In some cases, scheduled method was used to collect data. Questionnaires were designed using closed and open-ended questions. Microsoft word, Microsoft excel, SPSS have been used for analysis.

Since, it is a qualitative research not quantitative. So, maximum qualitative variables are converted into quantitative variables by taking the value of 0, 1, 2, 3, 4, 5... etc. Such as Gender, Religion, Marital status, CGPA (making range), Average study hour before exam or during PL are converted into quantitative variable for research purposes. So, a pilot survey was carried out to help the researcher in identification of sample and response of the respondents.

### 4. Results Analysis and Discussion

#### 4.1 Correlation coefficient:

The Pearson correlation coefficient, is a measure of the linear correlation between two variables  $X$  and  $Y$ . It has a value between +1 and -1, where 1 is total positive linear correlation, 0 is no linear correlation, and -1 is total negative linear correlation. Basically, a Pearson product-moment correlation attempts to draw a line of best fit through the data of two variables, and the Pearson correlation coefficient,  $r$ , indicates how far away all these data points are to this line of best fit. By using SPSS software, the Pearson correlation coefficient between the dependent variable CGPA and the independent variables are given below:

Table 1. PEARSON CORRELATION COEFFICIENT TEST

	Independent Variables	Pearson Correlation	Relation	Sig. (2-tailed)
1.	Average daily study hour before exam	.880**	Positive	.000
2.	Family responsibility	.893**	Positive	.000
3.	Spending time on part time job or tuition	-.598**	Negative	.000
4.	Spending time on internet	-.151**	Negative	.017
5.	Satisfaction on studying subject	-.650**	Negative	.000
6.	Satisfaction on education system and job market	-.484**	Negative	.000

Source: Primary data

[Note: All the tables of Pearson Correlation are given in the Appendix section.]

As per relationship between the independent variable based on Pearson Correlation, the researcher finds that Average daily study hour before exam is strongly related to students' CGPA and it is definitely a positive relation. Because, the Pearson correlation is .880\*\*. Students who have higher family responsibility have higher CGPA and lower CGPA who have lower family responsibility. Pearson correlation is .893\*\*. It is also strongly related to CGPA and which is a positive correlation.

The result shows that spending time on part time job or tuition observed to have a negative correlation with the CGPA and which is a moderate relation the two variables. Students who are engaged Part time job or tuition have lower CGPA compared to those who are not engaged. CGPA and spending time by using internet is negatively related but weakly correlation exists between them. That means students who spend more time by using internet, their academic results are being hampered. Satisfaction on studying subject is moderately related to CGPA. Because the Pearson correlation is -.650\*\*. It has been found that students who are not satisfied with their studying subject their academic results are largely affected. But who are satisfied their CGPA is almost high. The last variable is students' satisfaction on current education system and job market, which is related to CGPA. The relationship is also moderate. Because the Pearson correlation is -.484\*\*. It has been also examined that undergraduate Students who are not satisfied about the current education system and job market in Bangladesh, their academic result is being hampered. They have lower CGPA compared to them who are satisfied.

#### 4.2 Regression Model and analysis:

The multiple regression model is given as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + U$$

Here,

Y = Students' CGPA

$\beta_0$  = Intercept

$X_1$  = Average daily study hour before exam

$X_2$  = Family Responsibility

$X_3$  = Spending time on tuition or part time job

$X_4$  = Spending time on internet

$X_5$  = Satisfaction on studying subject

$X_6$  = Satisfaction on current education system and job market in Bangladesh.

$X_7$  = Job related preparation alongside academic study

U = Error term

**Coefficients**  
 Table 2. Regression coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		Std. Error				Lower Bound	Upper Bound
1 (Constant)	1.413	.108		13.138	.000	1.201	1.626
2.Average daily study hour before semester exam	.161	.025	.305	6.570	.000	.113	.210
3.Family responsibility of the respondents	.576	.042	.598	13.867	.000	.493	.658
4.Spending time on tuition or part time job	-.060	.027	-.066	-2.200	.029	-.113	-.006
5.Spending time by using Internet	.016	.024	.017	.663	.508	-.032	.064
6. Satisfaction on Studying subject	-.102	.047	-.071	-2.162	.032	-.196	-.009
7.Satisfaction on current education system and job market	-.024	.046	-.014	-.507	.613	-.115	.068
8.Job related preparation alongside academic	-.078	.043	-.047	-1.820	.071	-.162	.007

Source: Primary data

The coefficients of maximum explanatory variables are statistically significant at 5 percent or 10 percent significant level. Here some variables are highly significant and some variables are statistically significant and two variables are insignificant at 5% or 10% level of significance. But all of the taken explanatory variables have enough impact on CGPA as the dependent variable. Using the regression coefficient table and by using the value of the parameters and intercept which has been calculated with the help of SPSS software, we can fit a regression line. It's a multiple regression model which is given below:

**4.2.1 Regression line:**

CGPA = 1.413 +.161 Average daily study hour before semester exam + .576 Family responsibility of the respondents -.060 Spending time on tuition or part time job + .016 Spending time by using Internet - .102 Satisfaction on Studying subject -.024 Satisfaction on current education system and job market -.078 Job related preparation alongside academic study + U

**4.2.2 Interpretation of the coefficients:**

On the basis of beta coefficient, the model shows that average daily study hour before exam causes .161 positive variations in students' academic performance if the other things remain constant and the t value is significant because it is greater than 2. Here, 95% confidence interval for the average daily study time before exam is between the ranges of .113 to .210. So, we accept the alternative hypothesis which states that there is a positive relation between CGPA and average daily study hour before exam. There is a significant relationship between them because the p value value is .000. Here, 1.413 is the constant term which is called intercept of the regression line. The model also shows that family responsibility of the respondents causes .576 positive variations in students' academic performance. The t value is also significant. There is a positive relation between CGPA and family responsibility of the respondents. The model also shows that spending time on tuition or part time job causes -.060 negative variations in students' academic result. There is a negative relation between CGPA and spending time on tuition or part time job. Spending time on internet causes just only 1.6% positive variations in students' academic performance and which is statistically insignificant. Because the p value is .508 which is much larger than the significance level of 5%. It also shows that satisfaction on Studying subject causes -.102 negative variation in students' performance. Who are not satisfied their result is being hampered.

Satisfaction on current education system and job market causes -.024 negative variations in students' performance. Who are satisfied they have higher CGPA and who are not satisfied with the current education system and job market they have lower CGPA. There is a small impact on CGPA. But, the impact of this variable is not statistically significant. The regression line also shows that job related preparation alongside academic causes -.078 negative variations in students' CGPA. Students who take job related preparation alongside academic study, it has been found that their CGPA is lower than students who are satisfied with the studying subject and don't take job related preparation. Some results have also been found that some students take job related preparation and their CGPA is at high and moderate level.

So, it leads to the summary is that if the other things remain constant, marginal increase in average daily study

hour before exam will increase the CGPA by .161. An increase in family responsibility will increase the CGPA by .576. An increase in spending time on part time job or tuition will decrease the CGPA by -.060 and satisfaction on studying subject, Satisfaction on current education system and job market and Job-related preparation alongside academic have significant impact on CGPA. By using SPSS software after calculating the value of R square which is given below:

Table 3. Value of R square

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.958 <sup>a</sup>	.918	.914	.210

Source: Primary data

**Predictors:** (Constant / intercept term), Average daily study hour before semester exam, Family responsibility of the respondents, Spending time on tuition or part time job, Spending time by using Internet, Satisfaction on Studying subject, Satisfaction on current education system and job market and job-related preparation alongside academic study.

By the taken independent variables in this regression model, 91.8% variation can be explained. These taken explanatory variables causes 91.8% variation in students' academic performance which is measured here by CGPA of the students. Because, the value of R square is .918. So, it means the dependent variable CGPA can be explained 91.8% with the explanatory variables those are taken. Just 8.2% is left. It is called the error term. It is actually the combination of all extraneous variables that affect the dependent variable. Some variables are positively related to CGPA and some are negatively related.

So, it leads to us the conclusion is that these explanatory variables have enough impact on academic performance of the undergraduate students in MBSTU.

#### 4.3 Multicollinearity Test:

Multicollinearity means the existence of a "perfect", or exact, linear relationship among some or all explanatory variables of a regression model. So, if there exists a high correlation between any two independent variables, problem of multicollinearity arises.

The most common way to test multicollinearity is VIF. VIF means Variance Inflating Factor which shows how the variance of an estimator is inflated by the presence of multicollinearity. Which is defined as:  $VIF = 1 / (1 - r^2_{23})$ . As  $r^2_{23}$  approaches 1, the VIF approaches infinity. That is as the extent of collinearity increases, the variance of an estimator increases, and in the limit it can become infinite. If there is no collinearity between  $X_2$  and  $X_3$ , VIF will be 1.

Table 4. Multicollinearity Test

Variable	VIF	1/VIF
Family responsibility	3.146	.318
Average daily study hour before exam	3.660	.273
Spending time on Tuition or part time job	1.534	.652
Spending time by using internet	1.065	.939
Satisfaction on studying subject	1.818	.550
Job related preparation alongside academic study	1.141	.877
Satisfaction on current education system and job market	1.375	.727
Mean VIF	1.96	

Source: Primary data

If any variable in Variance Inflating Factor have greater than Ten (10) it means there exists multicollinearity. By using SPSS software and after getting the value of VIF, we see that on the above table VIF of all the variables are less than ten (10). That means there is no multicollinearity problem in this data set. In other words, there is no multicollinearity among the explanatory variables taken in this regression model.

#### 4.4 Autocorrelation Test:

Serial correlation or auto correlation means when the residuals of this model that we have estimated are correlated. So, we need to check whether the residuals are correlated or not. When the residuals are correlated then the problem of serial correlation arises. There are many tests. Out of many tests, we can use the Durbin-Watson Statistics. Durbin-Watson value can be from 0 to 4. That's actually the range. If the Durbin-Watson value is close to 0, meaning that indicating that strong positive correlation among the residuals. If the DW value is close to 4, meaning that there exists a negative serial or auto correlation in the model. When the Durbin-Watson value is close to 2, meaning that there is no serial or auto correlation among the residuals. According to the guideline, there should not be negative or positive correlation among the residuals which means that there should not have any serial correlation among the residuals. Only then we can accept the model. By using SPSS software, we get the following

table after following the procedure of Durbin-Watson autocorrelation test.

Table 5. Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.958 <sup>a</sup>	.918	.914	.210	1.829

Source: Primary data

Here, we can see that the value of Durbin-Watson on the table is 1.829 which is close to 2, and indicates us that there is no auto correlation among the residuals. And normally we know that if the Durbin Watson value is in between 1.5 to 2.5, there is no serial correlation or autocorrelation among the residuals. In other words, the residuals are not correlated. It is clear that our estimated model is not suffering from serial correlation. We can accept the model. As a result, we can use this model for forecasting or prediction.

#### 4.5 Limitations

There are some limitations of this study:

- The first and major limitation was time constraints. After the final exam there was a limited time to conduct the whole research. It was almost difficult to identify a problem, making and checking the questionnaire, data collection, data input, data analysis and getting result within a short time. Students were busy in their routine work due to which they don't give enough time to understand and then answer the questions.
- During data collection some students were in their hometown after semester exam. So, it was difficult to find all the students.
- Some students don't read the whole questionnaire. But answer it quickly. That's why here the researcher has used scheduled method which means the researcher or an enumerator ask questions to the respondents based on questionnaire and write it down. This is the way the researcher has collected 250 samples.
- It can be a limitation that data were collected only from the Undergraduate students of Mawlana Bhashani science and Technology University.

#### 5. Conclusion

Basically, the study is conducted to identify factors affecting students' performance at undergraduate level. In this study what there searcher found that there are seven factors influencing students' performance that are daily study hour before exam, family responsibility, spending time on tuition or part time job, Spending time on internet, satisfaction on studying subject, satisfaction on current education system and job market in Bangladesh and Job related preparation alongside academic. The relationship of independent variables with dependent variable is also being examined. Of all factors, two factor are positively related with student's CGPA which are average study hour before exam per day and family responsibility and four factors found to be negatively related with students' CGPA which are spending time on tuition or part time job, Spending time on internet, Satisfaction on studying subject, satisfaction on current education system and job market in Bangladesh and Job-related preparation alongside academic. Explanatory variables which are taken into consideration in this model have enough impact on CGPA. We also see that female CGPA is more than male CGPA. So, we can say that female students are more serious about their study than the male students. Based on the findings of this study, it has been seen that Family responsibility has a positive impact on students CGPA.

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S. Fajar et al. (2019) Int. J. Soc. Sc. Manage. Vol. 6, Issue-1: 7-16. DOI: 10.3126/ijssm.v6i1.22563

### Appendices

#### Pearson correlation coefficient:

**Table: A1**

		CGPA of the respondents	Average daily study hour before semester exam
CGPA of the respondents	Pearson Correlation Sig. (2-tailed) N	1 250	.880** .000 250
Average daily study hour before semester exam	Pearson Correlation Sig. (2-tailed) N	.880** .000 250	1 250

**Table: A2**

		CGPA of the respondents	Family responsibility of the respondents
CGPA of the respondents	Pearson Correlation Sig. (2-tailed) N	1 250	.893** .000 250
Family responsibility of the respondents	Pearson Correlation Sig. (2-tailed) N	.893** .000 250	1 250



**Table: A3**

		CGPA of the respondents	the	Spending time on tuition or part time job
CGPA of the respondents	Pearson Correlation Sig. (2-tailed) N	1		-.598** .000 147
Spending time on tuition or part time job	Pearson Correlation Sig. (2-tailed) N	-.598** .000 147		1 147

**Table: A4**

		CGPA of the respondents	the	Spending time by using Internet
CGPA of the respondents	Pearson Correlation Sig. (2-tailed) N	1		-.151* .017 249
Spending time by using Internet	Pearson Correlation Sig. (2-tailed) N	-.151* .017 249		1 249

**Table: A5**

		CGPA of the respondents	the	Satisfaction on Studying subject
CGPA of the respondents	Pearson Correlation Sig. (2-tailed) N	1		-.650** .000 250
Satisfaction on Studying subject	Pearson Correlation Sig. (2-tailed) N	-.650** .000 250		1 250

**Table: A6**

		CGPA of the respondents	the	Satisfaction on current education system and job market
CGPA of the respondents	Pearson Correlation Sig. (2-tailed) N	1		-.484** .000 250
Satisfaction on current education system and job market	Pearson Correlation Sig. (2-tailed) N	-.484** .000 250		1 250

**Table 4.3: R square Value Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.958 <sup>a</sup>	.918	.914	.210

**Predictors:** (Constant), Average daily study hour before semester exam, Family responsibility of the respondents, Spending time on tuition or part time job, Spending time by using Internet, Satisfaction on Studying subject, Satisfaction on current education system and job market, Job related preparation alongside academic study.

**Table of Autocorrelation test from SPSS:**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.958 <sup>a</sup>	.918	.914	.210	1.829

**a.** Predictors: (Constant), Satisfaction on current education system and job market, Spending time by using Internet, Job related preparation alongside academic, Spending time on tuition or part time job, Satisfaction on Studying subject, Family responsibility of the respondents, Average daily study hour before semester exam

**b.** Dependent Variable: CGPA of the respondents