Determinants of Academic Results of the Students of a Public University of Bangladesh

Laxmi Bashu[1], Mohammad Bashir Ahmed[1], Md. Moshiur Rahman[2] and Md. Matiul Islam[1*]

[1]*Agrotechnology Discipline, Khulna University, Khulna-9208, Bangladesh.*
[2]*Fisheries and Marine Resource Technology Discipline, Khulna University, Khulna-9208, Bangladesh.*

Authors' contributions

This work was carried out in collaboration among all authors. Author LB collected and analyzed data, wrote the first draft of the manuscript. Author MBA designed interview schedule and guided the scientific writing. Author MMR helped to analyze data and edited the draft manuscript. Author MMI edited draft manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Academic results of students in most universities have become a concern of inquiry and have become a top priority among educators who have vowed to make a difference in producing quality graduates locally, regionally, nationally and globally. Researchers have long been interested in exploring variables and/or techniques which significantly contribute to the results of learners. The main purpose of the study was to analyze the academic results and to identify the determinants of the academic results of students of different Disciplines under Life Science School of a public university, Bangladesh. Twenty four selected characteristics were included as determinants of academic results of the students. Data were collected from 67 randomly selected students irrespective of gender, from five Disciplines under Life Science School of that public university. Data were gathered through personal interview using a pre-tested interview schedule during 25 January to 15 February, 2018. Most (86.5%) of the respondents had obtained very good (3.00-3.49) and good (3.50-3.74) CGPA in their academic results. Majority (64.2%) were female and above one-third (35.8%) were male with ratio of 1:1.18 (male: female). Most (80.6%) of them had medium (9.1-9.49) to higher (9.5-10) previous academic results. Most (92.5%) of the respondents

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*Corresponding author: Email: matiul_rubel@yahoo.com;

were low to medium readers. Highest proportion (44.8%) of them were late night readers. Majority (62.7%) of the respondents were introvert in nature. Most of the respondents spent low (38.8%, <4 hours) to medium (43.3%, 4-6 hours) amount of time in academic learning. Among the various determinants of the study only gender, previous academic results (SSC and HSC), reading time and character type (introvert) of the respondents' contributed significantly on the academic results. Rest of the determinants did not have any influence on their academic results. The university authority should consider the contributing determinants positively to boost up the students' academic results.

1. INTRODUCTION

In this era of globalization and technological revolution, education is considered as first step for human activity. It plays a vital role in the development of human capital and is linked with an individual's well-being and opportunities for better living. It ensures the acquisition of knowledge and skills that enable individuals to increase their productivity and improve their quality of life [1]. The students' academic results play a vital role in creating the finest quality alumnae who will become leader and manpower of a particular country, consequently responsible for the country's social and economic development [2]. No technique/method is more polarizing in education than testing [3]. Although there is correlational evidence showing that students who read more have higher career achievement, the National Reading Panel stated there was no experimental study showing practice effects of how much time spent reading affects achievement [4]. Academic results, according to the Cambridge University Reporter [5], are frequently defined in terms of examination performance. Academic results have been identified with achieving high grades and superior performance. Excellent academic results reflect students' intellectuality and commitment. Good academic results are the outcome of education, which indicates that the students, teachers and institution have achieved their educational goals [6]. But academic results are more than just making good grades. It is the maximum development of intellectual capacities and skills in service to humanity.

Gender is one of the personal variables that have been related to the differences found in motivational functioning and academic results. Different researches have demonstrated the existence of different attribution patterns in boys and girls, such that while girls tend to give more emphasis to effort when explaining their performance [7], boys appeal more to reasoning

ability as cause of their academic achievement [8].

At present the academic results of the students in most of the universities have become an issue of inquiry for the researches. It has become a top priority among the educators who want to make a difference in pedagogy. Considering such education, the researchers have long been interested in exploring the variables which significantly contribute to the academic results of learners. These variables are both external and internal. Internal factors are mostly student-related while external factors contributed to the external environment of students that are beyond their control.

Growing knowledge leads to growing interest as new information increases the likelihood of conflict (i.e., conflict of coming across a fact or idea that does not fit into what the individual has already learnt) [9,10]. Achieving academic results is a process of both formal and informal education. Indeed, education is a limitless and unending process to be enjoyed for a lifetime. It has been found in the literatures that several studies had been conducted to find out the contributing factors to students' academic results [11,12,13]. All these studies engaged the Grade Point Average (GPA) as a common indicator of the academic results of the students. In our study we also considered the academic results of the students as the focus issue. Considering the above facts, the researchers felt a thrust to conduct a study with the hope to identify the determinants affecting the academic results of the students of a public university. In order to conduct the research, the following issues were considered: (a) analysis of the academic results of university students, (b) description of the selected characteristics of the students of university, and (c) relationship of the selected characteristics of the students with their academic results; and the specific objective which was formulated has been given below:

i. To identify the determinants contributing to the academic results of the students.

2. METHODOLOGY

The study was conducted among the students of various Disciplines under Life Science School of a public university, Bangladesh. Five Disciplines out of total seven (i.e., 71.43%) were randomly selected for interview. The students of 2012-'13 session who have passed B.Sc. (undergraduate) programs of different Disciplines under Life Science School of that public university in 2018 were selected as the population (total 240 students) of the study. Irrespectively of the gender of the students, 13 students from each of the Disciplines viz. Agrotechnology (AT) Disciplines, Environmental Science (ES) Discipline, Fisheries and Marine Resource Technology (FMRT) Discipline, Forestry and Wood Technology (FWT) Discipline, and Soil, Water and Environment (SWE) Discipline were selected randomly. But additional two students were selected as respondent from Environmental Science Discipline because they were too much excited to respond to the interview. Thus, the actual sample size for the study was 67 (27.92% of the population).

In order to collect information an interview schedule was carefully designed keeping the objectives of the study in mind. Questions were included to collect information on the selected 24 characteristics of the respondent students like gender, family size, family education, annual family income, previous academic results (SSC and HSC), participation in extracurricular activities related organization, participation in extracurricular activities, taking meals in time, sickness, sickness pattern, living place, distance between campus and residence, using of university bus, best study environment, reading time, reading behavior, relationship with opposite gender, character type, getting support from teachers regarding studies, bad habit, bad habit pattern, bad habit frequency, time spent for religious activities and time spent for academic learning. Null hypothesis (Ho→Q=O) was formulated as "there is no relationship of academic results with selected twenty four characteristics of the students". Different standard scales were used to measure the academic results, participation in extracurricular activities related organization and participation in extracurricular activities. The schedule was pre-tested on 10 January 2018 through interviewing some students from 2012-'13 academic session of Life Science School of a public university.

Necessary corrections, additions and alternations were made in the interview schedule on the basis of the results of the pre-test. Data were collected from sampled students through face to face interview using the pretested interview schedule. Data were collected from the respondent students during 25 January to 15 February, 2018.

All analyses were performed using Statistical Package for Social Sciences (SPSS). The descriptive statistics (means, SD, SEs, etc.) were calculated as well as normality and homogeneity were also tested. Whenever necessary, appropriate transformation was applied to yield normal distributions for all targeted variables. The one-way analyses of variance (ANOVA) models were performed to explore the variation in academic performances due to the effects of different factors. Then subsequent post-hoc tests were carried out to find out which level of a factor had been responsible for the significant effect on academic performances. Correlation (e.g., Pearson's "r" for normalized variables and Spearman's "ρ" for rank data) and regression models were also used when both dependent and independent variables were numeric which showed the strength and direction of relationship between these two variables, and also revealed whether dependent variable increased or decreased with the increase or decrease of independent variables. Graphs were made to show only the significant effect of a factor on academic performances.

3. RESULTS AND DISCUSSION

Findings are presented here in four sections in accordance with the issues and objective of the study. The first section deals with the academic results of the public university students. Second section discusses about the selected characteristics of the respondent students. The third section is concerned with the relationship of the selected characteristics of the students with their academic results. The determinants affecting or contributing to the academic results of the respondents are discussed in the fourth section.

3.1 Academic Results

3.1.1 Distribution of respondents' based on CGPA

The scores of academic results of the respondent students ranged from 2.75-3.95

(expressed in CGPA), with mean and standard deviation of 2.51 and 0.252, respectively. Based on the academic results, the respondents were classified into five categories as shown in Table 1. The findings indicate that more than half (55.2%) of the respondents had good CGPA (3.00-3.49) while only a little (10.5%) of the respondents obtained excellent CGPA (3.75-4.00). However, 3% and 31.3% of the respondents had poor and very good CGPA respectively. None of the respondents obtained very poor CGPA.

3.1.2 Comparison of academic results among five disciplines under life science school

Among the five Disciplines under Life Science School, the respondent students of the Agrotechnology (AT) Discipline had the best average CGPA (3.51) followed by the students of Fisheries and Marine Resource (FMRT) Discipline (CGPA=3.48) (Fig. 1). However, the students of Environmental Science Discipline and Forestry and Wood Technology Discipline had 3.35 and 3.27 CGPA in average, respectively. The students of Soil, Water and Environment Discipline had the lowest CGPA (3.12) in average. It means that the students of Agrotechnology Discipline are more meritorious and sincere and secured best CGPA. This might due to that the teachers of that AT Discipline is regular and sincere to their classes and lectures, co-operative to their students. Besides, enriched seminar library, laboratories, sufficient lab instruments and comfortable classrooms help the students to earn the best academic results (CGPA).

3.2 Selected Characteristics of the Respondent Students

There are many interrelated and constituent attributes that characterize an individual and form an integral part in the development of one's behavior and personality. The selected 24 characteristics include gender, family size, family education, annual family income, previous academic results (SSC and HSC), participation in extracurricular activities related organizations, participation in extracurricular activities, taking meals in time, sickness, sickness pattern, living place, distance between campus and residence, using of university bus, best study environment, reading time, reading behavior, relationship with opposite gender, character type, getting support from teacher regarding studies, bad habit, bad habit pattern, bad habit frequency, time spent for religious activities and time spent for academic learning (Table 2).

3.2.1 Facts on the selected characteristics which had significant contribution to academic results

Majority of the respondents were female (64.2%) and the rest (35.8%) of the respondents were male with ratio of 1:1.18 (male : female) (Table 2).The previous trend of enrollment also indicates that the numbers of female students are increasing day by day. Previous academic results (SSC and HSC) scores of the respondents ranged from 8.18-10 (expressed in CGPA) with mean and standard deviation of 9.53 and 0.498 respectively (Table 2). The respondents were classified into three categories according to their previous academic results (SSC and HSC). The findings indicate that about three-fifth (59.7%) of the respondents had higher previous academic results compared to low (19.4%) and medium (20.9%) previous academic results. Majority (56.7%) of the respondents were in low readers category compared to medium (35.8%) and high (7.5%) readers categories. Majority (62.7%) of the respondents were introvert compared to extrovert (37.3%) in nature. The respondents also indicate that they cannot interact frequently with people for class and study pressure.

Table 1. Distribution of respondents' according to their academic results

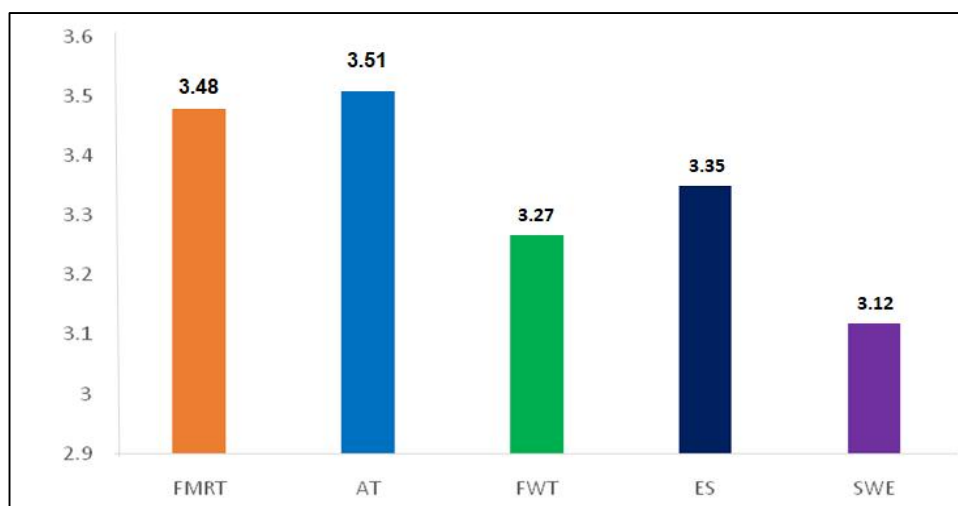| Categories	Score (in CGPA)	Respondents (N=67)		Mean	Standard Deviation	Min	Max
		Number	Percentage				
Very poor	2.00-2.49	0	0	2.51	0.252	2.75	3.95
Poor	2.50-2.99	2	3				
Good	3.00-3.49	37	55.2				
Very good	3.50-3.74	21	31.3				
Excellent	3.75-4.00	7	10.5				
Total		67	100				

Fig. 1. Graphical presentation of the average CGPA of the five disciplines under life science school

3.2.2 Facts on the non-significant determinants

Majority of the respondents' family were small in size, families possess education of different level, mostly belonged to medium to high income group and did not participate in extracurricular related organization and activities, took meal timely, mostly free from sickness, mostly live outside residence halls of university (at home and mess) but near to the campus. A few of the respondents (15%) availed themselves of university bus. Highest proportion of the respondents was late night readers and majority (62.7%) maintained a relationship with their opposite gender. The teachers were supportive. Most (83.6%) of the respondents had no bad habit, but highest proportion of them (11 out of 67 students had few bad habits; and 45.5% of these 11 students) was a habit of regular smoking. Few girl-students were also found involved in smoking. Majority of the respondents spent medium (43.3%) to high (38.8%) time in academic learning.

3.3 Relationship between the Selected Characteristics of the Respondents and Their Academic Results

The twenty four characteristics of the respondents were considered as the independent variables of the study. The researchers were concerned about pin-pointing the factors contributing to the academic results. Thus many of the aspects and issues regarding students daily life were considered to be explored in the present study. However, there might have few intervening effects of the extraneous variables on the focus issue. The variables were gender, family size, annual family income, family education, previous academic results (SSC and HSC), participation in extracurricular activities related organizations, participation in extracurricular activities, taking meals in time, sickness, sickness pattern, living place, distance between campus and residence, using of university bus, best study environment, reading time, reading behavior, relationship with opposite gender, character type, getting support from teacher regarding studies, bad habit, bad habit pattern, bad habit frequency, time spent for religious activities and time spent for academic learning. Academic result (in CGPA) was dependent variable. The purpose of this section is to explore the relationship of each of the selected characteristics (independent variables) with the academic result (dependent variable). Academic results were analyzed through normality test as shown in Table 3. Both the one way analysis of variance (ANOVA) and Spearman's rho co-efficient of correlation were used to test a null hypothesis concerning relationship between any two variables. The observed value of analysis between the dependent and independent variables are shown in Table 3.

Academic results were analyzed through normality test and observed value is highly significant.

Table 2. Facts on the selected characteristics of the respondents

SI. No.	Characteristics	Category (Score)	Respondents (67)		Range	Mean	Standard Deviation
			Number	Percentage			
01.	Gender	Male (-)	24	35.8	–	–	–
		Female (-)	43	64.2			
02.	Family size	Small (1-4)	36	53.7	2-10	4.73	1.65
		Medium (5-6)	23	34.3			
		Large (>6)	8	11.9			
03.	Family education	Low (1-10.99)	21	31.3	7.50-18	12.61	2.54
		Moderate (11-12.99)	16	23.9			
		High (>13)	30	44.8			
04.	Annual family income(Taka) (1000=1)	Low (<300)	21	31.3	100-840	394	195
		Medium (300-1200)	46	68.7			
		High (>1200)	0	0			
05.	Previous academic results (SSC and HSC)	Low (8-9)	13	19.4	8.18-10	9.53	0.498
		Medium (9.1-9.49)	14	20.9	(CGPA)		
		High (9.5-10)	40	59.7			
06.	Participation in extracurricular activities related organizations	No (0)	53	79.1	0-3	0.30	0.697
		Low (1-13)	14	20.9			
		Medium (14-26)	0	0			
		High (>26)	0	0			
07.	Participation in extracurricular activities	No (0)	48	71.6	0-3	0.61	1.058
		Low (1-9)	19	28.4			
		Medium (10-18)	0	0			
		High (>18)	0	0			
08.	Proper time of taking meal	No	18	26.9	–	–	–
		Yes	49	73.1			
09.	Sickness	No	46	68.7	–	–	–
		Yes	21	31.3			
10.	Sickness pattern	Psychological	5	23.8	–	–	–
		Chronic	0	0			
		Permanent	15	71.4			
		Disable	1	4.8			

Sl. No.	Characteristics	Category (Score)	Respondents (67)		Range	Mean	Standard Deviation
			Number	Percentage			
11.	Living place	Hall	22	32.8	_	_	_
		Mess	14	20.9			
		Home	29	43.3			
		Relatives house	2	3			
12.	Distance between campus and residence (kilometers)	Low (0-2.49)	43	64.2	0.50-23	3.50	5.00
		Medium (2.5-5)	13	19.4			
		Far (>5)	11	16.4			
13.	Using of university bus	No	28	41.8	_	_	_
		Hardly	8	11.9			
		Sometimes	21	31.4			
		Regularly	10	14.9			
14.	Best study environment	Hall	31	46.3	_	_	_
		Mess	5	7.4			
		Home	31	46.3			
		Relatives house	0	0			
15.	Reading time (hours)	Low (<2)	38	56.7	0.50-6	1.59	1.22
		Medium (2-3)	24	35.8			
		High (>3)	5	7.5			
16.	Reading behavior	Early morning	22	32.8	_	_	_
		Evening hour	15	22.4			
		Late night	30	44.8			
17.	Relation with opposite gender	No	25	37.3	_	_	_
		Yes	42	62.7			
18.	Character type	Introvert	42	62.7	_	_	_
		Extrovert	25	37.3			
19.	Getting support from teacher	No	21	31.3	_	_	_
		Yes	46	68.7			
20.	Bad habit	No	56	83.6	_	_	_
		Yes	11	16.4			
21.	Bad habit pattern	Smoking	5	45.5	_	_	_
		Drugs	3	27.3			
		Drinking	3	27.3			

Sl. No.	Characteristics	Category (Score)	Respondents (67)		Range	Mean	Standard Deviation
			Number	**Percentage**			
22.	Bad habit frequency	Hardly	1	9.1	_	_	_
		Sometimes	2	18.2			
		Regularly	8	72.7			
23.	Time spent for religious activities (minutes)	Low (0-30)	28	41.8	0-300	51.40	49.59
		Medium (31-45)	8	11.9			
		High (>45)	31	46.3			
24.	Time spent for academic learning (hours)	Low (<4)	26	38.8	3-10	5.43	1.72
		Medium (4-6)	29	43.3			
		High (>6)	12	17.9			

Table 3. Analysis of academic results

Sl. No.	Dependent variable	Analysis type	Observed value
01.	Academic results	Normality test	0.6426*

= correlation highly significant at 5 percent level of probability

3.4 Variation of Academic Results on the Basis of Respondents' Gender

Academic results of students were significantly influenced by gender (F= 11.586 and P = 0.001) (Table 4) where female (3.505 ± 0.233) did significantly good result than their counter male (3.302 ± 0.235) (Table 4). The statistical analysis therefore, rejected the null hypothesis. It means that the female respondents did well regarding academic result than that of the male respondents. Due to lending out more time and concentration and to become more sincere about studies, the female students are developing day by day. On the other hand, male respondents spent less time in study. They mainly spent their time in tuition, gossiping, playing, ragging etc. So, they remain lag behind in academic results compare to female respondents. The findings of this study have harmony with the findings of [14]. They found that girls showing better performance than boys in certain instances.

3.5 Variation of Academic Results on the Basis of Respondents' Previous Academic Results (SSC and HSC)

Academic results of the students were significantly influenced by the previous academic results (SSC and HSC) of the respondents. (F= 4.591 and P = 0.014) (Table 4). The respondents who had higher previous academic results (9.870 ± 0.186) did significantly good results than the respondents who had the medium (9.317 ± 0.123) and the lower (8.709 ± 0.255) previous academic results (Table 4). The findings indicate that those who had highest previous academic results in SSC and HSC examinations were remained more sincere and meritorious to their academic studies at University. Consequently those respondents had better academic results. The statistical analysis therefore, rejected the null hypothesis.

3.6 Variation of Academic Results on the Basis of Respondents' Reading Time

Reading time of the respondents significantly influenced the academic results of students (F=

5.563 and P = 0.006) (Table 4). It means that the respondents whose reading time was high (4.667) ± 0.817)) did significantly good results than the respondents whose reading time was medium (2.261 ± 0.449) and low (0.750 ± 0.279) (Table 4). In short, the respondent students who spent more time in reading they were best in the academic results. The statistical analysis therefore, rejected the null hypothesis. These findings have similarity with the findings of [15]. They found that the high achievers had better study orientation, study attitude than the low achievers.

3.7 Variation of Academic Results on the Basis of Respondents' Character Type

Character type had significant influence on the academic results of students (F= 4.432 and P = 0.039) (Table 4). It means that who were introvert in nature (3.481 ± 0.241) did significantly good result than their counter extroverts (3.359 ± 0.252) (Table 4). The statistical analysis therefore, rejected the null hypothesis. Those respondents who were not more talkative and not so loquacious, they could spend more time in reading which was good for their academic results.

3.8 Determinants Affecting/Contributing on the Academic Results of the Respondents

Among the discussed determinants only a few, such as: gender, previous academic results (SSC and HSC), reading time and character type of respondents played a significant role for their academic results. But the other determinants did not have any significant influence on respondents' academic results. In case of gender, female respondents had better CGPA compared to male respondents. Males did not give or in some cases, could not give enough time for reading. As a result, female respondents did well in academic results day by day. Previous academic results (SSC and HSC) had a feasible effect on the respondents' academic results. Those respondents who gave enough time for their self-reading and were introvert types had

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excellent academic results rather than others. On the other hand, rest of the determinants such as family size, annual family income, family education, participation in organizational extracurricular activities, participation in extracurricular activities, taking meals in time, sickness, sickness pattern, living place, distance between campus and residence, using of university bus, best study environment, reading behavior, having relationship, getting support from teacher, bad habit, bad habit pattern, bad habit frequency, time spent for religious activities and time spent for academic learning did not have any influential effect on respondents academic results but sometimes they showed

positive and negative effect on their academic results.

Researchers [16] conducted a study in the Midwest and one in the East America and reported that students can spend sixty to more than one hundred ten hours per year in test preparation in high-stakes testing grades. Few other reports [17] showed "How do students spend their time?" including hours spent attending classes/labs (41%), hours spent studying/on course assignments (35%), hours spent meeting with teaching assistants (42%), hours spent in internet browsing (26%), hours spent praying/meditating (55%).
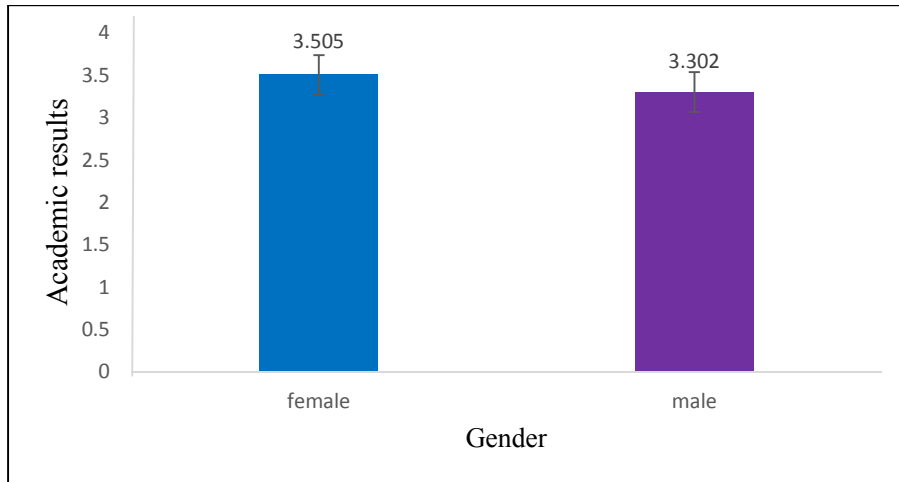

Fig. 2. Variation of academic results on the basis of respondents' gender
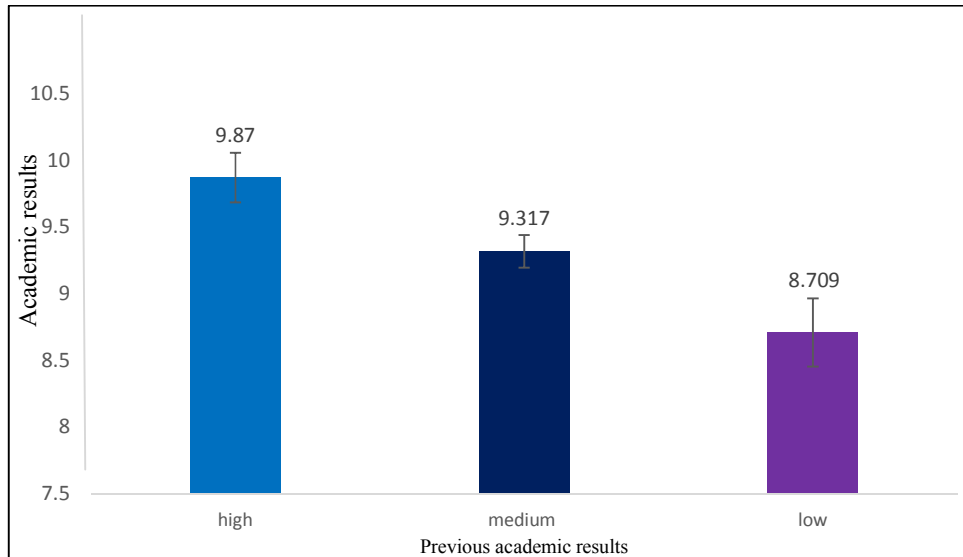

Fig. 3. Variation of academic results on the basis of respondents' previous academic results (SSC and HSC)

Table 4. Relationship between the selected characteristics of the respondents and their academic results

Sl. No.	Independent variables (Selected characteristics of the respondents	Dependent variable	Inferential statistics	Observed value
01.	Gender		ANOVA	F=11.586 P=0.001**
02.	Family size		ANOVA	F=1.201 P=0.308 NS
03.	Family education		ANOVA	F=2.475 P=0.092 NS
04.	Annual family income		ANOVA	F=0.034 P=0.855 NS
05.	Previous results (SSC and HSC)		ANOVA	F=4.591 P=0.014*
06.	Participation in organization related to extracurricular activities	Academic results	Spearman rho	R=-0.080 NS
07.	Participation in extracurricular activities		Spearman rho	R=-0.054 NS
08.	Proper time of taking meal		ANOVA	F=0.859 P=0.357 NS
09.	Sickness		ANOVA	F=0.242 P=0.624 NS
10.	Sickness pattern		ANOVA	F=1.515 P=0.246 NS
11.	Living place		ANOVA	F=2.232 P=0.093 NS
12.	Distance between campus and residence		ANOVA	F=0.770 P=0.467 NS
13.	Using of university bus		ANOVA	F=1.306 P=0.280 NS
14.	Best study environment		ANOVA	F=1.445 P=0.243 NS
15.	Reading time		ANOVA	F=5.563 P=0.006*
16.	Reading behavior		ANOVA	F=0.885 P=0.418 NS
17.	Relationship with opposite gender		ANOVA	F=0.033 P=0.856 NS
18.	Character type		ANOVA	F=4.432 P=0.039*
19.	Getting support from teacher		ANOVA	F=0.557 P=0.458 NS
20.	Bad habit		ANOVA	F=2.981 P=0.089 NS
21.	Bad habit pattern		ANOVA	F=1.822 P=0.223 NS
22.	Bad habit frequency		ANOVA	F=3.214 P=0.095 NS
23.	Time spent for religious activities		ANOVA	F=2.128 P=0.127 NS
24.	Time spent for academic learning		ANOVA	F=0.200 P=0.819 NS

*NS= Non-significant, **= correlation highly significant at the 1 percent level of probability, *= correlation significant at the 5 percent level of probability*
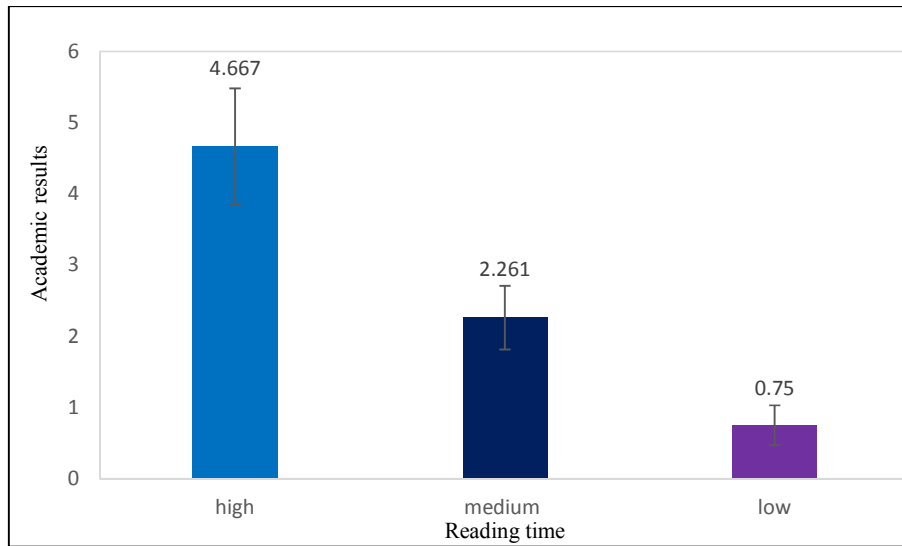
Fig. 4. Variation of academic results on the basis of respondents' reading time
Variation of academic results on the basis of respondents' character type
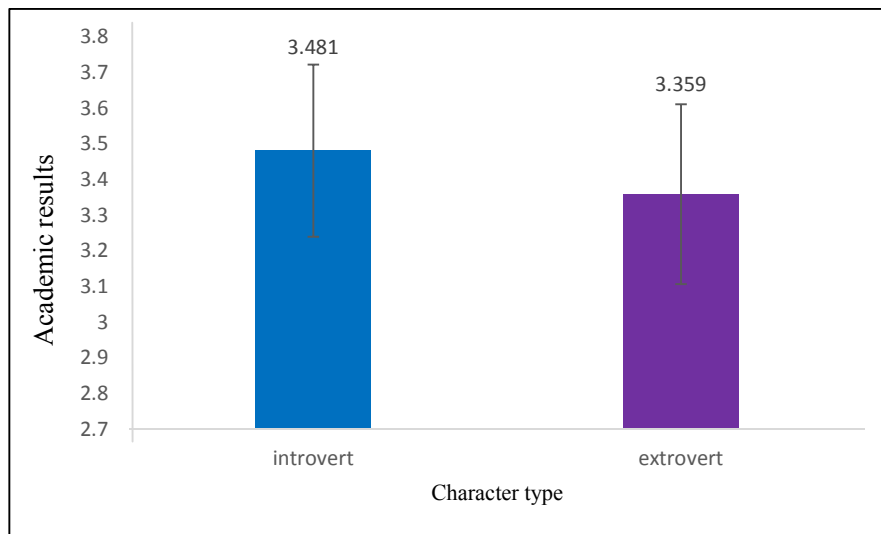

Fig. 5. Variation of academic results on the basis of respondents' character type

4. CONCLUSION

There are various factors inside and outside school that contribute to the quality of academic results of the students. Academic results are the demonstrated ability to perform, achieve, and/or exert in scholastic activities. Excellent academic results reflect students' intellectuality and commitment. A good academic result is the outcome of education, which indicates that the on some of the determinants (twenty four only) students, teachers and institution have achieved their educational goals. This study only focused inside and outside academic institution that influence the student's achievement scores. Female students are increasing day by day. Among the various determinants of the study only gender, previous academic results (SSC and HSC), reading time and character type (introvert) of the respondents' contributed significantly on the academic results. Rest of the determinants did not have any influence on their academic results. These research findings will show the appropriate pathway to the policymakers to formulate justified tertiary educational strategies to produce more

competent graduates. The university authority should consider the contributing determinants positively to boost up the students' academic results. In this way the future career of the university students might be boosted up. To verify the present findings future researchers should also come up with innovative ideas.

ETHICAL APPROVAL

The research was presented in front of the Academic Committee of Agrotechnology Discipline of Khulna University, Bangladesh and had been successfully approved.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Battle J, Lewis M. The increasing significance of class: The relative effects of race and socioeconomic status on academic achievement. Journal of Poverty. 2002;6(2):21-35.
2. Ali N, Jusof K, Ali S, Mokhtar N, Salamat ASA. The factors influencing students' performance at university Teknologi Mara Kedah, Malaysia. Management Science and Engineering. 2009;3(4):81-90.
3. Mark T, Coggings C, Guan C, Hiler T. The students and stopwatch: How much time do American students spend on testing? 2014.
    Available:http://www.teachplus.org/sites/default/files/publication/pdf/the_student_and_the_stopwatch.pdf
    (Retrieved on April 5, 2020)
4. Wu YC, Samuels SJ. How the amount of time spent on independent reading affects reading achievement: A response to the national reading panel. A Research Report, Department of Educational Psychology, University of Minnesota; 2010.
    Available:http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.539.9906&rep=rep1&type=pdf
    (Retrieved on April 5, 2020).
5. Cambridge University Reporter. Indicators of academic performance; 2003. Available:https://www.scirp.org/(S(oyulxb452alnt1aej1nfow45))/reference/ReferencesPapers.aspx?ReferenceID=1118639
    (Retrieved on April 5, 2020)
6. Aremu AO, Sokan BO. A multi-causal evaluation of academic performance of Nigeria learners: Issues and implications for national development. Department of Guidance and Counseling, University of Ibadan, Nigeria; 2003.
    Available:http://www.sciepub.com/reference/267189
    (Retrieved on April 5, 2020).
7. Lightbody P, Siann G, Stocks R, Walsh D. Motivation and attribution at secondary school: The role of gender. Educational Studies. 1996;22:13-25.
8. Burgner D, Hewstone M. Young children's causal attributions for success and failure: "self-enhancing boys" and "self-derogating girls". British Journal of Developmental Psychology. 1993;11:125-129.
9. Silvia PI. Exploring the psychology of interest; 2006.
    Available:https://epdf.pub/queue/exploring-the-psychology-of-interest.html
    (Retrieved on April 5, 2020)
10. Paul AM. How the power of interest drives learning; 2014.
    Available:http://blogs.kqed.org/mindshift/2013/11/how-thepower-of-interest-drives-learning
    (Retrieved on April 5, 2020)
11. Applegate C, Daly A. The impact of paid work on the academic performance of students: A case study from the University of Canberra. Australian Journal of Education. 2006;50(2):155-166.
12. Hedjazi Y, Omidi M. Factors affecting the academic success of agricultural students at University of Tehran, Iran. Journal of Agricultural science and Technology. 2010; 10:205-214.
13. Ramadan S, Quraan A. Determinants of students' performance in introductory accounting courses. Journal of King Saud University. 1994;6(2):65-80.
14. Chambers EA, Schreiber JB. Girls' academic achievement: Varying associations of extracurricular activities. Gender and Education. 2004;16(3):327-346.
15. Sawar M, Bashir M, Khan NM, Khan SM. Study-orientation of high and low academic achievers at secondary level in Pakistan; 2009.
    Available:https://www.semanticscholar.org/paper/Study-orientation-of-high-and-low-academic-at-level-Sarwar-Bashir/f93a54d19dcc84da9ec7c5d148cb032b3a74c288
    (Retrieved on April 5, 2020).

16.   Strauss V. How much time do school districts spend on standardized testing? This much. The Washington Post; 2013. Available:https://www.washingtonpost.com /news/answer-sheet/wp/2013/07/25/how-much-time-do-school-districts-spend-on-standardized-testing-this-much/
(Retrieved on April 5, 2020)

17.   Anonymous. How do the students spend their time? University of California Undergraduate Experience Survey, Student Affairs Information and Research Office. 2000;12.
Available:https://www.sairo.ucla.edu/By-Survey/UCUES
(Retrieved on April 5, 2020)

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