

DETERMINE THE FACTORS WHICH INFLUENCE THE ACADEMIC PERFORMANCE OF UNIVERSITY FEMALE STUDENTS: A CASE STUDY IN MBSTU

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Abstract

Many empirical studies are carried out to explore factors affecting university student's academic performance. In Bangladesh, though female student's participation at all levels of education is increasing at a significant rate but still the numbers of female students who graduate from higher learning institutions are still less as compared with their male counter parts due to different factors. This study was conducted with the objective of assessing major factors affecting the academic performance of female students in Mawlana Bhashani Science and Technology University (MBSTU) based on students CGPA (Cumulative Grade Point Average). A sample of 150 undergraduate and graduate female students information was taken who lives in ladies halls and nearby women hostels of the university. Both univariate and multivariate techniques shows that students who do not addicted to watch TV have 1.480 times more chances to get higher CGPA than those students who are addicted to watch TV. The students who give tuition can perform 1.480 times more chances to get better or higher CGPA than the students who do not give any tuition because they gathered more experience and knowledge. Student marital status, regularity in study, father occupation, give tuition, parent's monthly income, more active on social media site in internet, addicted to watch TV are found significant effect on their academic performance. Therefore, the government, ministry of education and the university should give due attention to promote female students academic achievement through financial support, create social awareness and better facility for female students like safety.

Key Words: Female Student Performance, CGPA, logistic Regression

Introduction

Education is the harmonious development of the physical, mental, spiritual, and social faculties of individuals, for a life of dedicated service (Eshetu, 2002). Not only to achieve

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personal benefits but also for the improvement in the areas of human resource development of the society, girls as well as women better education is very important (Egenti and Omoruyi, 2011). The development of a country is directly linked with quality of education. The student's academic achievement plays a vital role in producing the best quality graduates. Students are most essential asset for any educational institute. Schools, colleges and universities have no worth without students.

Students academic performances are measured through several ways like CGPA, GPA and their test result. Most of the researcher around the world used the GPA to measure the student performance (Galiher, 2006; Darling, 2005; Broh, 2002; Stephen and Schaban, 2002). Some other researchers, measure student performance through the result of particular subject or the previous year result (Hijazi and Naqvi, 2006; Hake, 1998).

For the last 30 years, Bangladesh government took many steps with a prime objective of maximizing profit by delivering high quality education that produces well-educated, skilled, mannered students according to needs and requirements of the dynamically growing market. That's why it is very important to find out what are the factors that affect the performance of the students.

Many studies have been undertaken to determine student's academic performance in the university. Most of these studies were conducted in various countries such as Australia: Rowe, 1995; Canada: Harrington *et al.*, 2006; Iran: Hedjazi and Omid, 2008; Ireland: Naher *et al.*, 2008; Malaysia: Ali *et al.*, 2009; Pakistan: Hijaz and Naqvi, 2006; Palestine: Naser and Peel, 1998; South Africa: Roos, 2009; Spain: Díaz, 2003; UK: Smith and Naylor, 1993. All these studies employed the Cumulate Grade Point Average (CGPA) as a common indicator of the student's performance and linked it to physical aspects as well as personality attributes (Waples and Darayseh, 2005).

In Europe, Smith and Naylor (1993) found that performance of female students is better than the performance of male students in Biological Science and Humanities and worse in Mathematics and Computing. Hijaz and Naqvi (2006) observed that there is a negative relationship between the family income and students' performance and they focus on the private colleges in Pakistan. Galiher (2006) and Darling (2005), used GPA to measure student's performance because they main focus on the student performance for the particular semester. Sacerdote (1999) founds that grades are higher when students have unusually academically strong roommates. Yvonne Beaumont Walters and kola soyibo (1998) further elaborated that student's performance is very much dependent on socioeconomic backgrounds.

Although Education is one of the social factors whereby gender disparity is reflected. The number and proportion of educated females is very low. As the grade of education level increases, the number of female students starts to decline. Student marital status is also a factor which influences the result. Consequently, higher education remains the level of

learning where females are less represented both as students and staff. So our aim is to quantify the relationship between the different factors that are considered responsible of affecting the female students' performance along with providing base for further research regarding student's performance.

Materials and Methods

This study uses simple random sampling procedure to collect information on 150 female students out of 500 female students from different residential hall in Mawlana Bhashani Science and Technology University (MBSTU). A structured questionnaire was used to gathered both qualitative and quantitative information. The study covered students of different faculties, department, years and semester. So there is lots of variation in the data. At the first stage cross-table analysis is performed to study the association between dependent (CGPA category) and various independent variables. Examination of each independent variable individually, as it is done in bivariate analysis, can only provide a preliminary idea about the importance of each variable is itself. However, to examine the relative importance of all the independent variables on dependent variable simultaneously, multivariate techniques are performed. The study used binary logistic regression analysis as the outcome variable is dichotomous ($CGPA < 3.5$ and $CGPA \geq 3.5$).

Results and Discussion

The students are divided into two classes according to their CGPA. One who get $CGPA \geq 3.50$ and another who get $CGPA < 3.50$. The results of students are then compared to find out the reason behind getting higher or lower CGPA and to find out the ways by which female students get higher CGPA. Table 1 shows that 15.4%, 42.6%, 30.4%, and 55.0% of students get $CGPA \geq 3.50$ in Engineering, Life science, Science, Business Studies and Social Science faculty respectively. Students of Business Studies and Social science faculty in MBSTU get better CGPA compared to other faculties. The student's performance also vary according to their father occupation. Student whose father is a service holder he/she have more chance to get higher CGPA. In addition, the students having the family member less than 6 had a higher chance to get higher CGPA than the students having family member more than 5 (Table 1).

Table 1 also shows that 73.2 % student get $CGPA < 3.50$ whose parents monthly income greater than Tk.25,000 taka, whereas 45.1 % student get $CGPA \geq 3.50$ whose parents monthly income between Tk.15,001 to Tk.25,000. Student's performance also depends on their monthly expenditures. Students whose monthly expenditure less than Tk.3,000 are get higher CGPA (44.1%) than more than Tk.3,000-taka monthly expenditure students (27.3%). Comparatively students whose study hours ≥ 3 do better results than the students who study less than 3 hours in a day (Table 1).

The memorizing capability of a student greatly influences the result. The students having excellent memorizing capability can do much better results than the students whose memorizing capability is poor. We notice that the students who complete their syllabus get higher CGPA (≥ 3.50) than those who do not complete their syllabus during examination and the students who read only before the examination. The students who also active in FB or SMS chatting during the study do less effective results than the students who give attention only on the study and the students whose mental condition is good during the examination can do more effective results (Table 1).

Table 1. Distribution of female students under study according to their characteristics

Characteristics	CGPA <3.50		CGPA \geq 3.50	
	Number	%	Number	%
Faculty				
Engineering	11	84.6	02	15.4
Life Science	35	57.4	26	42.6
Science	39	69.6	17	30.4
Business Studies and Social Science	09	45.0	11	55.0
Residence of the student				
SJJIH	60	60.0	40	40.0
AKBH	27	73.0	10	27.0
Woman hostel	07	53.8	06	46.2
Father occupation				
Others	41	67.2	20	32.8
Service	53	59.6	36	40.4
Number of Family Members				
6 to 10	24	58.5	17	41.5
3 to 5	70	64.2	39	35.8
Parents Income Monthly (Taka)				
<15000	36	62.1	22	37.9
15001 to 25000	28	54.9	23	45.1
>25000	30	73.2	11	26.8
Students Expenditure Monthly (Taka)				
\leq 3000	38	55.9	30	44.1
3001 to 4500	40	72.7	15	27.3
>4500	16	59.3	11	40.7
Study time in a day (Hours)				
<3	73	63.5	42	36.5
\geq 3	21	60.0	14	40.0
Understand lecture				
Yes	83	62.4	50	37.6
No	11	64.7	17	35.3
Capability of memorizing				
Excellent	08	44.4	10	55.6
Good	70	64.2	39	35.8
Bad	16	69.6	07	30.4

Table 1 (Continue): Distribution of Female Students under study according to their characteristics

Characteristics	CGPA<3.50		CGPA ≥3.50	
	Number	%	Number	%
Mental condition during exam				
Good	48	55.8	38	44.2
Normal	42	72.4	16	27.6
Bad	04	66.7	02	33.3
Health condition				
Strong	10	41.7	14	58.3
Medium	62	66.7	31	33.3
Weak	22	66.7	11	33.3
Involved in a relationship				
Yes	49	60.5	32	39.5
No	45	65.2	24	34.8
Give Tuition				
Yes	24	64.9	13	35.1
No	70	61.9	43	38.1
Complete syllabus				
Yes	48	53.3	42	46.7
No	46	76.7	14	23.3
Read last moment				
Yes	63	64.9	34	35.1
No	31	58.5	22	41.5
Active in FB or SMS during study				
Yes	38	65.5	20	34.5
No	56	60.9	36	39.1
Attend class regularly				
Yes	54	56.2	42	43.8
No	35	71.4	14	28.6
Addicted to watch TV				
Yes	44	57.9	32	42.1
No	45	65.2	24	34.8

Multivariate Results

To identify significant factors we use binary logistic regression model, where CGPA category is considered as dependent variable. The results of the binary logistics regression shows in table 2. Students whose father involved in service has 1.271 times more chance to get higher CGPA (≥ 3.50) than those whose father involve in any other

occupations. This may be the reason of consciousness. Service holder Fathers take more care than those fathers who are involve in different occupations. Number of family members also affects the results. Students with large family have lower chance to get higher CGPA than student with smaller family. It's also shows that parent's monthly income has significant effect on CGPA of the students.

Table 2. Logistic Regression coefficients showing the Effect of different Socio-Economic and Demographic variables on Result (CGPA)

Characteristics	B	Wald Statistics	P-Value	EXP(B)
Father Occupation				
Others®	---	---	---	1.000
Service	0.240	0.280	0.059	1.271
Number of Family member				
≤5®	---	---	---	1.000
6-10	-0.364	0.489	0.484	0.695
Parents Monthly Income				
≤15000®	---	---	---	1.000
15001-25000	0.568	0.999	0.032	1.765
>25000	-0.847	1.275	0.026	0.429
Student Monthly Expenditure				
≤3000®	---	---	---	1.000
3001-4500	0.531	0.400	0.053	1.701
>4500	-0.653	1.289	0.026	0.521
Average study Time in a day (Hours)				
≤3®	---	---	---	1.000
>3	0.492	0.423	0.052	1.680
Attend Class Regularly				
No®	---	---	---	1.000
Yes	0.685	0.482	0.049	1.984
Complete syllabus before examination				
Yes®	---	---	---	1.000
No	-1.075	4.438	0.035	0.341
Active in FB or Mobile in Study time				
Yes®	---	---	---	1.000
No	0.696	1.937	0.016	2.005
Addicted to Watch TV				
Yes®	---	---	---	1.000
No	0.392	0.423	0.052	1.480
Give tuition				
Yes®	---	---	---	1.000
No	0.392	0.507	0.048	1.480
Faculty				
Engineering®	---	---	---	1.000
Life Science	1.483	2.017	0.016	4.407
Science	0.540	0.272	0.060	1.716
Business studies and Social Science	1.749	2.471	0.012	5.746

® Reference Category

Students whose parent's monthly income is between Tk.15,000 to Tk.25,000 has 1.765 times more chance to get higher CGPA (≥ 3.50) than those students whose parent's income is less than Tk.15,000. But students for whose Parent's monthly income is more than Tk.25,000 have 0.581 time less chance to get Higher CGPA. This may be happened because of the reason that the parents give them more money and the students use these money for different purposes like mobile recharge, movie watching , go for tours on different places, shopping and other bad things that affect his/her results negatively.

Student's monthly expenditure place an important role in a student life which effect on CGPA of the student. Students who spend Tk.3,000-4,500 monthly have 1.701 times more chance to get higher CGPA (≥ 3.50) than those students who spend less than Tk.3,000 monthly. On the other hand, the students who spend more than Tk.4500 monthly have 0.479 times less chances to get higher CGPA. If a student spends money wisely in a limit that indicates that she is responsible and enough solvent to take care of her. But who don't have sufficient money to fulfill their needs get involve in different works. So their study and result is affected by it. Average study time in a day has significant effect on CGPA of the students. The students who study more than 3 hours regularly on average have 1.680 times more chances to get higher CGPA. Because there is no alternative of studying regularly to get a better result as expectation.

The students who do not active in FB or mobile during their study time have more chances to get higher CGPA then the students who remain busy in FB or mobile during their study time. Who don't waste time during study and complete their study with full concentration perform better than others. An addiction of watching TV is a vital factor for our study. In spite of this, the effect of this factor is significant. Students who do not addicted to watch TV have 1.480 times more chances to get higher CGPA than those students who are addicted to watch TV. This happens may be because any kind of addiction is harmful for a student who wants to get higher CGPA.

Students who attend classes regularly have 1.984 times more chances to get higher CGPA (≥ 3.50) than the students who do not attend classes regularly. It's natural because who are attending the classes regularly achieving more than those who are irregular. Completing the syllabus before exam place another important role. The students who do not complete syllabus before exam have 0.659 times less chances to get higher CGPA (≥ 3.50).

The students who give tuition can perform 1.480 times more chances to get better or higher CGPA (≥ 3.50) than the students who do not give any tuition because they gathered more experience and knowledge. The students of different faculty's shows significant result .The students of Life science, Science and Business studies and Social Science faculties have 4.40, 1.71 and 5.74 times more chances to get higher CGPA (≥ 3.50) than the students of Engineering science faculties. Overall the study shows that engineering and science faculties students have less chance to get better CGPA. The

reason behind this may be the educational tools and techniques of engineering and science faculties are much harder than the other faculties.

Conclusion

This study was conducted to explore the important factors that affect the female students' academic performance using a sample of 150 female graduate students from MBSTU. The study shows that many factors have significant impact on female student's academic performance, specially their regularity in study, father occupation, give tuition, parent's monthly income, more active on social media site in internet, addicted to watch TV. So to inspire female students university should give recognition and rewards for well performer female students. As well as the orientation and counseling for female students' should be given by course teacher and relevant departments at the beginning of the course. For economically disadvantaged female students government should give financial support.

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