

Factors influencing poor academic performance among urban university students in Bangladesh

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ABSTRACT

Poor academic performance is challenging for students, parents, and teachers. This cross-sectional study aimed to determine the factors associated with the poor academic performance of 661 undergraduate students who scored CGPA ≤ 2.5 from a selected private university of Dhaka City, Bangladesh, using a simple random sampling technique. Data were collected using a pretested and self-administered questionnaire. Of the study participants, male preponderance (88.4%) was found, and 77.9% of them selected the study programs by themselves. Poor academic performance was found significantly correlated with irregular class attendance ($p=0.003$), father's low education level ($p<0.003$), partial family cooperation ($p=0.020$), use of social media ($p=0.006$), and excessive time spent for gossiping ($p=0.030$). There is a need for implementing an appropriate counseling strategy to follow up the academic performance of the poor performing students.

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1. INTRODUCTION

Learning is the knowledge or skill acquired through study, which reflects in the way students respond to environmental, social, emotional, and physical incentives as well as understand new information [1]. Academic performance is considered as a complex student's behavior that inspires a number of abilities like memory, previous knowledge or aptitude, as well as psychological factors [2]. Nowadays, in most of the university students' academic performance has become an important issue for researchers [3]. Educators, trainers, and researchers have given emphasize in discovering variables that have a significant contribution to the performance of learners [4]. Academic performance is the assessment of a student's ability in a variety of academic areas. Classroom performance, graduation rates, and standardized test results are commonly used by teachers and education administrators to evaluate student accomplishment.

University life is one of life's most memorable experiences and a vital growth phase for young people [5]. During this university period, many students dedicate most of their time for their studies

particularly, during examinations yet, their performance is not up to the mark due to stress and other factors [6]. Gender, age, teaching faculty, students' schooling, father/guardian socioeconomic status, residential area of students, medium of instruction in schools, tuition trend, daily study hour, and accommodation as hostels or day scholars have all been identified as potential factors that affect a student's academic performance in previous studies [7]. Students' academic performances have been studied at different levels by different researchers. According to Graetz, a student's educational progress is significantly influenced by the socioeconomic position of his or her parents/guardians [8]. The study of Considine and Zappala [9] added that the student test score in the examination is influenced by the parent's income and social status. In addition, Bratti and Staffolani [10] observed that a student's future accomplishment largely depends on his/her previous educational outcomes where a greater past appearance indicates that the student will perform better academically in future undertakings.

Academic performance of the students influences a country's social and economic development [11], [12]; as a result, studies focusing on aspects related to academic performance, particularly those emphasizing institutional, psychological, pedagogical, social, and demographic variables for institutional reform, have grown in importance [13]. Several researches have been conducted in numerous universities throughout the world to discover the factors that contribute to poor academic performance. The majority of these research concentrate on the three intervening elements: parents (family causal factors), teachers (academic causal factors), and students (student causal factors) (personal causal factors) [14], [15].

Furthermore, university students are among the most active users of the internet and social media [16]. Nowadays, screen viewings, as well as social media use are considered as one of the most common sedentary activities of the university students. Researchers have found that excessive screen time in young people has significant adverse effects on their wellbeing as well as a negative influence on academic performances that followed into their adulthood [17]-[19]. More than half of teenagers use social media sites more than once a day, and 22% use them above ten times per day [20].

A very recent study among university students revealed a negative association between poor academic performance and addiction to social networking [16]. Diagnostic investigations must be conducted to assess the primary causes associated with poor academic performance in order to implement corrective actions [21]. The combination of factors that influence academic achievement changes from one academic context to the next, from one group of students to the next, and even from one cultural setting to the next. The importance of identifying and studying variables that can be manipulated or modified by educational institutions is deduced, however, there is an area of opportunity for the study of variables in the pedagogical and institutional areas that could contribute to educational improvement.

In Bangladesh, Daffodil International University (DIU) emerged as one of the prominent Information and Communications Technology (ICT)-based universities. The university is widely recognized for the quality of its Bachelor's and Master's Programs. University Grants Commission (UGC) of Bangladesh recognized this university in the top layer in its ranking of private universities because of its commitment to provide high standard education with all sorts of facilities to the students [22].

Recently, DIU students' academic performance has come under the spotlight because there are over 5000 students with Cumulative Grade Points Average (CGPA) <2.5 in the summer 2016 semester who are the at-risk student to increase their persistence. As a result, a student who obtains a CGPA <2.5 upon completion of the entire course work, could not be graduated smoothly and may be allowed to repeat one-two courses of the lowest grades to improve the CGPA. The importance of these research stems from the necessity to adopt remedial actions to improve students' academic performance, particularly in private institutions. The purpose of this present study was to find out and analyze the factors influencing the academic performance of academically at-risk undergraduate students in the summer semester 2016 of DIU.

2. RESEARCH METHOD

2.1. Survey design and data collection

The data for the study came from a cross-sectional retrospective survey among the students of DIU. The survey was conducted from September 2016 to December 2016. The study was approved by the University Research Ethics Committee. The targeted population of the study was the at-risk undergraduate students who scored CGPA ≤ 2.5 in the summer 2016 semester of their academic calendar. In most of the institutions in Bangladesh, the medium of education at the Secondary School Certificate (SSC) and Higher Secondary School Certificate (HSC) level is Bengali, whereas English is the medium of instruction at the university level. Thus, these academically at-risk students may face problems in understanding lectures delivered in English at the university level, which may affect their results at the university. Sample students were selected from five faculties including Allied Health Sciences, Business & Entrepreneurship, Engineering, Humanities, and Social Science and Science & Information Technology (IT). Sample students

were allocated proportionately among the 19 departments. In each of the departments, a simple random sampling (SRS) technique was used to gather information from 661 sampled students. Here, poor performance means attaining lower CGPA (≤ 2.5 out of 4.0) in summer semester examinations and refers to being the state of a quality that is low or lower than expected. A self-administered questionnaire was used to collect quantitative data. The semi-structured questionnaire was finalized after pretesting on a small sample of 30 students from one faculty.

In the analysis, many explanatory variables were included, which broadly classified as Socio-demographic characteristic (such as income/expense index, living accommodation, living arrangement of students, number of family members, parent's education and occupation, gender, religion, use of internet with mobile phone/laptop). Student's academic performance such as results in English at SSC and HSC level, participated in DIU Basic English course, class attendance, quiz participation, class presentation, use of the library, regular attendance of examination. The Chi square test was conducted to find association between selected factors (daily study hour, percentage of classes present, regularity using of library, educational level of father, family cooperation, gossiping/hang out with friend, and time spent on social media) and weakness in English.

2.2. Statistical analysis

The data was analyzed using the SPSS version 24 in accordance with the study's objectives. Descriptive analysis of all relevant variables was done using measures of central tendency, and dispersion. The statistically significant association (significant level set at p value ≤ 0.05) was tested by a Chi-square test between the variables weakness in English and selected factors (daily study hour, percentage of classes present, regularity using of library, educational level of father, extended of family contribution, gossiping/hang out with friend, and time spent on social media).

3. RESULTS

3.1. Socio-demographic and educational background

Table 1 portrays the socioeconomic status of the sampled students. The proportion of female students with a Grade Point Average (GPA) of less than 2.5 was very negligible (11.6%) compared to their counterparts (88.4%). The proportion of mothers and fathers with no formal education or up to primary level education (low education level) were 59.9% and 46.3% respectively. The result shows that the average monthly family income was 51,414 Bangladeshi Taka (BDT) which is slightly above the threshold income, 50,000 BDT. Only 17.4% of the students came from families with a monthly income above 50,000 BDT and the vast majority (82.6%) came from the families with monthly income less than 50,000 BDT. The majority of the students (77.9%) choose their study program themselves, yet they performed poorly at the university.

Table 1. Background characteristics of the study subjects (n=661)

Background characteristics		Number (%)
Gender	Male	584 (88.4)
	Female	77 (11.6)
Parent's living place	Urban	350 (53.0)
	Rural	311 (47.0)
Fathers' education level	No formal education/Primary	306 (46.3)
	Secondary/Higher secondary	281 (42.5)
	Bachelor or above	74 (11.2)
Mothers' education level	No formal education/Primary	396 (59.9)
	Secondary/Higher secondary	156 (23.6)
	Bachelor or above	109 (16.5)
Monthly income of the family	Up to 25,000	207 (31.3)
	25,001–50,000	339 (51.3)
	>50,000	115 (17.4)
	Mean \pm SD	51,414 \pm 79,261
Previous academic performance based on CGPA	4.00 to 5.00 (A, A+)	573 (86.7)
	3.00 to 3.99 (B, A-)	86 (13.0)
	2.00 to 2.99 (C)	2 (0.3)
HSC	4.00 to 5.00 (A, A+)	364 (55.1)
	3.00 to 3.99 (B, A-)	278 (42.0)
	2.00 to 2.99 (C)	19 (2.9)
Independence of choosing current study program	Self	515 (77.9)
	Family & others	146 (22.1)

Table 2 shows that 68.7% of students scored GPA 4.0 to 5.0, 27.4% of students scored GPA 3.0 to 3.9, and only 3.9% of students' GPA score was less than 3.00 in English, respectively, at the SSC level. On the other hand, at the HSC level, 3% of students scored GPA 4.0 to 5.0, and 42.1% of students scored GPA 3.0 to 3.9, and only 8.6% of students' GPA score was less than 3.0 in English, respectively. Furthermore, 57.6% of the sampled students participated in the Basic English course at DIU. Out of GPA 4.0, only 7.1% scored below 2.5 and 92.9% scored above 2.5, respectively.

Table 2. Academic performance in English according to CGPA of the study subjects

Variable	Number (%)	
English in SSC examination (n=661)	4.00 TO 5.00 (A, A+)	454 (68.7)
	3.00 TO 3.99 (B, A-)	181 (27.4)
	2.00 TO 2.99 (C)	26 (3.9)
English in HSC examination (n=661)	4.00 TO 5.00 (A, A+)	326 (49.3)
	3.00 TO 3.99 (B, A-)	278 (42.1)
	2.00 TO 2.99 (C)	55 (8.3)
	1.00 TO 1.99 (D)	2 (0.3)
Participated in DIU Basic English Course during first semester (n=381)	3.00 TO 4.00 (B to A+)	282 (74.0)
	2.75 TO 2.99 (C+ to B-)	72 (18.9)
	2.49 and below (C, D, F)	27 (7.1)

3.2. Study environment and cooperation of parents and teachers

A proper study environment, the cooperation of the parents, and the cooperation of the teachers are pre-requisites for better academic performance by students. The study shows that about three-fourths (71.3%) of sampled students had a chair/table for study and the rest of them studied either on the bed or on the floor as shown in Table 3. Most of the students (80.5%) got partial cooperation from the family regarding their studies.

Regular attendance in class is an important determinant of good academic performance. In this study, 84.4% of students attended less than 75% of classes and regular use of the library by the sampled students was disheartening. An immense majority (73.5%) of the student did not use the library regularly. Several reasons were mentioned by students for not using the library regularly. A total of 29.6% of them mentioned the lack of time as a reason. Other reasons were a shortage of books (23.3%), insufficient sitting space (21.2%), noisy environment (12.1%), unfair manner of the staff (8.6%) and lack of toilet facility (5.1%). Those who used the library regularly spent only six hours per week on average, which was negligible. Among the library non-users (n=486), only 12.1% reported library environment was unpleasant.

Table 3. Distribution of associated factors with poor academic performance of the study subjects

Variables	Number (%)	
Logistic at residence	Chair/Table	471 (71.3)
	On the bed/on the floor	190 (28.7)
Family cooperation	Partial	532 (80.5)
	Full	129 (19.5)
Use library regularly	Yes	175 (26.5)
	No	486 (73.5)
If no, reasons for not using (n=486)	Shortage of time	144 (29.6)
	Shortage of books	113 (23.3)
	Insufficient space	103 (21.2)
	Unpleasant environment	59 (12.1)
	Unfair manner of the staff	42 (8.6)
	Lack of toilet facility	25 (5.1)
Social media time spent (hours/day)	≤3 hours	236 (35.7)
	>3 hours	425 (64.3)
The average amount of time spent on social media (Mean±SD)	4.8±1.6	
Gossiping/Hang out with friends per day	<2 hours	42 (6.3)
	≥2 hours	619 (93.7)
Regular attendance in class	≥75%	103 (15.6)
	<75%	558 (84.4)
Average time spent in study per day (Mean± SD)	>2 hours	354 (53.6)
		2.3± 1.02

Social media use makes pursuing higher education easier. A large majority of the students owned a laptop and had access to the internet and all of them use social media (e.g., Facebook, Twitter, Instagram, WhatsApp, and YouTube) regularly. On average, a student time spent in the social media was 4.80±1.6 hours

daily. Access to the internet is becoming a great help to pursue higher education. At the same time, it can be a deterrent to academic performance if it is not used positively. Near about 54% of the students spent more than two hours for academic study per day and almost all the students (93.7%) spent excessive time on gossiping with friends.

3.3. Factors associated with poor academic performance

Table 4 illustrates the factors determinants for poor academic performance of the students. Irregular class attendance ($p=0.003$), low education level of the father ($p=0.003$), partial family cooperation ($p=0.020$) were significantly associated with the poor academic performance. Similarly, excessive time spent for gossiping with friends ($p=0.030$), and excess use of social media ($p=0.006$) were also found to be significantly associated with the students' poor academic performance.

Table 4. Factors associated with poor academic performance among the study subjects

Factors associated	Weakness in English is the reasons for poor result		p value	
	Yes n (%)	No n (%)		
Daily study hour	≤2 hours	161 (52.4)	146 (47.6)	0.848
	>2 hours	183 (51.7)	171 (48.3)	
Percentage of Classes present	≥75%	40 (38.8)	63 (61.2)	0.003
	<75%	304 (54.5)	254 (45.5)	
Regularity using of Library	Yes	90 (51.4)	85 (48.6)	0.850
	No	254 (52.3)	232 (47.7)	
Educational level of Father	No formal education/Primary	140 (45.8)	166 (54.2)	0.003
	Secondary/Higher secondary	154 (54.8)	127 (45.2)	
	Bachelor or above	50 (68)	24 (32)	
Extended family contribution	Partial	265 (49.8)	267 (50.2)	0.020
	Full	79 (61.2)	50 (38.8)	
Gossiping/Hang out with friend	≤2 hours	31 (73.8)	11 (26.2)	0.030
	>2 hours	313(50.6)	306 (49.4)	
Time spent on social media	≤3 hours	74 (31.4)	162 (68.6)	0.006
	>3 hours	270 (63.5)	155 (36.5)	

4. DISCUSSION

The purpose of this study was to investigate the reasons and factors that contributed to DIU students' poor academic performance during the summer semester of 2016. Several studies revealed that student's outcomes and academic performance are significantly influenced by the student's socio-demographic background such as gender [6]. In this study, the proportion of female students with a GPA of less than 2.5 was very negligible compared to their male counterparts (11.6% against 88.4%). It appears that 'gender' played an important role in the academic performance of the DIU students, where female student's academic performance found better than their male counterparts. A similar result was obtained in another study where females performed better than males in every subject though it was performed at the high school level [23]. Another study by Jaeger and Eagan [24] found a significant positive relationship between gender and academic performances of the students. The study shows a common trend of females performing better than in the past. Studies revealed a better memory of female than male, and this comprises all types of memory: episodic, spatial, short-term, visual, and specific memories like odor and early memories [25], [26]. This might help to illuminate why females perform better than males.

Different study [27] reported that family background, parental characteristics, and attributes as well as parental view of the importance of education and what they do in terms of serving and managing their children are all essential factors in a child's academic success in their education system. This study revealed that about half (47.0%) of the parents resided in the rural areas and it is logical to assume that their children had a weaker base at pre-university education (school and college level) and were likely to perform low at the university level. The study determined that home location has a significant effect on students' academic performance. Moreover, other studies [28], [29] found that the locality of students' residence is correlated with academic performances. It was also highlighted on the importance, provision and influence of family educational climate that is conducive to learning; hence, no clear conclusion could be made about the influence of parents' area of residence on the students' academic performance. This might be due to the fact that proper weight representing the composition of 'area of residence of parents' in the population could not be used. The intelligence quotient of the parents is positively associated with the student's academic accomplishment [30].

A study conducted in Nigeria revealed that socio-demographic background especially education of the parents, profession and family income as the key predictive variable that affects students' academic

performance and these finding has already been supported by various studies [27], [31]-[36]. Parents with higher education understand the importance of education and hence try to provide every support including proper guidance to their children. In this study, considering the factors such as fathers' education level and family contribution found significantly correlated with their academic potential and achievement. The study found a significant positive association between poor academic performance of the respondents with their fathers no formal education or primary level education. Hudson [37] and Staats, *et al.* [38] agree that parent's education has long-term impacts on student educational achievement. A number of studies supported our study findings, where they revealed a significant positive association of parental education with the academic performance of the students [39]-[41].

Family income is another important determinant of academic achievement, particularly studying at a private university, where education is fairly expensive. A number of different studies supported that the socio-economic status is an important determinant of the personal education achievement of the students [42]-[45]. In this study, considering 50,000 BDT as the threshold family income for meeting the educational expenses of a student, it is very likely that as high as 82.6% of families could not provide adequate financial support and this might be a barrier to the academic performance. The effect of low income on the welfare of the family directly/indirectly may contribute to poor performance when a family is failed to provide a favorable atmosphere for their children. The study determined that family cooperation has a significant influence on the students' academic performance. The study of Hale [46], Goddard [47], and Barnard [48] agreed with this result and they also found that students' academic attainment depends on their parental care and support. Young and Smith [15] stated that the average educational level of parents has been increasing since the 1970s. This is a sign that there is a shift in the family's ability to support and inspire education for their children.

The study found a significant positive association between irregular class attendance and poor academic performance of the students ($p \leq 0.01$). Previous findings [49], [50] corroborate the result of this study where they demonstrated students' academic performance is strongly correlated with the consistent class attendance of the students. Students who regularly attend their class perform better than the irregular students in the exam. Our study also revealed that excessive time spent for gossiping with a friend has a significant effect on the students' academic performance. According to Waddington [51], gossiping is an important element in organizational communication. It is considered as a means of social control and considered as a significant stand against the spoiling of group norms [52]. However, gossiping with friends may sometimes be useful or harmful. It may also have a long-term negative impact on a person's self-confidence and self-esteem and this impact might, in some cases, contribute to the development of depression, anxiety, suicidal thoughts. Research is needed to explore the association between gossiping with friends and academic performance with young people.

The rapid advancement of media technology has a great impact on the way people communicate daily. Most of the studies [53]-[57], conducted on students' use of social media sites and its impact on academic performance focused on students in the developed world. The study revealed that almost all of the students enrolled in this study spend a big amount of time in social media and other networking sites for example 'hangout' for non-academic purposes, which was significantly correlated ($p \leq 0.01$) with their low academic performance that may play an important role in their poor academic achievement. This finding is supported by Al-Yafi, El-Masri, and Tsai [58] who found that it is still growing and approximately 85% of undergraduate students are Facebook users or YouTube users [59] which may have a negative effect on their poor academic performance. A study by Azizi, Soroush, and Khatony [16] determined similar findings where they revealed that uncontrolled use of social networks reduces students' academic performances. In addition, evidence recommends that overuse of social media like Facebook is associated with a significant level of stress which negatively affects the student's academic performance [60].

5. CONCLUSION

This study concluded that father's low education level, partial family cooperation, irregular class attendance, excessive time spent for gossiping with friends, and overuse of smart-phone (time spent on social media) significantly influence poor academic performance during the summer semester final examination in 2016. The study revealed empirical evidence that can be useful for decision-making to improve educational procedures in university settings. However, the main challenge was the recruitment and participation rate, which included a small number of students from only one private university, as well as a limited geographic representation of urban students from Dhaka city, Bangladesh. The results may not be transferable to other settings in Bangladesh as more than two-thirds of the total population living in the peri-urban and rural remote communities. Further, this was a cross-sectional study, which cannot find the causal association between the factors and poor academic performances of the students.

The study recommended that a similar study should be conducted at a wide level of Bangladesh so that its result becomes valid for the whole country. To improve the academic performance of the university students, the university administration should provide more scope of learning to the poor performing students and also improve the environment of the university as this will enhance students' concentration. Proper guidance is very important to improve performance thereby; students should be properly guided by the teacher of the university. Parental involvement and guidance are also very important in improving students' academic performance so they should be well informed about the performance of their daughter/son. University teachers and parents should have well understanding; besides, they should be made aware of their roles in the achievement of their students.

Moreover, the study recommended strengthening family cooperation, increasing regular class attendance, limiting gossiping time, and avoiding the overuse of smart phone of the students. More attractive teaching techniques can be used by the teachers to motivate poor performing students for learning and obtaining a satisfactory score in the examination. Training courses and workshops can be organized for teachers to develop their teaching skills, particularly for the students who got CGPA less than 2.5. Furthermore, implementing an appropriate counseling strategy to continuously follow up the performance processes of the students are needed, which is related to self-esteem building and their interactions with peers to meet the needs.

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