

# **Exploring the interrelation between time management and academic achievement among university students**

## **Abstract**

Time management plays a very important role in personal and professional life. Several studies have demonstrated that judicious use of time positively affects academic performance. This study was carried out to assess the relationship between time management and academic achievement of the students of Sylhet Agricultural University. Moreover, the study aimed to know if there was any gender difference in time management and to identify the activities that mostly influence academic achievement. The time management questionnaire developed by Britton and Tesser was used as a study tool. One hundred and eighty-seven students were selected as respondents for the study. Among them eighty-seven (87) were males and one hundred (100) were females. The study reveals that there is no significant relationship between time management and academic achievement. However, females manage time better than males in short-range and long-range planning. The findings also suggest that short-range planning along with spending less time on personal grooming and sometimes engaging in activities that interfere with academic work mostly influence academic achievement.

Keywords: Time Management, Academic achievement, University Students

## **Introduction**

Time is the most valuable resource in our life. Everyone has equal access to this resource. But different people manage their time in different ways. Time management is the process of planning and controlling time. Good time management improves efficiency and productivity, reduces stress, and ensures success. Judicious use of time hones the productivity of students and improves their academic performance. So, students should be capable of fixing objectives and formulating strategies to manage and use time in a disciplined manner.

Success or failure in life depends on managing time effectively and putting importance on planning. (Macan, Shahani, Dipboye & Phillips, 2000). Previous studies have shown that an individual can use time judiciously by creating a daily schedule and setting effective goals. (Sabelis, 2001). Prioritizing tasks, fixing targets along with making plans and timetables are involved in time management. Prioritizing enables a person to identify the activity that will be accorded topmost priority. The activities and strategies to achieve the targets are reflected in their plans. This includes making the to-do lists, weekly, monthly, or, longer plans as well as making schedules when the planned activities would be carried out. The effective use and management of time require procedures and high standard planning behaviors. There are three areas of time management behaviors: short-range planning, long-range planning, and time attitudes (Aeon & Aguinis, 2017). Short-range planning enables an individual to fix and organize the tasks to be performed within a short period. To manage tasks over a long period, an individual prioritizes the activities and creates a timeline for each task. Time attitude is the perception of an individual towards the present, past, and future. (Andretta, Worrell, Mello, Dixson, & Baik, 2013).

How students manage time and work on self-development has sparked the interest of several researchers working on education (Britton & Tesser, 1991). Sansgiry *et al* (2006) defined time management for students as a set of behavioral skills that is crucial to performing academic activities in a disciplined manner. This is an ever-changing process that must be kept under control by each individual. Time management skills positively affect students' performance. Successful time management is the foundation of effective study habits and strategies for success. (Kearns & Gardiner, 2007; Kelly, 2002; McKenzie & Gow, 2004) Students are often overwhelmed with academic stress. The increased pressure of academic demands can create a stressful experience, especially as a result of disorganization. Understanding time management and leisure planning principles can affect physical and mental health (Trenberth, 2005). Deft use of time mitigates stress and anxiety as well as ensures better academic performance (Misra & McKean, 2000; Kearns & Gardiner, 2007) Many students face difficulties in maintaining a balance between studies and other activities (Van der Meer, Jansen, & Torenbeek, 2010) that result in mismanagement of time, circadian rhythm sleep disorder, and high stress (Woodman & Hardy, 2003). Making a conscious choice on how to spend time may lead to more happiness and psychological equilibrium.

Despite being aware of the impact of time on academic achievement, students are oblivious of its importance. (Sevari & Kandy, 2011). We are going through a technological revolution. Technology is now giving us more time than ever. How we manage time is now determining our success in academic and professional fields. Today's competitive world inspires people to make the best use of time from childhood. Employees nowadays are expected to be more knowledgeable and skilled which requires proper time planning. The present government of Bangladesh has been working relentlessly to ensure the quality of education to keep pace with the modern world. Human resource development is one of the key drivers for promoting the sustainable economic and social development of a country. The government has taken several initiatives to build a skilled workforce to establish a hunger and poverty-free prosperous Bangladesh. To reap the benefits of such initiatives, how students manage their time is now actually worth our attention as it ensures productivity and efficiency while mismanagement of time leads to anxiety and depression. Time management influences the students' perception and use of time which enables them to manage their academic responsibilities. In this study, students' CGPA (Cumulative Grade Point Average) has been used to measure their academic achievement as the grading system is used worldwide to indicate the students' academic excellence (James & Chilvers, 2001; Svanum & Zody, 2001). The objectives of this study were to assess the relationship between time management and academic achievement of the students of Sylhet Agricultural University; to know if there was any gender difference in time management and to find out the activities that mostly influence academic achievement.

## **Materials and Methods**

A survey was conducted in January and February 2022 among the students of Sylhet Agricultural University. Purposive sampling was used to select one hundred and eighty-seven (187) participants for the study. Among them eighty-seven (87) were males and one hundred (100) were females. The time management questionnaire (TMQ) developed by Britton and Tesser (1991) was used for data collection for its reliability and validity. It includes 18 questions in three dimensions: Short-range planning

including 7 questions, Time attitudes including 6 questions, and Long-range planning including 5 questions. A Likert scale of 1 to 5 was used in the questionnaire for this study (5= Always, 4= Frequently, 3= Sometimes, 2= Rarely, 1=Never) The range of possible scores was 18-90 on general time management, 7-35 on short-range planning, 6-30 on time attitudes and 5-25 on long-range planning. Higher values correspond to better time management practices. Data were analyzed using SPSS statistical software. Frequency, percentage, means, and standard deviation were calculated through descriptive statistics. Independent sample “t” test and one-way ANOVA were used to compare means of various parameters. To identify the most influential variable, Multiple Regression was applied. Before Multiple Regression, factor analysis (through principal component analysis) was used to identify important factors. KMO and Bartlett's Test was used to determine the suitability of factor analysis.

## Result and Discussion

**Table 1: Score on Time Management**

Score	Number of participants (%)
High score (70 and above)	83 (44.4)
Moderate score (55-69)	81 (43.3)
Low score (Below 55)	23 (12.3)

Table 1 shows that more than half (55.6%) of the participants' score was moderate to low. This result is consistent with the study of Khatib where 74.5% and the study of Pehlivan where 92.5% of the participants had moderate to low-level time management scores. The result is also similar to the study of Khanam *et al* where 51.90% of the participants scored moderate to low-level scores.

**Table 2: Gender wise distribution of mean score with Standard Deviation (SD) in Time Management**

Time Management	Gender		P-value
	Male	Female	
	Mean (SD)	Mean (SD)	
Short-range planning	19.7241 (6.09172)	21.8000 (5.74017)	0.018
Time attitudes	19.1839 (3.28325)	18.5100 (3.30746)	0.165
Long-range planning	16.7931 (3.68888)	18.2000 (3.47865)	0.008
Overall time management	94.6092 (17.75568)	98.8200 (16.76298)	0.097

Table 2 shows a slight difference between male and female participants concerning their mean scores in time management and the difference is statistically significant in the case of short-range planning ( $P=0.018$ ) and long-range planning ( $P=0.008$ ). Scores of females are higher than their male counterparts in all subscales except time attitudes. This result is similar to the study by Subramanian who observed that girls manage time better than boys.

**Table 3: Academic achievement and mean score with SD in Time Management**

Time Management	Academic achievement (CGPA)		P-value
	Below 3.50	3.50-4.00	
	Mean (SD)	Mean (SD)	
Short-range planning	20.1449 (5.81902)	21.2373 (6.06190)	.383
Time attitudes	19.4058 (3.22818)	18.4831 (3.31465)	.747
Long-range planning	17.3043 (3.82063)	17.6864 (3.53420)	.395
Overall time management	96.4058 (17.83529)	97.1271 (17.07277)	.486

Table 3 shows students having higher CGPA (3.50-4.00) obtained higher scores in all subscales except time attitudes but the difference was statistically non-significant. This result is consistent with the studies of Khanam *et al*, Elizabeth *et al* and Yilmaz *et al* who also observed no significant relationship between time management and academic achievement.

**Table 4: Responses to the questions on Time Management**

Questions		Responses				
		Always	Frequently	Sometimes	Rarely	Never
Q1	Do you make a list of the things you have to do each day?	18 (9.6)	22 (11.8)	81 (43.3)	32(17.1)	34(18.2)
Q2	Do you plan your day before you start it?	34 (18.2)	42 (22.5)	59 (31.6)	28 (15)	24 (12.8)
Q3	Do you make a schedule of the activities you have to do on workdays?	35(18.7)	38 (20.3)	56 (29.9)	33 (17.6)	25 (13.4)

Q4	Do you write a set of goals for yourself for each day?	15 (8)	31(16.6)	54 (28.9)	40 (21.4)	47 (25.1)
Q5	Do you spend time each day planning?	12 (6.4)	46 (24.6)	59 (31.6)	43 (23)	27 (14.4)
Q6	Do you have a clear idea of what you want to accomplish during the next week?	20 (10.7)	33 (17.6)	47 (25.1)	47 (25.1)	40 (21.4)
Q7	Do you set and honor priorities?	55 (29.4)	41 (21.9)	53 (28.3)	27 (14.4)	11 (5.9)
Q8	Do you often find yourself doing things that interfere with your academic work simply because you hate to say "No" to people?	28 (15)	41 (21.9)	75 (40.1)	26 (13.9)	17 (9.1)
Q9	Do you feel you are in charge of your own time, by and large?	48 (25.7)	30 (16)	84 (44.9)	16 (8.6)	9 (4.8)
Q10	On an average class day do you spend more time on personal grooming than doing academic work?	54 (28.9)	0(0)	44 (23.5)	81 (43.3)	8 (4.3)
Q11	Do you believe that there is room for improvement in the way you manage your time?	89 (47.6)	38 (20.3)	37 (19.8)	13 (7)	10 (5.3)
Q12	Do you make constructive use of your time?	23(12.3)	52 (27.8)	79 (42.2)	23 (12.3)	10 (5.3)
Q13	Do you continue unprofitable routines or activities?	60(32.1)	32 (17.1)	58 (31)	27 (14.4)	10 (5.3)
Q14	Do you usually keep your desk clear of everything other than what you are currently working on?	81 (43.3)	45 (24.1)	34 (18.2)	17 (9.1)	10 (5.3)
Q15	Do you have a set of goals for the entire semester?	15 (8)	25 (13.4)	45 (24.1)	48 (25.7)	54 (28.9)
Q16	The night before a major assignment is due, are you usually still working on it?	82 (43.9)	34 (18.2)	44 (23.5)	16 (8.6)	11 (5.9)
Q17	When you have several things to do, do you think it is best to do a little bit of work on each one?	59 (31.6)	33 (17.6)	55 (29.4)	15 (8)	25 (13.4)
Q18	Do you regularly review your class notes, even when a test is not imminent?	17 (9.1)	30 (16)	71 (38)	34 (18.2)	35 (18.7)

Table 4 shows that 29.4% of the students always, 28.3% sometimes, 14.4% rarely and 5.9% never set and honor priorities. Similar findings have been reflected in the study of Khanam *et al* in which 29.1% of the students always, 24.1% sometimes, 8.9% rarely and 5% never set and honor priorities. This result is also consistent with the study of Oyuga *et al* who found that 41.6% of the students always, 39.2% sometimes, 10.8% rarely and 8.4% of the students never do things in order of priority. The findings are in agreement with the findings of Ugwulashi who emphasized that students always do things in order of priority.

In the study of Denlinger, most of the students do not plan well. A similar result has been found in this study where 31.6% sometimes plan their day before they start it, 15% do it rarely and 12.8% never plan their day before they start it. This result is also consistent with the study of Khanam *et al* where 29.1% sometimes, 10.1% rarely and 12.7% never plan their day before they start it.

In this study, it is observed that only 12.3% of students always make constructive use of their time as compared to 42.2% of the students who sometimes make constructive use of their time and only 8% of students always have a set of goals for the entire quarter. The findings are similar to the study of Khanam *et al* who found that 12.7% of students always make constructive use of their time, 37.9% do it sometimes and 10.1% of students always have a set of goals for the entire quarter.

In this study, most of the students (43.3%) rarely spend more time on personal grooming than doing academic work. This finding is in contrast with the study of Khanam *et al*. In the study of Khanam *et al*, most of the students (43%) always spend more time on personal grooming.

**Determining influential variable:**

**Table 5: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.793
Bartlett's Test of Sphericity	Approx. Chi-Square	797.175
	Df	153
	Sig.	.000

Table 5 shows the sampling adequacy and test of sphericity of factor analysis. It exemplified that factor analysis was appropriate because Bartlett's test of sphericity indicates the overall significance of the correlations among the variables ( $p < 0.01$ ).

Besides, the Kaiser- Mayer-Olkin (KMO) measure of sampling adequacy gives a value of 0.793 ( $> 0.5$ ) which suggests that correlations between pairs of variables can be explained by other variables. Furthermore, the null hypothesis that the correlation matrix is an identity matrix is rejected, as shown by the small p-value ( $p < 0.01$ ) of Bartlett's test of sphericity.

**Table 6: Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.634	25.747	25.747	4.634	25.747	25.747	3.255	18.085	18.085
2	1.525	8.474	34.221	1.525	8.474	34.221	2.259	12.551	30.636
3	1.401	7.782	42.003	1.401	7.782	42.003	1.663	9.241	39.878
4	1.229	6.826	48.829	1.229	6.826	48.829	1.361	7.564	47.441
5	1.099	6.104	54.932	1.099	6.104	54.932	1.348	7.491	54.932
6	.986	5.476	60.409						

7	.971	5.394	65.803						
8	.924	5.132	70.935						
9	.769	4.271	75.206						
10	.665	3.697	78.903						
11	.632	3.509	82.412						
12	.615	3.418	85.830						
13	.556	3.090	88.919						
14	.505	2.805	91.725						
15	.452	2.509	94.233						
16	.402	2.234	96.467						
17	.351	1.951	98.418						
18	.285	1.582	100.000						

**Table 7: Rotated Component Matrix**

Factor Variables	Component				
	1	2	3	4	5
Q1	.796				
Q2	.762				
Q3	.659				
Q4	.688				
Q5	.551				
Q6	.584				
Q7			.524		
Q8					.734
Q9			.660		
Q10					-.661
Q11			.818		
Q12		.678			
Q13		-.565			
Q14		.444			
Q15		-.717			
Q16				.662	
Q17				.686	
Q18		.564			

Table 7 demonstrates the rotated factor matrix. This matrix has facilitated the interpretation of the extracted factors with percentage variations explained. From this table, five factors can be considered as-

Factor 1: Factor 1 has been regrouped into questions 1-6 variables which are about activities related to Short Range Planning except the setting and honoring priorities.

Factor 2: Factor 2 has been regrouped into questions 12, 13,14,15,18.

Factor 3: Factor 3 has been regrouped into questions 7, 9, and 11.

Factor 4: Factor 4 has been regrouped into questions 16, and 17.

Factor 5: Factor 5 has been regrouped into questions 8, and 10 which are about activities related to Time Attitudes: doing things interfering with academic work and spending more time on personal grooming.

**Table 8: Model Summary**

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.212	.045	.019	.22761	2.099

The coefficient of determination,  $R^2$ , which indicates how much of the total variance can be explained by the independent variable is 19%.

**Table 9: ANOVA**

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	.442	5	.088	1.706	.135
Residual	9.428	182	.052		
Total	9.870	187			

From Table 9, it can be ascertained that the value of the calculated F is 1.706 for the variance generated by the regression which is significant at a level of 0.1 which implies that all regression coefficients are not equal to zero. This means that a significant influence of the multiple regression model occurs over the dependent variables.

**Table 10: Coefficients**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	3.537	.017		213.095	.000		
REGR factor score 1 for analysis 1	.031	.017	.133	1.840	.067	1.000	1.000
REGR factor score 2 for analysis 1	-.022	.017	-.097	-1.335	.184	1.000	1.000
REGR factor score 3 for analysis 1	-.006	.017	-.028	-.380	.704	1.000	1.000

REGR factor score 4 for analysis 1	.010	.017	.046	.630	.530	1.000	1.000
REGR factor score 5 for analysis 1	-.028	.017	-.122	-1.680	.095	1.000	1.000
Dependent Variable: CGPA							

In Table 10, the significance level of Factor 1 ( $P=.067$ ) and Factor 5 ( $P=.095$ ) reveal that all practices related to short-range planning except setting and honoring priorities and two practices related to time attitude; doing things interfering with academic work and spending more time with personal grooming are mostly associated with students' academic achievement. In this study, most of the students responded to "Sometimes" in the case of the questions related to short-range planning except for question 7 (setting and honoring priorities). In Table 4 it is observed that in the case of short-range planning, 43.3% of the students sometimes make a list of the things, 31.6% sometimes plan their day, 29.9% sometimes make a schedule of the activities, 28.9% sometimes write a set of goals, 31.6% sometimes spend time each day planning and 25.1% sometimes have a clear idea of their accomplishment. On the other hand, in the case of time attitudes, most of the students (40.1%) sometimes engage in activities that interfere with their academic work and most of the students (43.3%) rarely spend more time on personal grooming than doing academic work. These activities mostly influence the academic achievement of the students.

## Conclusion

This study found no significant relationship between time management and the academic achievement of the students. More than half of the students scored moderate to low scores in time management. However, this study found a significant gender difference in short-range and long-range planning. Furthermore, short-range planning along with spending less time on personal grooming and sometimes engaging in activities that interfere with academic work have been identified as influential activities for academic achievement. This study was quantitative and did not investigate the underlying reasons for such time management practices. This is a limitation of this study. Further research may provide additional insight into the underlying reasons.

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