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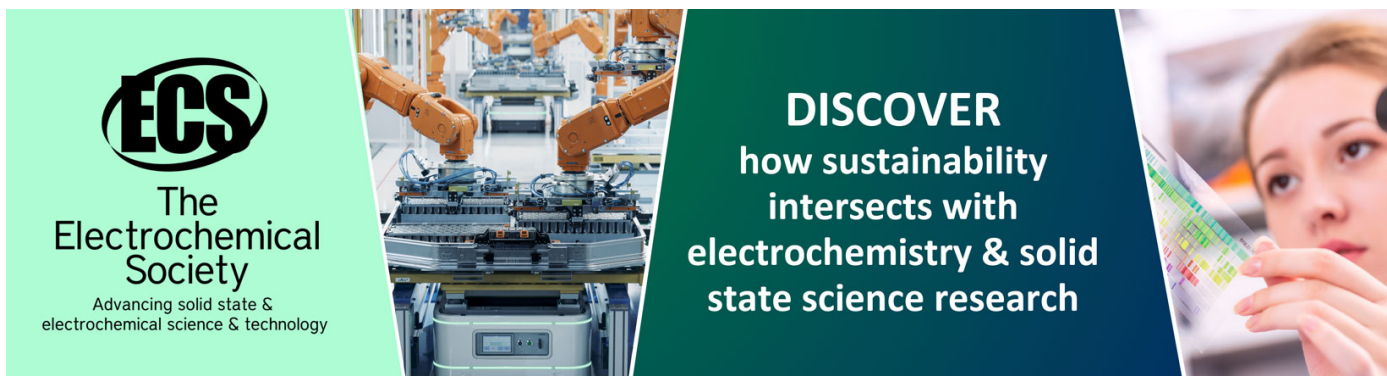
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The Impact of Time Management on Students' Academic Achievement

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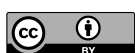
Abstract. Time management is very important and it may actually affect individual's overall performance and achievements. Students nowadays always commented that they do not have enough time to complete all the tasks assigned to them. In addition, a university environment's flexibility and freedom can derail students who have not mastered time management skills. Therefore, the aim of this study is to determine the relationship between the time management and academic achievement of the students. The factor analysis result showed three main factors associated with time management which can be classified as time planning, time attitudes and time wasting. The result also indicated that gender and races of students show no significant differences in time management behaviours. While year of study and faculty of students reveal the significant differences in the time management behaviours. Meanwhile, all the time management behaviours are significantly positively related to academic achievement of students although the relationship is weak. Time planning is the most significant correlated predictor.

1. Introduction

Time is a priceless resource and continues to pass by without coming back. The secret to achieve success in life is effectively managing this resource that everyone possesses equally and paying sufficient emphasis to plan [1]. The high performance required by competitive conditions forces organizations and directors to use time effectively and stipulates the search to control time [2]. The rival environment nowadays encourages people to plan and manage time effectively as early as to start from their elementary education.

The term "time management" became familiar in the 1950's and 1960's as referring to a tool to help managers make better use of available time. The concept of time management comes from Frederick Winslow Taylor for early analysis of motion and time studies of workers with purpose to reduce unproductive work tasks and time wasting. [3] defined time management as self-management with an explicit focus on time in deciding what to do; on how much time to allocate to activities; on how activities can be done more efficiently and on when the time is right for particular activities [3]. [4] defined time management as "behaviours" that aim to achieve an effective use of time while performing certain goal-directed activities.

There are basically three surfaces of time management behaviours which are short range planning, long range planning and time attitudes [5]. Short-range planning appears to encompass a variety of items that require planning in the short run, either within the day or within the week. Time



attitudes is more attitudinal in nature. Long range planning competence is to handle everyday jobs over a longer time perspective by keeping follow of significant dates and setting objectives by putting adjournment. Each of these behaviours of time management appears to have obvious and straightforward meaning for effective performance. [6] argued that academic performance is the measured ability and achievement level of a learner in a school, subject or particular skills.

[10] determined the time management attitude and skill levels of Pamukkale University students and the effects of these skills on their academic achievement. The findings showed that a majority of Pamukkale University students possess moderate level time management skills and only a significantly small portion have high level time management skills. Also, according to the findings, the prediction level of time management skills for academic performance is 7.9 percent.

On the other hand, [8] explored the relationship between time management skills and the academic achievement of African engineering students. The results of this study were applied to various tests, which indicated no statistically significant relationship between time management skills and the academic achievement of African engineering students.

Students often complaint they do not have enough time to complete all the tasks assigned to them. In trying to read all the books and chapters assigned, meet paper deadlines, and participate in extracurricular activities, university students may become overwhelmed with feelings that there is not enough time to complete all their work adequately. Besides that, a university environment's flexibility and freedom can derail students who have not mastered time management skills. Time management has a significant impact on the lives of the students especially for those who are studying in the higher education institutions where there is no existence of parent and teacher supervision [7, 9]. There are other quite considerable studies were carried out to use mathematical/statistical technique [11, 12, 13, 14].

Therefore, the study is conducted mainly to measure the association between time management and academic achievement of university students. Besides that, the study also carried out to determine the factors in time management that affect the academic achievement of university students as well as to compare the time management behaviour of students. Respondents are students from University Tun Hussien Onn (UTHM), Johor, Malaysia. This study considered population of all undergraduate students. There are 400 respondents taken as sample from eight faculties of UTHM.

2. Methodology

The primary data collection for this study is through questionnaire survey. The questionnaire included 2 section, Section A and Section B. Section A requested information regarding demographic and CGPA while Section B is the Time Management Questionnaire developed by [10]. A 5-point Likert scale was used to record the responses. Each scale item has five response categories: 'Always' as 5, 'Frequently' as 4, 'Sometimes' as 3, 'Infrequently' as 2 and 'Never' as 1. These will score from 1 to 5 with a high score denote a positive attempt at managing time. The higher the values on the scale, the better the time management practices of the student.

In this study, the samples collected by using rule of equally allocation of stratified random sampling and there needs 50 respondents from each faculties. There were few techniques used for data analysis in this study. Factor analysis was employed to analyze the factors associated with the time management. Besides that, hypothesis testing, Mann-Whitney U-test and Kruskal-Wallis H test were used to assess the significant difference in time management score based on demographic characteristics such as gender, race, year of study and faculty. In addition, Spearman Rank Correlation coefficient was applied to identify the relationship of time management and academic achievement. It was also adopted to determine the most significant correlated time management factor toward academic achievement of students [10].

3. Result

This section shows the result obtained using factor analysis and non-parametric test.

3.1 Factors of Time Management

28 items on the Time Management Questionnaire was analyzed by using Factor Analysis. Table 1 displays the Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test. KMO test was carried out to check the existence of multicollinearity effect. KMO value in this analysis is 0.848 and indicates that the response do not have serious multicollinearity problems and suitable to be used in factor analysis to determine the underlying factors. Bartlett's Test of Sphericity used to identify whether the correlation between two items is sufficient to apply factor analysis. The significance P-value (0.000) is less than 0.05. Therefore, it shows that the correlation between each pair of item is sufficient to apply factor analysis and the variables are suitable for structure detection.

Table 1. KMO and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.848
Bartlett's Test of Sphericity	Approx. Chi-Square	7087.908
	df	378
	Sig.	.000

The Eigenvalue and the Scree plot suggested that those items in the questionnaires able to form more than one factor. Through the rotation procedure of Varimax, Rotated Component Matrix shows that the items can be grouped into 3 factors. The factors' name assigned and their corresponding items are as shown in Table 2.

Table 2. Factors Extracted from Questionnaire.

Factor Name	Item	Item Question
Time Planning	3	Do you have a set of goals for each week ready at the beginning of the week?
	4	Do you spend time each day planning?
	6	Do you make a list of the things you have to do each day?
	7	Do you make the schedule of activities you have to do on schooldays/workdays?
	8	Do you have a clear idea of what you want to accomplish during the next week?
	12	Do you have a set of goals for the entire quarter/semester?
	13	Do you clip of Xerox articles which, although not presently important to you, may be in the future?
	22	Generally, do you think you can usually accomplish all your goals for a given week?
Time Attitudes	1	When you have several things to do, do you think it is best to do a little bit of work on each one?
	9	Do you set deadlines for yourself for completing work?
	10	Do you try to schedule your best hours for your most demanding work?
	11	Do you keep your important dates (e.g. exam dates, research paper due dates, etc.) on a single calendar?
	16	Do you set and honour priorities?
	19	Do you believe that there is room for improvement in the way you manage your time?
	21	Are you able to make minor decisions quickly?

	27	Do you usually keep your desk clear of everything other than what you are currently working on?
Time Wasting	17	Each week do you do things as they naturally occur to you, without an effort to make a plan in advance and compulsively?
	23	Do you often find yourself doing things which interfere with your school work simply because you hate to say "no" to people?
	24	Do you find yourself waiting a lot without anything to do?
	26	Do you continue unprofitable routines or activities?

3.2 Comparison of Time Management Score based on Demographic Characteristics

There were four hypotheses to be tested by using Mann-Whitney U test and Kruskal-Wallis H test. Table 3 shows the list of hypotheses used and the corresponding methods applied for comparison of time management score based on demographic variables.

Table 3. List of Hypotheses and the Corresponding Methods.

Code	Null Hypothesis	Alternative Hypothesis	Analysis Method
H_1	There is no significant difference between time management score and the students' gender.	There is a significant difference between time management score and the students' gender.	Mann-Whitney U test
H_2	There is no significant difference between time management score and the races of students.	There is a significant difference between time management score and the races of students.	Kruskal-Wallis H test
H_3	There is no significant difference between time management score and the students' year of study.	There is a significant difference between time management score and the students' year of study.	Kruskal-Wallis H test
H_4	There is no significant difference between time management score and the students' faculty.	There is significant difference between time management score and the students' faculty.	Kruskal-Wallis H test

Table 4 shows the p-value (significance level) associated with the Mann-Whitney U of 18937.5 is 0.359, which is greater than 0.05 indicating that we should not reject the null hypothesis. As a result, there is no significant difference in time management between male and female students.

Table 4. Mann Whitney U Test of Time Management and Gender.

	Total Score
Mann-Whitney U	18937.500
Wilcoxon W	38638.500
Z	-.918
Asymp. Sig. (2-tailed)	.359

a. Grouping Variable: Gender

Based on the p-value of 0.103 in Table 5, the null hypothesis is unable to reject because the significance value is more than the alpha value (0.05). Therefore, there is no significant differences in the time management score for the three race groups.

Table 5. Kruskal Wallis H Test of Time Management and Races.

	Total Score
Chi-Square	4.552
df	2
Asymp. Sig.	.103

a. Kruskal Wallis Test

b. Grouping Variable: Race

The output of the test in Table 6 shows that there is significant difference in overall between the four groups of respondents based on year of study [$X^2(3, N = 400) = 13.287, p < 0.05$]. Therefore, the null hypothesis is rejected and there is a significant difference in time management score between students with different year of study. Hence, comparison between pairs in all four groups of respondents was implemented to identify pairs who caused the differences and this can be done using Mann-Whitney U test. The differences was shown by the pairs of Freshman and Senior with significant value of 0.001, Sophomore and Senior (p value = 0.026), Junior and Senior with significant value of 0.003.

Table 6. Kruskal Wallis H Test of Time Management and Year of Study.

	Total Score
Chi-Square	13.287
df	3
Asymp. Sig.	.004

a. Kruskal Wallis Test

b. Grouping Variable: Year Of Study

According to Table 7, the result shows significant difference in overall between the eight groups of respondents in the study population [$X^2(7, N = 400) = 24.394, p < 0.05$]. Therefore, the null hypothesis is rejected. The faculty of student show significant difference in affecting the time management behaviour. Mann-Whitney U test was applied to identify pairs who caused the differences. The differences was shown by the pairs of FSTPI and FKEE, FSTPI and FFTP, FSTPI and FPTV, FTK and FKEE, FTK and FFTP, FTK and FPTV, FKMP and FFTP, FKEE and FKAAS, FSKTM and FFTP, FKAAS and FFTP, FKAAS and FPTV.

Table 7. Kruskal Wallis H Test of Time Management and Faculty.

	Total Score
Chi-Square	24.394
df	7
Asymp. Sig.	.001

a. Kruskal Wallis Test

b. Grouping Variable: Faculty

3.3 Relationship between Time Management and Academic Achievement

The hypothesis testing was adopted to determine the relationship between time management and academic achievement of students. The null hypothesis states that there is no significant relationship between time management and the academic achievement of students. Table 8 demonstrated Spearman Rank Correlation coefficients between response variable, Y and all explanatory variables, X. The response variable in this analysis is the CGPA which is used to measure the academic

achievement of students. While there are 3 explanatory variables included in this analysis, which are factor 1 stand for time planning, factor 2 represent time attitudes and factor 3 is time wasting.

Table 8. Spearman Rank Correlation Coefficients of Time Management and Academic Achievement.

	Time Planning	Time Attitudes	Time Wasting
Correlation Coefficient	.357**	.272**	.273**
Spearman's rho CGPA Sig. (2-tailed)	.000	.000	.000
N	400	400	400

From the results in Table 8, the null hypothesis of no relationship between time management and academic achievement of students is rejected. All the time management behaviours are significantly positively related to academic achievement of students although the relationship is weak. Meanwhile, the most significantly correlated predictor with effective decisions is time planning.

4. Conclusion

Shortly, all the objectives of this study have been achieved. The factor analysis result showed that the time management behaviours can be classified into three main groups which are time planning, time attitudes and time wasting. Besides that, the outcome of the study also indicated that gender and races of students show no significant differences in time management behaviours. While year of study and faculty of students reveal the significant differences in the time management behaviours. Meanwhile, all the time management behaviours were significantly positively related to academic achievement of students although the relationship is weak. Time planning is the most significant correlated predictor.

The findings of this study allow for a clear understanding of students' time management for this sample of students. However, there are a number of limitations which temper the results. Some recommendation solutions have been suggested for future research. First of all, the personality variable under investigation to achievement striving was limited. Other variables such as optimism, stress and self-efficacy are likely to influence academic performance too. Future studies will be able to address these issues in more depth. Besides that, the respondents of this study were students from one university, this restricts the extent to which these findings might be applied to students from other universities or colleges across the Malaysia. Hence, additional evidence will be needed prior to generalize statements to all university settings. Further investigate the learning preferences of Malaysia university students in other institutions can be carried out to see whether a generalization on university students' time management can be made. Meanwhile, the current study was limited to self-report data such as academic performance (CGPA), as well as those variables that rely on memory. These may raise the potential problems with desirability bias and tiredness. Lastly, the data of the study were gathered at one point in time due to time constraint. Consequently, the participants' perception may have been influenced by covariate factors. Thus, it is recommended to extend the period of time allocated for conducting the research.

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