

Time Management Behaviour During the COVID-19 Pandemic: A Focus on Higher Education Students

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Abstract: Generally, many students discover that it is hard to find an equilibrium between their academic work and their day-to-day lives. With the COVID-19 pandemic, disruptions were seen in various aspects of life including the educational world. With the implementation of online learning, students needed to be more independent in their learning process and manage their own time effectively. This study intends to examine time management behaviour among undergraduate students during the shift in the teaching and learning process and environment at the beginning of the COVID-19 pandemic in Malaysia. A quantitative research method was adopted in this study, utilising online survey questionnaires. A total of 267 completed questionnaires were collected from university students. Using SPSS, the data was analysed using descriptive analysis and crosstabulation. The findings indicate that undergraduate students have moderate to poor time management behaviour, with females doing better in time planning compared to males. The findings also show that there is an association between time management and time attitude. This study highlights the capability of students in managing their time especially in the new teaching and learning environment. The results of the study also provide empirical evidence on teaching and learning in the new educational model amidst a global health crisis.

Keywords: COVID-19 pandemic, time management, time planning, time attitudes, time wasters, tertiary students

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Introduction

2020 would go down in history as one of the most challenging years as the world was immobilised by the COVID-19 pandemic, which affected all areas of life including education. According to the United Nations' *August 2020 Policy Brief*, this unprecedented pandemic affected learners from every continent amounting to 1.6 billion learners. As a global response to curb this pandemic, schools, colleges, and universities had to transform their physical classroom sessions into virtual learning environments to ensure the teaching and learning process continued.

With this change, the students' normal learning environment was transformed as their homes became their main learning space — a space that was shared with other family members who were either working and/or studying at home due to the lockdowns executed. To add to this, students had to be more independent and disciplined in their learning process as the physical presence and direct supervision of their educators was not possible. Apart from this, students also had to take time to learn and familiarise themselves with technological gadgets, online learning platforms and online materials used for virtual learning environments. All these changes would impact both their learning and social life processes. For students coming from less-educated households, low-income households or even those with special impairment, the impact would be greater to meet their learning needs and environment. In their observational study in the United States, Asgari et al. (2021) indicated that students experienced issues such as poor work-life balance (30%), lack of motivation (55%) and lack of private space for learning (50%) during the COVID-19 pandemic period. This leads to the question of how a student would manage his or her time in this new learning environment amidst a global health crisis.

Time, a crucial commodity to human beings, always poses a challenge for one to control or manage. Time management is an evergreen subject matter in the educational field and a focal point when it comes to study skills, even today. For a student, understanding the significance of time and managing it is an important skill to develop and practise in their educational process. The ability to manage time well could lead them to better academic performances and is a significant life management skill (Abraham et al., 2018; Adams & Blair, 2019; Khanam et al., 2017; Nasrullah & Saqib Khan, 2015; Tanrıöğen & Işcan, 2009). Furthermore, many employers look for potential employees with good time management skills such as planning, coordinating, and organising (Gregory & Moron-Garcia, 2009).

Many studies do indicate learners struggle in managing their study time. A study by the Higher Education Research Institute (2014) reported that college students have difficulty in managing their study time and the contributing factors include time spent socialising, dependency on classmates as well as lack of commitment and an action plan. Additionally, Adams and Blair (2019) also highlighted that their undergraduate respondents did possess poor mechanics of time management. In

their study, Khanam et al. (2017) indicated that more than half of their respondents reflected poor to average time management ability, which were supported by findings from Al Khatib (2014) and Pehlivan (2013). In fact, Nasrullah and Saqib Khan (2015, p.67) highlighted that “students who exploited time-saving proficiencies notably had rich academic achievements”.

Given that managing one’s time under normal circumstances is not an easy task, imagine how much more challenging it would have been during this unprecedented time of COVID-19 pandemic especially since the existing time had to be balanced well between studies, home, family, social life, work (for some) and self-care. Hall (2020) contended that time management during crisis is “almost impossible” as apart from existing commitments demanding one’s time, new focus and trepidation sets in leading one to possibly stop in one’s tracks. Thus, considering all these perspectives, the need for this study is imperative as it would add to the existing body of knowledge relating to students and their time management behaviour during a pandemic.

Problem Statement

“Time” is an important component in the educational system. Good time management has been recognised as a key influence in lessening stress effects (Misra & McKean, 2000; Sainz et al., 2019) and a vital indicator of better achievements as well as lower pressure and anxiety in higher education (Adams & Blair, 2019; Kearns & Gardiner, 2007). Nonetheless, many students find it difficult to juggle both their studies and their daily personal activities (Van der Meer et al., 2010) which in turn, leads to misuse of time, spiralling stress levels, and irregular sleeping habits (Hardy, 2003). With 2020 turning out different from the norm due to the COVID-19 pandemic, it would be beneficial to determine the time management behaviour among tertiary students during this period. This would provide insights into how students are able to manage and balance their time and studies during a crisis. Although many research studies have examined students’ time management and academic achievement, very few have looked at students’ behaviour in managing time during a global health crisis.

The COVID-19 pandemic has rattled the lives of students in various ways, that would have otherwise seen them complete their school curriculum and assessments. To add on, in many cases, the pandemic has also torn students away from their social groups. When an individual manages his/her time, this generally means that he/she purposefully chooses to participate in a particular activity at a particular time, instead of reacting to everything according to urgency and without a plan or a goal. Thus, being a tertiary student, they are required to devote substantial changes to accommodate different learning activities. Students need to enhance their study skills as well as re-evaluate their study habits (Leese, 2010), particularly their time management behaviour in accommodating the different learning styles

adopted in response to the current health pandemic situation. This is because in tertiary education, promoting only study skills does not necessarily result in changes intended (Jairam, 2020) but rather, as research has shown, time management skills, in particular, which is very much dependent on their behaviour, affects academic transition to higher education (Misra & McKean, 2000; Sainz et al., 2019), which in turn affects academic progress and retention (van Rooij et al., 2018).

Therefore, this research aims to explore time management behaviour (i.e. planning, attitudes and wasters) among undergraduates during the COVID-19 pandemic. This would enable both educators and also higher education institutions to understand the current online learning environment and nurture better time management skills amongst students.

Research Objectives

The overall objective of this research is to examine the time management behaviour of undergraduate students. The research objectives of this study are:

1. To examine the time management behaviour in terms of time planning, time attitudes and time wasters among undergraduate students owing to the shift in the learning process and environment during the COVID-19 pandemic.
2. To determine the association between time planning and time attitudes among undergraduate students owing to the shift in the learning process and environment during the COVID-19 pandemic.

Research Questions

Based on the research objectives, the following research questions were formulated:

1. What is the time management behaviour among Malaysian undergraduate students owing to the shift in the learning process and environment during the COVID-19 pandemic?
2. What is the association between time planning and time attitudes among the Malaysian undergraduate students owing to the shift in the learning process and environment during the COVID-19 pandemic?

Literature Review

Time Management

Rai (2016, p.145) defined time management as “the process of planning and controlling over the amount of time spent on specific activities to increase effectiveness or efficiency of work”. One needs to be fully aware of how he/she utilises time to reap its benefits. There are various theories on time management such as the Bucket of Rock theory, where the planning is based on the level of importance of the activities. However, for

the ABC system, the “grandfather” of prioritising strategies, a system developed by Alan Lakein, talks about prioritising tasks that should and need to be completed as A, B, and C (Mancini, 2003, p. 30). On the other hand, the inventory system is based on the results or outcomes of prior planning, i.e. based on lessons learned. Macan (1994) proposed that learning time management leads to greater perception of control over time. His team reported that three time management factors in accordance with Lakein’s are setting goals and priorities, mechanics of time management and preference for organisation (Macan et al., 1990, as cited in Macan, 1994).

Highly productive people would plan their day out by setting out priorities to be accomplished on a particular day (Bazin, 2016). As time is limited, prioritisation enables a person to fully focus on completing important tasks and avoiding time wasters. However, one needs to be disciplined in maintaining focus and not get diverted from completing tasks set out on his/her to-do list. In citing Macan et al. (2000), Nasrullah and Saqib Khan (2015, p.66) emphasised, “The secret to achieving success in life is effectively managing this resource that everyone possesses equally and paying sufficient emphasis to planning”.

The most crucial issue for tertiary students is managing time (Britton & Tesser, 1991). They would need to juggle not only their learning priorities but also family obligations and personal goals as during this pandemic time, there are no clear boundaries on tasks assigned. Striking a balance can be challenging and may cause worry, stress, and anxiety, if not managed well. Mukweho’s (2018) findings showed that students at the tertiary level demonstrated poor time management skills. Similarly, Sayari et al. (2017) stated that students’ perceptions on the need for prioritisation were average and demonstrated their inability to organise or hierarchise commitments and duties. Likewise, Logan and Burns (2021) also indicated prioritising issues and having too many conflicting promises were major contributors to stressors identified among Australian tertiary students. Adams and Blair (2019), in citing Kelly (2002), highlighted three areas that determine the efficiency in use of time: time consciousness, realisation of time-fillers and good working practices. Therefore, the question of time management behaviour amongst tertiary students in Malaysia arises as they go through the shift in their learning process and environment during the COVID-19 pandemic.

Time Planning

As time is a limited commodity, there is a need to create space to sit and plan it out properly. Pehlivan (2013) contended that by focusing on planning the use of time, one is able to unlock the secret of a successful life. Without proper planning, things may not move smoothly or be missed out resulting in more time, effort, and money to resolve the consequences incurred. Akcoltekin (2015, p. 2242) in citing Uğur

(2000) stated that “time is effectively and efficiently used when having clear targets and aims, planning, determining priorities and assessing urgency”.

Britton and Tesser (1991) highlighted that short-range planning and long-range planning are two of the three important aspects of time management behaviour. The study stated that it is easier and beneficial to use short-range planning for it is more achievable and flexible to change as compared to long-range planning. Short-range planning consists of setting out and prioritising activities or duties for an immediate period like a week or a day while long-range planning is similar but looks at longer periods such as half-yearly or yearly. Adams and Blair (2019) noted that there is a positive relationship between short-range planning and students’ average grade point while respondents in Mercanlioglu’s study (2010) were more mindful and attentive towards their short-range planning compared to their long-range planning. However, in contrast, Pehlivan’s (2013) study showed a positive relationship between long-range planning and grades obtained.

Although the connection between time management and academic performance is clear, the ability to manage this time management behaviour remains an issue. Broadbent and Poon (2015) identified setting goals, managing time, seeking help, and monitoring self-learning progress as the common under-developed skills among students. Additionally, Obiekwe et al. (2019) pointed out students have issues of putting goals they want to achieve on paper. In Naidoo and Cartwright’s (2020) study, it was noted that South African students experienced difficulties in self-management and self-regulation highlighting aspects of setting goals and managing time due to the disruptive impact of COVID-19 on the daily routine of students. With the limited number of studies focusing on students’ time management and with the current COVID-19 disruption to the learning environment, this provides an excellent opportunity to look into time planning by Malaysian students under these circumstances, marking it an area of focus for this study.

Time Attitude

Attitude is viewed as “a set of emotions, beliefs, and behaviours toward a particular object, person, thing, or event” (Cherry, 2020). Further, the disposition a person holds towards a certain occasion, item, issue, or individual influences how the person would react or respond (Aydeniz & Kaya, 2012). In other words, attitude regulates behaviour. As much as a person’s attitude can be fixed, it can also change based on situation, for attitudes are formed through many ways such as culture (Douglas, 2002, as cited in Abun et al., 2019), experience, social factors, conditioning, and observation (Cherry, 2020). With changes brought upon by COVID-19, this period provides an opportunity to study students’ attitude towards time under these circumstances.

Tanrıögen and Işcan (2009) opined students need to have a positive attitude regarding time management in order to develop this skill. Furthermore, having a positive attitude alone is not enough to cultivate good time management practices as it must be complemented with appropriate action. One also needs to ensure proper prioritisation of tasks and allocation of time for effective time management. Beeke (2016, p. 244) in quoting J. Oswald Sanders (2007) stated, “Our problem really is not too little time but better use of the time we have”.

According to Sayari et al. (2017), there is a significant relationship between time planning and time attitude to academic achievement. However, King (2002) pointed out external elements that pose difficulties to an individual’s capability to practise good time management, affecting one’s time, capacity, and affectivity. In this respect, Hong et al. (2021) highlighted individuals who procrastinate during lockdowns especially students in their online learning. The study also emphasised the need for a higher level of self-control due to the greater level of autonomy given during this period. In reference to a study on Malaysian tertiary students, where 67% were identified as “Procrastinators” and 12% as “Serious Procrastinators”, this suggests an area of concern for academic performance and student wellbeing (Bakar & Khan, 2016). As such, it is important to look into the association between time attitude and time planning especially with the changes that continue to take place in the learning environment during a global health crisis.

Time Wasters

Time wasters basically refers to unproductive activities or matters that are considered as a waste of time. Time wasters do not produce any positive outcome and diverts a person from priorities or plans that have been set. Excessive use of time on mobile phones and social media (Bazin, 2016), hanging out with social circles, watching television or YouTube programmes, or playing computer games are just a few examples of time wasters. Abraham et al. (2018) also stated smoking as a time waster.

Nemickienė and Nemickaite (2020), in their study, found first-year students who spent most of their free time on time wasters such as social media, mobile phones, and visitors as they were unable to say ‘no’ or schedule these activities to a more appropriate time. The study further suggested that students at this level need to be guided on prioritising goals and urgent tasks for the day. Apart from this, the study also highlighted that students need self-will in managing time.

The inability to control time wasters could lead to unnecessary stress and imbalance in daily life matters which require attention especially those with deadlines. At times, individuals are unaware that they are wasting their time on unproductive things until it is pointed out (Bazin, 2016). Raj (2012, cited in Ng et al., 2016, p. 433) stated that Malaysian youths spend 32.6 hours per day on activities related to media and that this was possible as technology enables multitasking. This raises a

valid concern for individuals to reflect and analyse their time usage on a daily basis to stop time wasters. However, it should be noted that in some situations, students end up choosing wrong options when planning their time due to certain commitments that cannot be avoided (Richardson et al., 2018).

Nevertheless, each individual needs to take responsibility and be accountable by not getting distracted with non-productive activities. Being aware of how time is utilised and where it is being wasted is important; thus, a daily reflection of the day's activities is required. In short, it is important to identify students' time wasters to gather information on how one is managing his or her limited commodity called time.

Impact of COVID-19 on Education

The repercussions of COVID-19 on the education system have been intense and has affected all areas of teaching, research and service globally. The pandemic has essentially shifted teaching and learning to digital platforms due to the disruptions of social interaction whereby borders were closed and quarantines or lockdowns were mandated (Alon et al., 2020; Liguori & Winkler, 2020). DeVaney et al. (2020, p. 1) stated "at the peak of disruption during April 2020, more than 1.6 billion students were affected, representing over 91% of students in the world". Universities have had to change their business model to think differently and acquire new learning, teaching, and engagement styles to circumvent social distancing.

Young (2006) asserted that unlike traditional courses, teaching online is different in various ways such as the roles of both instructors and learners, communication, engagement, and flexibility. Online learning often offers students flexibility in terms of time, place, space, and pace of study which makes it more casual for the students (Gedera et al., 2015). While prior studies highlighted the positive side of online-based learning, Chakraborty et al. (2020), on the other hand, argued that this manner of teaching and learning has caused stress and disruption in both the social life and health of students. In fact, Araújo et al. (2020) contended that the experience of COVID-19 pandemic itself has brought about a negative impact on students' mental health.

In its article, *The Guardian* (2020) stated that many students experienced anxiety and panic due to online courses as they need to handle assignments, seminars and thesis defences in a new method that is foreign to them. Furthermore, lack of self-discipline as well as accessibility to suitable learning materials and good learning environment affect the learning process of students when they are self-isolated at home (Bao, 2020). Additionally, surfing the internet or chatting with friends on messaging applications without any consequences are common hindrances seen affecting students while learning online as compared to learning in physical classes. Thus, this contributes to poor time management among students which in turn affects their academic achievement.

Methodology

This study adopted a descriptive research design and a quantitative approach. The study approach is based on Macan's (1994) process model of time management behaviour which includes three attributes: setting goals and priorities (planning), mechanism of time management behaviour (attitude) and preference for organisation (wasters). The respondents for this study consisted of tertiary students from various programmes, ranging from pre-university students to degree students in two private universities in Malaysia. In March 2020, owing to COVID-19 pandemic lockdown in Malaysia, both universities shifted to online classes. Modules as well as coursework and final examinations were conducted using online means (synchronous and asynchronous content delivery).

A total of 267 students (84 males and 183 females) participated in an online survey conducted over a period of 8 weeks. The participation was on a voluntary basis and the survey was prepared in English as it is the second language of the country as well as the medium of communication and teaching in private universities.

In education research, the survey questionnaire is deemed as a widely used, quick and reasonable tool to collect information on attitudes and opinions of individuals (Ary et al., 2006). Therefore, for this study, the online format of the survey questionnaire was utilised.

The online survey questionnaire consisted of three elements adapted by Alay and Kocak (2002) from Britton and Tesser's (1991) *Time Management Questionnaire* (TMQ). The three elements were time planning (16 items), time attitudes (7 items) and time wasters (4 items), totalling 27 items to examine time management behaviour. Respondents were asked to rate each item based on a five-point Likert scale: 1 – *Never*, 2 – *Seldom*, 3 – *Sometimes*, 4 – *Often* and 5 – *Almost always*. The online survey questionnaire, using Google Forms, would take at least 10–15 minutes for respondents to complete.

Responses obtained were analysed for statistical measurement using SPSS 25.0 (Statistical Package for the Social Science). The data collected was coded and uploaded into the SPSS system to be analysed. The Cronbach Alpha test which was carried out to ensure the reliability of the questionnaire produced a score of 0.890 (27 items) and based on Nunnally (1978), this is considered reliable as it is above 0.7.

The data analysis looked at the means and standard deviations of data based on the responses obtained. Besides descriptive statistics, cross tabulation between the 3 elements (time planning, time attitude and time wasters) were also examined to analyse the relationship between them. In order to do this, responses from each of these elements based on the five-point Likert scale responses were totalled. The total average score for time planning and time attitude were grouped into 3 categories: poor for a score of 1 & 2, average for 3 and good for 4 & 5. However, for time

wasters, the opposite was done where the score for good (not wasters) was 1 & 2, average (neutral) was 3 and poor (wasters) was 4 & 5.

Findings and Discussion

RQ1: What is the time management behaviour among Malaysian undergraduate students owing to the shift in the learning process and environment during the COVID-19 pandemic?

To determine the time management behaviour among students in the selected private universities during the COVID-19 pandemic, the mean and standard deviation were tabulated for time planning, time attitudes and time wasters, respectively.

Table 1. Comparison of means and standard deviation for time planning of respondents by gender

Item	Male (84)		Female (183)		Total (267)	
	Mean	SD	Mean	SD	Mean	SD
1. Do you plan your day before you start it?	2.79	1.042	3.17	1.119	3.05	1.108
2. Do you have a set of goals for each week ready at the beginning of the week?	2.73	1.144	3.05	1.093	2.95	1.118
3. Do you spend time each day planning?	2.54	1.177	2.78	1.143	2.70	1.157
4. Do you write a set of goals for yourself for each day?	2.18	1.088	2.70	1.219	2.54	1.202
5. Do you make a list of the things you have to do each day?	2.46	1.156	3.09	1.265	2.90	1.264
6. Do you make the schedule of activities you have to do on workdays?	2.65	1.197	3.19	1.270	3.02	1.270
7. Do you have a clear idea of what you want to accomplish during the next week?	3.01	1.207	3.18	1.077	3.13	1.120
8. Do you set deadlines for yourself for completing work?	3.18	1.132	3.76	1.052	3.58	1.109
9. Do you try to schedule your best hours for your most demanding work?	3.14	1.153	3.44	.998	3.35	1.056

Table 1 (con't)

Item	Male (84)		Female (183)		Total (267)	
	Mean	SD	Mean	SD	Mean	SD
10. Do you keep your important dates (e.g. Exam dates, research paper due dates, etc.) on a single calendar?	3.44	1.186	4.01	1.109	3.83	1.162
11. Do you have a set of goals for the entire quarter?	2.93	1.180	3.13	1.139	3.06	1.153
12. Do you clip / download / bookmark articles which, although not presently important to you, may be in the future?	3.07	1.190	3.39	1.239	3.29	1.231
13. Do you regularly review your class notes, even when a test is not imminent?	2.71	1.025	2.96	1.042	2.88	1.041
14. Do you keep things with you that you can work on whenever you get spare moments?	3.08	.996	3.26	1.008	3.20	1.006
15. Do you set and honour priorities?	3.30	1.106	3.60	.895	3.51	.975
16. Each week do you do things as they naturally occur to you, without an effort to make a plan in advance and compulsively?	3.20	1.015	3.21	.980	3.21	.989
Total	2.90		3.25		3.14	

1 – Never, 2 – Seldom, 3 – Sometimes, 4 – Often and 5 – Almost always (Higher score is better)

As seen in Table 1, the overall result indicates that the time planning score of students at the selected private universities was, on average, 3.14 out of 5. The total mean score for each question ranged between 2.54 and 3.83. Questions like daily planning, daily or weekly goal setting scored below 3 points indicating low level of planning. However, these students seem to set deadlines for task completion, note important dates and set and honour priorities with mean scores exceeding 3.5. In fact, ‘Do you set deadlines for yourself for completing work?’ (Q8), ‘Do you keep your important dates (eg. Exam dates, research paper due dates, etc.) on a single calendar?’ (Q10) and ‘Do you set and honour priorities?’ (Q15) seems to be well-practised time management behaviour by undergraduates during COVID-19 with the shift in the learning process and environment.

In considering the disruptions brought by the pandemic to lifestyles and education through changes in the learning format, the results of this study align with Tanrıögen and Işcan’s (2009) study where most of the students demonstrate a moderate level of time management skills. This finding also coincides with that of Mukwevho’s (2018) study which indicate that tertiary students have poor time management skills. It also relates to Sayari et al. (2017) study’s findings on average perception for the need to prioritise. Adding to this, Claessens et al. (2007) stated that planning does not necessarily lead to task completion by and large if high pressure is present. Stewart et al. (2020) also noted that time management among students is the weakest skill that they are able to comprehend especially during the COVID-19 pandemic due to many interruptions and uncertainties.

When analysed based on gender, the female students seem to have scored higher on planning and goal setting compared to males (Q2-5). Similarly, a higher mean value is noted in regard to deadlines, important dates, and honouring priorities (Q8, Q10 and Q15) among females compared to males. Largely, the female students demonstrate a higher awareness (M=3.25) compared to females (M=2.90) when it comes to time planning in this pandemic learning period. These results coincide with Al Khatib’s (2014) and Liu et al.’s (2009) studies suggesting females have better time management than males.

Table 2 shows that the time attitude of students is also average with a total mean score of 3.37. This is definitely not a good indicator as attitude provides insight into habits, behaviours and practices towards how time is viewed and managed. As opined by Tanrıögen and Işcan (2009), one needs to have a positive attitude towards time management to develop this skill. In addition, having good time management skills leads to better academic results (Indreica et al., 2011; Papamitsiou & Economides, 2019; Remali et al., 2013; Yang et al., 2015).

Table 2. Comparison of means and standard deviations for time attitude of respondents by gender

Item	Male (84)		Female (183)		Total (267)	
	Mean	SD	Mean	SD	Mean	SD
1. Do you make constructive use of your time?	2.83	.789	3.21	.839	3.09	.840
2. Do you believe that there is room for improvement, in the way you manage your time?	3.88	1.113	4.04	.931	3.99	.992
3. Do you feel you are in charge of your own time, by and large?	3.55	1.057	3.63	1.018	3.60	1.029
4. Are you able to make minor decisions quickly?	3.27	.998	3.27	.914	3.27	.939

Table 2 (con't)

Item	Male (84)		Female (183)		Total (267)	
	Mean	SD	Mean	SD	Mean	SD
5. Generally, do you think you can usually accomplish all your goals for a given week?	3.13	1.062	3.27	.990	3.23	1.013
6. Do you often find yourself doing things which interfere with your study work simply because you hate to say "no" to people?	3.15	1.000	3.31	1.131	3.26	1.092
7. Do you find yourself waiting a lot without anything to do?	3.15	1.012	3.13	1.017	3.13	1.013
Total	3.28		3.41		3.37	

1 – Never, 2 – Seldom, 3 – Sometimes, 4 – Often and 5 – Almost always (Higher score is better)

The most common attitudes toward time management behaviour among undergraduates can be determined from ‘Do you believe that there is room for improvement, in the way you manage your time?’ (Q2) and ‘Do you feel you are in charge of your own time, by and large?’ (Q3). These clearly indicate that students are learning to adapt to change and are conscious of the need to plan their time for effective time management. Karim et al. (2015, cited in Nasrullah & Saqib Khan, 2015) indicated that time attitude not only reflects one’s time management behaviour but also his/her perception of control over his/her time and productive usage of time. Similarly, according to Wolters et al. (2017), learners who employ strategies (including time management) are less likely to put off doing the intended work and more likely to complete their tasks ahead of time. Thus, a vital key ensuring success during the pandemic is developing the time management skill (Stewart et al., 2020) or having positive time management behaviours.

It is good to know that these students believe that there is room for improvement in the way they manage their time (Q2 – highest total mean score of 3.99) and female students have a stronger belief in this (M=4.04) compared to male students (M=3.88). Apart from this, Q1 on constructive use of time under time attitude scored the lowest total mean score of 3.09. For the same question, the male students scored a lower mean (M=2.83) compared to the female students (M=3.21). Following this, the findings shown in Table 2 provide a glimpse of how the male and female gender view time and their attitude towards it.

Based on Table 3, it is evident students in this study, irrespective of male or female, do seem to be time wasters. The total average mean score for this category was 2.56 and total mean score for each question ranged between 1.40 and 3.26. For

the time wasters category, as indicated in methodology, the opposite was done where good (not wasters) carries a score of 1 & 2, average (neutral) 3 and poor (wasters) 4 & 5. Interestingly, the results indicate that students in this study are able to control time wasters to a certain extent.

Table 3. Comparison of means and standard deviations for time wasters of respondents by gender

Item	Male (84)		Female (183)		Total (267)	
	Mean	SD	Mean	SD	Mean	SD
1. On an average class day do you spend more time with personal grooming than studying?	2.58	1.008	2.84	.921	2.76	.955
2. Do you continue to do unprofitable routines or activities?	2.90	1.013	2.81	.988	2.84	.995
3. Do you smoke an average of at least one pack of cigarette per day?	1.44	.923	1.38	.856	1.40	.876
4. The night before a major assignment is due, are you usually still working on it?	3.29	1.228	3.25	1.177	3.26	1.191
Total	2.55		2.57		2.565	

1 – Never, 2 – Seldom, 3 – Sometimes, 4 – Often and 5 – Almost always (Lower score is better)

In their study, Abraham et al. (2018) found that smoking was a time-wasting indulgence amongst their respondents; however, smoking was not an issue for most students, irrespective of gender, in this study (M=1.40). Despite the many disruptions brought about by the pandemic, smoking was not an avenue students resorted to. Nevertheless, working on things last minute the night before assignment due dates was an issue for both genders – males scored a mean of 3.29 and females, a mean of 3.25. This is an area that students need to work on as doing things last minute is an indication of poor time planning and time wastage. Furthermore, this could contribute to unwanted stress and negative emotions. Gregory and Moron-Garcia (2009) indicated, through their experience and observation, students attempt their tasks relatively close to deadlines and a good number of students are unable to manage their workload properly. Mastrianni (2015, p.1) noted a similar pattern in students who know the due date but still do it at the last minute and she interestingly states, “the due date becomes the do date”. During the COVID-19 pandemic especially, online learning inflicts high to moderate levels of stress on students (AlAteeq et al.,

2020; Amanvermez et al., 2020) and thus leads to poorer time management and increased time wastage.

RQ2: What is the association between time planning and time attitude among the Malaysia undergraduate students owing to the shift in the learning process and environment during the COVID-19 pandemic?

Table 4 and Figure 1 both indicate an association between time planning and time attitude ($p = 0.000$). This clearly shows that students with poor time attitudes tend to have poor time planning which is 3.4%. However, those with a good time attitude tend to have better time planning, with a percentage of 69.3%. As time planning is related to behaviour, attitude towards how one views time and managing it is an influencing factor. Attitude connects to how one acts, reacts or is willing to do something. Thus, the findings here show a positive outcome of students between their time planning and attitude towards time management. Furthermore, there are not many studies that look into the relationship between time planning and time attitude without the association of other factors. Thus, this finding adds to the body of knowledge relating to time management.

Table 4. Cross-tabulation between students’ time planning and time attitude

Time Attitude		Time Planning			Total
		Poor	Average	Good	
Poor	Count	4	5	0	9
	%	44.4%	55.6%	0.0%	3.4%
Average	Count	10	45	18	73
	%	13.7%	61.6%	24.7%	27.3%
Good	Count	8	51	126	185
	%	4.3%	27.6%	68.1%	69.3%
Total	Count	22	101	144	267
	%	8.2%	37.8%	53.9%	100.0%

* Pearson Chi-Square .000 (asymptotic significance 2-sided)

As indicated by Tanrıögen and Işcan (2009), if there is a positive attitude towards time management, one’s time management skills can be cultivated and enhanced. Planchard et al. (2015) discovered that undergraduates were affected by time commitment when it came to completion of assignments. However, Núñez et al., (2015) explained the better the student’s time-management skills, the greater the number of tasks completed. Apart from this, Aeon and Aguinis (2017) highlighted

that differences in individual’s attitude towards time can significantly influence their time management.

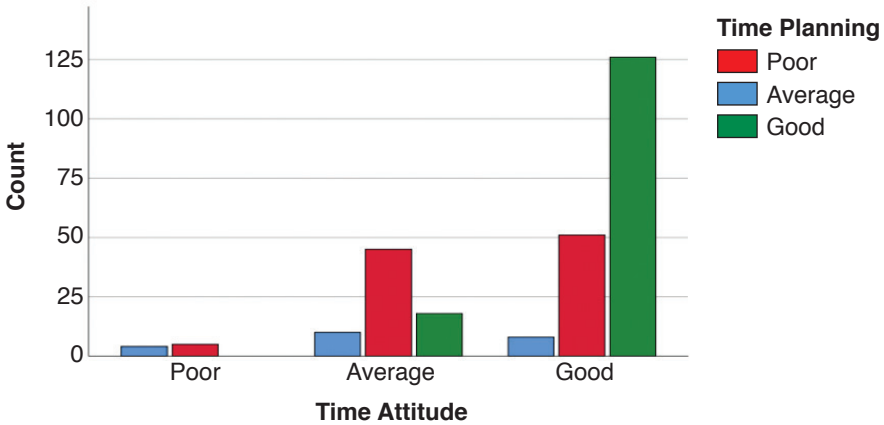


Figure 1. Cross-tabulation between students’ time planning and time attitude

Conclusion

The present study contributes to the body of knowledge on undergraduates’ time management behaviour given the changes taking place in the learning environment due to the COVID-19 pandemic. This study concludes that tertiary students have moderate time management behaviour when it comes to time planning, time attitudes and time wasters. The study also found that females have better planning and attitude towards time management compared to males. The ability to manage oneself and to be disciplined is needed in the “new normal” of learning.

Additionally, this study also reinforced that time planning is associated with time attitude. Attitude is associated to how one acts, reacts or is willing to do something as it is known to be a strong influencer over behaviour. Evidence from this study is further reinforced by Planchard et al. (2015) and Tanrıögen and Işcan (2009), that is, if there is a positive attitude towards time management, one’s time management skills can be further cultivated and enhanced. Inculcating good time management behaviour makes students more effective learners besides benefitting educators. Furthermore, it is a skill that features significantly in an individual's future survival and undertakings.

Limitations and Future Research

However, the generalisation of the study outcome is not truly possible due to the limited number of respondents as well as the exclusion of students from public

education institutions. Further research can be conducted to confirm and compare these results with the results of other principals working in different settings (i.e. secondary education, private education in Malaysia or other educational systems) which would provide a better understanding of time management behaviour and skill acquisition. Future studies can also explore other items under time wasters and varying time management approaches.

Implications

The findings of this paper support the theoretical implications proposed by Lakein that factors such as planning or goal setting, mechanism of time management (attitude) and preferences for organisation (time wasters) are associated with one another. Time management behaviours are not learnt overnight as proper habits and practices take time to develop. In addition, inculcating good time managers at the tertiary education level is a positive transferable skill to the workplace and adult life. Van der Meer et al. (2010) did express that universities underrate the importance of time management in connection to first-year students; thus, leading to student dropouts caused by the inability to manage time on their own. The findings of this research suggest the need for time management workshops and coaching-buddy or peer-buddy programmes conducted at the initial stages of undergraduate programmes to ensure positive time management behaviours and academic success.

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