Investigation of the correlation of time management on stress level in secondary school students (F.4 and F.5) during the COVID-19 pandemic in Hong Kong

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Declaration

I, Chan Ching Pok declare that this research report represents my own work under the supervision of investigation of the correlation of time management on stress level in secondary school students (F.4 and F.5) during the COVID-19 pandemic in Hong Kong and Dr. Wong Tai Choi, and that it has not been submitted previously for examination to any tertiary institution.

Signed

Chan Ching Pok

01/04/2023



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Abstract

Poor time management and high-stress levels impose adverse effects on many secondary students. Poor mental health would impair one's physiological health. Time management, stress, and academic performance are associated with significant correlations in several studies. The purpose of this study is to examine the relationship between these variables. To demonstrate the relationship between stress and the most reliable predictor, we used stepwise multiple regression. The results indicated that time management and academic performance are significant predictors of stress. Nonetheless, these three constructs were unrelated to gender. Several implications are discussed for secondary school students and practitioners.



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Chapter 1 Introduction

Background

In Hong Kong, many people strive to utilize their time effectively to achieve as many goal as possible. Excellent time management is vital for university students who often have crowded schedules by having activities and lessons. It is not only an efficacious approach for utilizing time but also helps to buffer stress (Misra & McKean, 2000). It also related to academic performance (Burt & Kemp, 1994).

Misuse of time can lead to stress. A study conducted in 2020, it examined the psychological state of secondary student in Hong Kong. Half of the participants suffered from varying levels of stress-induced anxiety, depression, and mental health problems because of high contagiousness of the virus, school closures and quarantine, etc (Leung & Mu, 2020). According to The Hong Kong Federation of Youth Groups report, 49 percent of students suffer from high-stress levels. Even though it was lower by four percentage points than last year in a similar survey, it is still higher than before the pandemic started (HKYG, 2021).

As there have been no studies published on the relationship between time management and perceived stress among Hong Kong secondary school students, it is essential to explore whether such a relationship exists and how predictive these relationships are. This can help practitioners and secondary school students prevent harmful effects resulting from poor time management and excessive stress. The results of this study could aid practitioners in designing and providing suitable intervention programs, such as how make a timetable. Additionally, secondary students need to realize this relationship and managing their use of time appropriately. Therefore, purpose of this study is examine the relationships above using correlation and multiple regression to



identify the correlation between time management, stress, and academic performance in Hong Kong secondary school students.

Problem statement

The above literature showed the student's stress levels and their activities when stressed. Nevertheless, the literature does not study the relationship between time management and high-stress levels. This study aims to determine the correlation between time management and stress more accurately and help students balance their time management and lifestyle during the COVID-19 pandemic. Otherwise, the high-stress level of the student cannot be alleviated.

This study mainly concentrated on what changes are brought about by time management behaviors since stress levels may associate with time management behaviors that may help students solve problems systemically. The expected result may reflect how students adapt to the 'New normal' that can show the effect of a new lifestyle and what can be promoted to help student lower their stress levels.

The findings of the study may be a reference for the education bureau, school, and social welfare organizations when designing the curriculum and learning and teaching plan that may help the secondary student to have better efficiency of time management and avoid their mental health issue.



Chapter 2 Literature Review

Time management

Time management is considered a vital skill for individuals in both personal and professional settings. Many scholars have defined time management as the ability to control and manage one's time effectively, resulting in increased productivity and efficiency. The importance of time management has been highlighted in various studies, particularly for students, as it can directly impact their academic performance. This literature review aims to provide an overview of existing research on time management, including its definition, models, and effects on academic performance.

The idea of time management was initially introduced in the 1950s and has since been defined by various scholars (Claessens, Van-Eerde, Rutte, & Roe, 2007). While there is no widely accepted definition, most agree that it involves altering behaviors that consume time, developing a daily plan, and engaging in self-reflection. McCay (1959) emphasized the importance of self-reflection and modifying time-consuming behaviors to enhance efficiency through the creation of a prioritized daily plan. Britton and Glynn (1989) developed a time management model that consisted of ternary levels: macro, intermediate, and micro. The macro level involved setting goals and prioritizing them, while the intermediate level focused on designing tasks from the goals and sub-goals. The micro level included planning and executing these tasks. To evaluate time management practices based on this model, they developed the Time Management Questionnaire (TMQ).

Macan (1994) developed a time management model that consisted of quadruple components: perceived control of time, setting goals and priorities, mechanics of time management, and preference for the organization. The Time Management Behavior scale (TMB) was developed to measure these components. This scale assesses



behaviors related to planning and scheduling time, goal setting, and organization preferences.

Huang and Zhan (2001) have interpreted time management as a personality characteristic that reflects an individual's utilization and control of their time. To measure this trait, they created the Time Management Disposition Inventory (TMDI), which comprises three dimensions: the sense of time value, the sense of time control, and the sense of time efficacy. The TMDI evaluates an individual's values, goals, planning, time allocation, and feedback to assess their time management disposition.

Multiple studies have demonstrated a positive relationship between time management and academic-related factors, such as college grades, academic performance, and study habits. Poor time management has been identified as a significant contributor to academic failure among students. Therefore, it is critical for students to cultivate effective time management skills to excel academically. In this study, it is hypothesized that students with higher scores in time management disposition will exhibit better study habits and, in turn, achieve better academic performance, as measured by their cumulative grade point average (cGPA).



Stress

College students often struggle with the twin challenges of time management and academic stress. Students confront difficulties that require them to adapt and adjust throughout their college years, leading to increased stress. Stress is commonly defined as pressure or intensity placed on a state of mental or emotional strain brought on by challenging circumstances (New Oxford American Dictionary, 2005, p. 251). However, Aldwin (2007) defines stress as a quality of experience resulting from a transaction between a person and their environment. It can lead to psychological or physiological suffering through overarousal or under-arousal (p. 24). Although the term "distress" typically has negative connotations, Selye (1950, as cited in Butcher, Hooley, & Mineka, 2004), who coined the term "stress" (Appley, 1967, p. 1), proposed that eustress) or distress both are the stress in our daily live. As proposed by Myers (2004), a more neutral definition of stress characterizes it as an individual feeling or reaction to stressful stressors that can be recognized as either threatening or challenging.

Psychological stress is characterized by negative emotions such as anger, anxiety, and sadness (Breznitz & Goldberger, 1993). The stress and coping theory developed by Lazarus and Folkman (1984) emphasize appraisal's critical role in mediating stressors and coping. Individuals appraise stressors as harm, menaces, or challenge and cope, thereby, explaining the differences in reactions to everyday stressors.

According to Lazarus (1999), stress is determined by an individual's appraisal of events, which can be either primary or secondary. Primary appraisal involves determining whether the event is harmful, threatening, or challenging, while the secondary appraisal is the decision-making process of evaluating coping options. Perceived stress arises when an individual perceives their resources are fewer than perceived demands and appraises the event as a threat rather than a challenge.



Stress has adverse effects on college students, such as reduced life satisfaction (Demakis & McAdams, 1994), poorer problem-solving abilities (Largo-Wight, Peterson, & Chen, 2005), lowered health, self-efficacy, and academic success (Zajacova, Lynch, & Espenshade, 2005). Perceived stress, which is subjective psychological distress, negatively correlates with these outcomes. In this study, participants perceived stress was measured using Lazarus's psychological stress concept, which pertains to how a person perceives or appraises their stressor. The Perceived Stress Scale (PSS) was employed to measure this construct.

Hypothesis

- To investigate the correlation of perceived stress with time management. It will be hypothesized that perceived stress level is negatively correlated with time management disposition.
- To investigate the correlation of time management with academic performance. It will be hypothesized that time management disposition is positively correlated with academic performance.
- To investigate the correlation of perceived stress with academic performance. It will be hypothesized that perceived stress level disposition is negatively correlated with academic performance.



Chapter 3 Methodology

Procedure

An informed consent form and ethical review application were obtained before the data collection by the EdUHK SES department. In addition to the collection of data, in order to protect the participants from social harm, the consent forms and the data collected were kept anonymous and confidential.

Data were collected by convenience sampling. Questionnaires were distributed through various instant message applications (e.g., WhatsApp & signal). Twenty-eight participants returned the completed questionnaires. The distribution and filling of the questionnaire was conducted from December 2022 to February 2023. Two sets of questionnaires were completed. Chinese versions of the Time Management Disposition Scale (Huang & Zhang, 2001) and the Perceived Stress Scale were provided to the participants in order to verify the understanding of those questions.

After data collection, the data were coded and entered into statistical software, the Statistical Package for the Social Sciences (SPSS) version 27. Data were analyzed using SPSS to perform association statistics, descriptive statistics, correlation, linear regression, and multiple regression. Additionally, 95% confidence intervals were used in all tests.

Participants

By convenience sampling, 30 full-time secondary students from different schools in Hong Kong experienced a whole school day and a half school day during the period of the COVID-19 pandemic involved in this study. 15 (53.6%) and 13 (46.4%) out of 28 were Forms. Four and Form. 5 students. The age range of participants is from 15 to 17 years old. Most of the participants were 17 years old (46.4%), 16 years old (28.6%),

and 15 years old (25%). The mean age was 16.21 (SD = 0.83) years old. 14 (50%) of them were female, and 14 (50%) of them were male, respectively. 6 (21.4%) and 7(25%) out of 28 participants achieved the average mark in the school of between 50 to 60 and 60 to 70, respectively. The mean of the average mark in school was 66.70 (SD = 10.77).

Academic Performance

Participants were asked to provide the mean of final academic results (average mark) during the half-school day. For average marks, participants were simply asked to provide their mean final academic results. The mean average mark in this study was 66.70 (SD = 10.77, range = 10.77).

Measures

Time Management Inventory (TMDI)

This study used the Time Management Disposition Inventory (TMDI) (Huang & Zhang, 2001). Huang & Zhang integrated three different time management scales (Time Management Scale, Time Management Behavior Scale, and Time Structure Scale) to assess time management into trilateral domains. First, Sense of Time Value included social-oriented and individual-oriented time value. Second, Sense of time control included planning, priority, time allocation, and feedback. Third, the Sense of Time Efficacy included feedback of the efficacy of time management behaviors.

TMDI had 44 questions on the scale, composed of the sense of time value sub-scale, the sense of time control sub-scale, and the sense of time efficacy sub-scale. Each sub-scale had 10, 24, and 10 questions, respectively. The scale is scored on a 5-Likert scale to assign 1 to 5 points from "strongly disagree" to "strongly agree". There were five reverse questions on questions 9, 17, 27, 30, and 41. Those items are reverse-scored, and all the items are summed to produce the final score—the higher scores indicate

higher levels of time management tendencies. The Cronbach's α value for TMDI was .61 to 85, and the T-test reliability was 0.71 to 0.81that mean the measure had medium to high reliability.

Perceived Stress Scale (PSS)

The Perceived Stress Scale (PSS) (Cohen et al., 1983) was widely used to assess stress. PSS consists of 10 items in which the frequency of the uncontrollable, unpredictable, and overloading feelings and thoughts related to events and situations was rated by the participants. The scale is scored on a 5 Likert scale that was used to assign 1 to 5 points from "never" to "very often." The reverse questions in items which are items 4, 5, 7, and 8, those items are reverse-scored, and then all the items are summed to produce the final score, with scores ranging from 1 to 50. A higher score indicates greater stress. The Cronbach alphas of 10-item PSS were 0.84 and 0.85. The internal consistency of PSS was 0.75 in the general population (American Psychiatric Association, 2000). It proved the higher validity and reliability of the PSS.



Chapter 4 Result

The present study adopted descriptive statistics, Pearson correlation, and regression to examine the correlation between time management, stress, and academic performance in secondary students in Hong Kong. Five parts were classified into the results section: the reliability tests, descriptive statistics, exploratory data analyses, data screening, and hypotheses testing of TMDI and PSS.

Reliability and Validity of Measurements

TMDI and PSS were shown to have high reliability and validity compared with the previous studies. The comparison of the past and this study's Cronbach's alpha for TMDI and PSS is shown in Table 1.

Table 1

The comparison of past and this study's Cronbach's alpha for TMDI and PSS

	α from the past study	α in this study
TMDI	0.62 and 0.81	0.88
Time value		0.84
Time control		0.86
Time efficacy		0.71
PSS	0.84 and 0.85	0.79

Note. α = Cronbach's Alpha. Time Value = the sense of time value; Time Control = the sense of time control; Time Efficacy = the sense of time efficacy

In this study, Cronbach's alpha for TMDI and PSS were 0.88 and 0.79, respectively, which indicates that the data have high reliability (Cohen, 1988). Also, each subconstructs of TMDI have higher reliability in Cronbach's alpha, which is the sense of time value, the sense of time control, and the sense of time efficacy were 0.84, 0.86,



and 0.71, respectively. The convergent validity of each sub-constructs was shown in the TMDI. That means when those questions of sub-constructs are correlated well with each other and are measured by the same sub-constructs, a high convergent validity can be obtained.

Descriptive Statistics

The descriptive statistics for TMDI and PSS are shown in Table 2. The measures of central tendency and variability were shown, which included means and medians for central tendency and range and standard deviations for the variability of all the variables in this study. The question composing each scale were summed. The overall TMDI and PSS score is a sum of all forty-four questions and ten questions. The means, mode, medians, range, and standard deviations of scores were computed for both scales and are shown in Table 2.

Table 2

The Descriptive Statistics for TMDI and PSS

	Mean	Mode	Medians	Range	SD
Overall TMDI	158.57	151.00	160.50	112-201	18.61
Time value	30.57	35.00	32.00	20-40	4.83
Time control	80.54	84.00	83.00	53-97	11.88
Time efficacy	37.32	38.00	38.00	30-50	4.15
PSS	29.43	26.00	29.00	18-47	6.18

Note. SD=Standard deviations; Time Value = the sense of time value (10 questions); Time Control = the sense of time control (24 questions); Time Efficiency = the sense of t

Time Control = the sense of time control (24 questions); Time Efficacy = the sense of time efficacy (10 questions).

The correlations between the variables were shown. First, the correlations between TMDI and PSS were performed in Table 3. However, the TMDI scale was developed into three sub-scales. The correlations between the three sub-scales and each scale were computed to show more detailed information about the time management behaviors and are reported in Table 3. The results showed that TMDI was significantly negatively correlated with perceived stress ($R^2 = 0.123$, p = 0.23) (Figure 1).

Table 3

Intercorrelations of the total scores and sub-scales of TMDI and PSS

	TMDI	Time Value	Time Control	Time Efficacy
PSS	-0.35	-0.21	-0.56**	-0.47*
TMDI		0.73**	0.92**	0.82**

Note. Time Value = the sense of time value; Time Control = the sense of time control; Time Efficacy = the sense of time efficacy.

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).



Figure 1





Table 4 depicts the Pearson correlations coefficient of demographics, TMDI, and PSS. There is no significant correlation found in the correlation between TMDI, PSS, and age. However, gender has a negatively correlated with perceived stress and the sense of time efficacy. Also, figure 2 and 3 show the correlation between TMDI and academic performance (Figure 2) and PSS and academic performance (Figure 3). In the sub-scale, a sense of time control and time efficacy is highly correlated to successful academic performance.



Table 4

	PSS	TMDI	Time Value	Time Control	Time Efficacy
Age	-0.09	-0.09	-0.09	-0.06	-0.02
Gender	0.12	0.02	0.08	0.02	0.15
Academic Performance	-0.34*	0.66**	0.19	0.80**	0.52**

Note. Time Value = the sense of time value; Time Control = the sense of time control; Time Efficacy = the sense of time efficacy.

Gender: 0= male; 1= female

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Figure 2

The Scatter Plot of average mark by TMDS





Figure 3

The Scatter Plot of PSS by average mark



Exploratory Data Analyses

In this section, we examined whether there are gender differences in academic achievement and the relationship between student age and grade. We considered this type of data as ordinal data in this study because participants were asked to rate their average grades. First, compare the gender gap in academic ability. Linear regression is used to process data, especially dependent variables that are not normally distributed (such as ordinal data) and samples are independent (Morgan, 2007). In contrast, the t-test only handles dependent variables classified as interval/scale data. As a result, there was no significant gender difference in academic performance (beta = 0.06), with mean grades of 67.43 and 65.96 for women and men, respectively.

Investigating the relationship between grade and school performance by Kendall's Taub correlation analysis. It is suitable for determining relationships between two or more ordinal data. The analysis revealed a significant negative association between grade and



academic performance, with higher grades leading to lower grade point averages (taub = -0.25, p = 0.13). Meanwhile, it was provided by the relationship between age and academic performance. The data showed that the older age had a lower average mark (tau-b = -0.19, p = 0.22).

Data Screening

Before conducting any inferential statistics, it is essential to perform data screening to address possible violations of multicollinearity and outliers in multiple regression analysis (Giles, 2002). This section outlines the procedures used to address these issues. Multicollinearity occurs when two predictors (X) are highly correlated (r = 0.90 or above), the same variance in the dependent variable (Y) was proposed. Hence, multicollinearity should be abstained. In this study, two predictors' correlations between TMDI and PSS were weak, with a correlation coefficient of only -0.35 (Table 3). Therefore, there was no issue of multicollinearity with the predictors.

Linear regression analysis is sensitive to outliers, so Cook's distance was used in this study to determine how much outliers influenced the analysis. A Cook's distance value of one or higher indicates a strong influence. The range and mean of Cook's distance were lower than one, 0 to 0.12, and 0.04, respectively, and a standard deviation of 0.06. These findings suggest that outliers had only a minor impact on the analysis. Additionally, case-wise diagnostics were used to identify specific cases that were outliers. Two cases, namely cases 20 and 28, had standardized residuals of 0.37 and 0.34, respectively, designating these cases were especially problematical for the multiple regression analysis test. Thus, these cases were removed from the analysis.



Hypotheses Testing

This study investigated the correlation between time management, perceived stress, and academic performance among secondary school students. This study found negative correlations between Time Management Disposition Inventory (TMDI) and the Perceived Stress Scale (PSS) ($R^2=0.123$, p=4.3) (Figure 1), indicating that hypothesis one was supported; higher scores on time management disposition were associated with lower levels of perceived stress. Regression analyses test were conducted to test hypotheses two and three. Hypothesis two was also supported by the results, indicating that time management disposition was a significant positive predictor of academic performance ($R^2=0.442$, p=7.6) (Figure 2). Higher scores on time management disposition were associated with better academic performance. The results supported hypothesis three, indicating that academic performance was a predictor of perceived stress ($R^2=0.117$, p=9.3) (Figure 3); better academic performance was associated with levels of perceived stress.



Chapter 5 Discussion

The results of this study supported hypotheses one to three as described in the literature review. Additionally, the elementary model of time management and perceived stress was supported by the findings. The study revealed that effective time management was the best correlates of academic performance. The study also found no significant correlation between gender and academic performance in exploratory testing.

During the exploratory data analysis, it was determined that gender did not have a significant difference in academic performance. Nevertheless, a significant relationship was discovered between the age or grade of the student to academic attainment, with older students having lower average marks than their younger counterparts, with Form. 4 and Form. 5 students having the average mark of 71.79 and 66.12, respectively. It may be due to the increased workload and difficulty of the study content. However, these two variables were not included in this study. Therefore, it is recommended that future studies include more different dimensions to measure the correlation between the grade of students and academic performance.

Hypotheses one

As predicted, hypothesis one was consistent with earlier research findings. Hypothesis one was supported by time management disposition's data was low and negatively associated with stress ($R^2=0.123$). From the correlation analysis between PSS and TMDI in table 3, the sense of time control was the highest correlation in PSS and TMDI. That indicated that individuals who effectively managed their time experienced less stress, while those who did not manage their time well experienced more stress. Even though the correlation between time management disposition and stress level is not so high, it is still logical to assume that individuals with good time management skills or disposition are more likely to engage in time-saving behaviors that reduce time



pressures. Since we need to consider the background of this study, the student was undergoing the virtual study mode or half school day, and the workload may be less than when the whole school day while the student had more own time during that background.

Macan et al. (1990) also provided that the strongest of the correlates was the perceived control of time in their study. The result showed a significant relationship between the practical measures of stress and performance measures to perceived control of time. The findings also consisted of stress research that the control of the situation was associated with low-stress levels. Even planning behaviors, for example, setting goals and priorities, can improve problem-solving ability. A significant factor impacting stress levels is the perceived control of time. Misra & McKean's study (2000) also showed a more significant correlation between stressors and reactions to stressors with planning behaviors that decreased the reactions to stressors and behavioral reactions and increased cognitive reactions simultaneously. A positive association between time management strategies and cognitive reactions to stressors was shown to indicate it improves students' problem-solving ability.

For example, students with good time management behaviors can arrange and prioritize their tasks, allowing them to complete them on time without crashing into other obligations. This efficient use of time can alleviate stress for students. The student with good time management skills may identify their most productive time of day and use that time to complete the most difficult tasks. This allows them to use their less productive time for relaxing activities, such as hanging out with friends or enjoying a nice dinner. By reflecting on their time use, individuals can recognize their "golden time" and arrange their tasks accordingly, which ultimately reduces their stress levels. The previous experimental research (Häfner et al., 2015) about the effect on stress levels by time management training also supported hypothesis one by the comparison of the stress level before and after the training. The study showed that the effect of time management training was much more substantial in students who are little or no experience only. The effect size was more than twice as strong in improving the perceived stress and perceived control of time for students. The training content was transferred into the daily work reported by the trainees. After the time management training, there was a positive impact on time management behaviors was reported. The variables of outcome were not a placebo effect but resulted in the time management training and related changes in time management behavior.

Hypotheses two

Based on this study, time management disposition and academic performance had a strong correlation ($R^2=0.442$). In other words, successful students are often good time managers. The result revealed that students exhibited high levels in the category of time control and time efficacy but lower levels in the category of time value (Table 4). It showed the better the students' time management behaviors, the greater their academic performance (Al Khatib, 2014). Numerous studies have demonstrated that self-regulated learning is a significant predictor of academic success. It is reasonable to assume that self-regulation in time management, which involves planning and effectively regulating study time, plays a crucial role in academic success. Studies conducted by Britton and Tesser (1991), Macan et al. (1990), and Morgan (1985) specifically address this question, and they indicate that time management skills are directly related to academic performance.

Past research has shown that both time management and conscientiousness predict students' academic achievement (Britton & Tesser, 1991; Macan et al., 1990; O'Connor

& Paunonen, 2007; Poropat, 2009; Trapmann et al., 2007; Trueman & Hartley, 1996). Studies have generally reported that time management has a positive impact on student learning outcomes (Claessens et al., 2007). This may be due to the student who is following time and planning to do their work on time. They may design a timetable and learn the daily portions on a particular day, and due to this habit of time management, the students can achieve well in their academic studies. It also can be supported by the time efficacy, which is the second high in the correlation with the TMDI. If the student has a high sense of time efficacy, that means the student considered the time had been used well by themselves. Actually, the sense of time control and the time efficacy had a high positive correlation in the TMDI. Therefore, it can be deduced that student not only plans their time but also execute their time planning, which was shown by the correlation between time control and time efficacy in TMDI. Therefore, it can be concluded that time management is a vital factor in academic success.

Hypotheses three

The results of the regression analyses supported that the integrated outcome of time management and academic performance is better in perceived stress than the separate effects of each factor. This was indicated by a more significant effect size (R^2) for the combined effect. These findings suggest that time management disposition and perceived stress level are the present sample's significant correlate of academic performance. Specifically, the results suggest that higher scores in time management disposition and lower levels of perceived stress are associated with better academic performance or vice versa. To further explain this phenomenon, disappointing time management disposition may lead to stress, which in turn results in poor academic performance. The irregular and inconsistent study schedules was found from student who has poor time management practices and habits, which have been shown in



previous studies to be a significant cause of poor academic performance (Pfeiffer, 2001). Furthermore, stress has a direct impact on academic performance (Hill & Wigfield, 1984). When both of these factors are combined, they can have a more substantial influence on academic performance. Britton and Tesser (1991) also reported that the ability to successfully and productively of students' time management is related to academic performance. In other words, the better students' academic performance, the less stress they experience concerning students' academic life.

According to the results of Pfeiffer's (2001) study, the majority of students who participated in the send-up examination passed despite experiencing stress. However, those who failed the examination exhibited a severe level of stress. Different studies have demonstrated varying impacts of stress on academic performance. Pfeiffer's study revealed that excessive stress negatively interfered with students' preparation, concentration, and performance, whereas positive stress can help students achieve peak performance. Also, the students were suggested by their seniors that in the following years of education, their stress levels were decreased, and they able to handle stress in an effective manner and improve their academic performance. Based on those studies, academic performance can be improved when stress is soothed. Thus, the inverse relationship was shown between academic performance and perceived stress in the study.



Limitations of the Present Study and Suggestions for Future Studies

This study had some limitations, and future studies can address these limitations. Firstly, more factors in different dimensions can be collected. This study only invited the secondary four and five students to participate, which limited the analysis since the rank of age was narrower. In future studies, researchers are recommended to extend the age or grade of participants for secondary one to six. Also, the proportion of time allocated in different activities can be collected to analyze the correlation between the proportion of time allocated in different activities and perceived stress. Thus, the study about this area can be more extensive, multi-institutional, and longitudinal.

Secondly, error variances were not considered in this study, and it cannot determine the extent to which error variances influenced the analyses. Structural equation modeling can be used to address this issue in future studies. Researchers can use the examining different model fit indexes to test the model with error variances and assess the model fit.

Thirdly, convenience sampling was used in this study, which is a non-probability sample. To improve sampling, stochastic sampling techniques should be used to ensure representativeness in future studies such as: B. Simple random, systematic, stratified multilevel sampling. However, most of these methods are slow to implement. Researchers can use stratified sampling and multilevel sampling, which are types of probabilistic sampling methods.

Finally, causality cannot be derived from this study. Future studies may design experiments or conduct longitudinal studies to clarify the causal relationship between time management accumulation and perceived stress.



Implications

Based on the findings of this study, practitioners of education and secondary students can advantage from the implications in this study. Practitioners of education, such as social-worker or education psychologists who can supply time and stress management project to help secondary students, especially secondary four to six, since secondary four students may not adopt the new study pacing of the DSE curriculum and secondary five and six may be facing a lot of workloads and the difficulty in their own study to cause stress. The purpose of these programs is educating secondary students on better time and stress management skills to prevent negative consequences and improve their academic performance. The results suggest that combining time management and academic performance better predicts perceived stress, so practitioners should work on both aspects in their programs. However, if time constraints do not allow for both programs, practitioners should prioritize time management which has a much larger effect size than academic performance.

For secondary students, the findings can help them improve their quality of life. They can recognize the connection between time management, stress, and academic performance and acquire skill in time and stress management effectively. Enhanced time and stress management skills can prevent negative consequences such as higher levels of stress, and poor academic performance. This can lead to physical and mental health and maintaining a healthier lifestyle.



Conclusion

The purpose of this study was to examine the relationship between time management, stress and academic performance. Results show that both time management and academic performance predict stress. Furthermore, the combined effects of time management and perceived stress were found to be better predictors of academic performance than their individual effects. was not associated with Finally, the impact on practitioners and secondary school students was discussed.



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Appendix 1

Copies of instruments

Time Management Disposition (TMD)

指引:

- 1. 除非特別註明,否則請用「O」圈出表示最恰當的選擇,並請回答所 有問題。
- 請盡量以快速、不假思索方式填答,亦即不要去思慮計算每一題分數 背後之意涵,以期確實反應您真實的狀況。

		完	不	中	符	完		
		全	符	立	습	全		
		不	合			符		
		符				合		
		合						
1.	我認爲「一串光陰一串金」這句話是正確的。	0	1	2	3	4		
2.	我通常把每天的活動安排成一個日程表。	0	1	2	3	4		
3.	「時間就是效益」這句話是正確的。	0	1	2	3	4		
4.	我每天都給自己指定一個學習目標。	0	1	2	3	4		
5.	無論做什麼事情,我首先要考慮的是時間因素。	0	1	2	3	4		
6.	我以爲將來比現在和過去更重要。	0	1	2	3	4		
7.	我總是把最重要的工作安排在活動效率最高的時間裡去做。(例如							
	我覺得早上的活動效率最高,我會把最重要的工作安排在這段時	0	1	2	3	4		
	間裡做。)							
8.	無論做什麼事情,我總是既有短期安排又有長期計劃。	0	1	2	3	4		
9.	目前我尚年輕,浪費一些時間無所謂。	0	1	2	3	4		
10.	在每週開始之前,我都制定了目標。	0	1	2	3	4		
11.	對每個人來說,時間就是一切。	0	1	2	3	4		
12.	在每個學期我都要制定自己的學習計劃。	0	1	2	3	4		
13.	我認為我在學習和課外活動上的時間分配是合理的。	0	1	2	3	4		
14.	我總是把大量的時間花在做重要的工作上。	0	1	2	3	4		
15.	在新年開始的時候,我通常都要制定這一年中自己的奮鬥目標。	0	1	2	3	4		
16.	我相信時間就是生命。	0	1	2	3	4		
17.	我課後複習功課的時間是由老師佈置的作業量來決定的。	0	1	2	3	4		
18.	我認爲時間是可以有效地加以管理的。	0	1	2	3	4		

<u>時間管理傾向 (TMD)</u>



19.	我通常把重要的任務安排在計劃表的重要位置上。	0	1	2	3	4
20.	我能夠有效地利用自己的時間。	0	1	2	3	4
21.	我經常根據實際情況對計劃進行調整。	0	1	2	3	4
22.	如果有幾件事要同時做,我經常要衡量它們的重要性來安排時間。	0	1	2	3	4
23.	我能夠很好地利用課堂上的學習時間。	0	1	2	3	4
24.	我對自己設定的目標充滿信心。	0	1	2	3	4
25.	我對每個星期要做的事情都有一個計劃安排。	0	1	2	3	4
26.	我經常對自己利用時間的情況進行總結。	0	1	2	3	4
27.	在處理好幾件事情的時候,我認為最好是每件事情都做一些。	0	1	2	3	4
28.	利用好時間對我具有重要的意義。	0	1	2	3	4
29.	我對自己浪費掉的時間深感懊悔。	0	1	2	3	4
30.	我確定的目標通常都難以實現。	0	1	2	3	4
31.	世上最寶貴的是時間。	0	1	2	3	4
32.	我的時間大部分都掌握在自己手中。	0	1	2	3	4
33.	我通常根據學習任務的重要性來安排學習的先後次序。	0	1	2	3	4
34.	只要是重要的工作,我一定要擠時間去做。	0	1	2	3	4
35.	我相信我的計劃安排通常是合理的。	0	1	2	3	4
36.	我認為我對事情重要性的順序安排是合理的。	0	1	2	3	4
37.	要做的事情很多,我卻能處理好這些事。	0	1	2	3	4
38.	我常常與同學交流合理利用時間的經驗。	0	1	2	3	4
39.	我認為時間就是力量。	0	1	2	3	4
40.	我通常都能按時完成老師佈置的作業。	0	1	2	3	4
41.	我常常對自己的工作在什麼時候完成沒有一個期限。	0	1	2	3	4
42.	我每天什麼時候學習,什麼時候玩都有一個清楚的想法。	0	1	2	3	4
43.	爲了提高時間利用效率,我經常學習有關如何有效利用時間的知	0	1	2	2	4
	識。	0	1	2	3	4
44.	我總是根據目標的完成情況來檢驗自己的計劃。	0	1	2	3	4



Perceived Stress Scale (PSS)

壓力感受量表 (PSS)

這份量表是在詢問在**最近一個月**來,您個人的感受和想法,請您於每一個題項上作答時,去指出您感受或想到某一特定想法的頻率。

請回	回想最近一個月來,發生下列各狀況的頻	從	偶	有	常	總
率。	5	不	爾	時	常	是
1.	一些無法預期的事情發生而感到心煩意亂	0	1	2	3	4
2.	感覺無法控制自己生活中重要的事情	0	1	2	3	4
3.	感到緊張不安和壓力	0	1	2	3	4
4.	對於有能力處理自己私人的問題感到很有	0	1	2	3	4
	信心	0	1	2	5	4
5.	感到事情順心如意	0	1	2	3	4
6.	發現自己無法處理所有自己必須做的事情	0	1	2	3	4
7.	有辦法控制生活中惱人的事情	0	1	2	3	4
8.	常覺得自己是駕馭事情的主人	0	1	2	3	4
9.	常生氣,因爲很多事情的發生是超出自己	0	1	2	2	4
	所能控制的	0	1	2	3	4
10.	常感到困難的事情堆積如山,而自己無法	0	1	2	2	4
	克服它們	0	1	2	3	4

