

Investigating the effects of anxiety and academic motivation

on time management of college students

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Abstract

The purpose of this study was to investigate the effects of anxiety and academic motivation on the time management of college students. A sample of 101 participants that comprising of male and female college students both full-time and part-time completed a self-report questionnaire. Students responded to measures including the Time Management Questionnaire, Motivated Strategies of Learning Questionnaire and the Anxiety subscale of the DASS-21. There was a significant positive correlation found between time management and academic motivation. Age of the participants was also seen to have a positive correlation with time management. No correlation was found between levels of anxiety and time management or between gender and time management.

Keywords: Time management, Academic motivation, Anxiety

Introduction

Time is seen as a valuable commodity, and most people endeavour to try and efficiently make use of their time in order to live a more fulfilled and productive life. If people use their time effectively, they are likely to achieve more success in their lives (Pehlivan, 2013). On the other hand, not engaging in efficient use of their time can have negative impact on their day to day lives making them feel overwhelmed and also their health.

While there are various amounts of research that looks at the individual variables of time management, academic motivation and anxiety that are being examined in this study, there are relatively very few studies that look at these variables in terms of how they relate to each other in various aspects of a college student's life. Some of these aspects are age, gender, and whether they are part time or full-time students. In a recent study by Ghiasvand, Naderi, Tafreshi, Ahmadi & Hosseini in 2017, they found that nursing students in Tehran showed a moderate level of time management skill, anxiety and academic motivation in nursing students.

Therefore, this current study will investigate the effect of anxiety and academic motivation has on the time management of college students. The relationships and effects between these variables will be assessed based on the participants scores on several self report questionnaires, the TMQ, (Britton & Tesser, 1991), please see appendix E. which measures several time management components, the MSLQ short version (Pintrich & De Groot, 1990) which is used to measure varying levels of motivation for learning, please see appendix F. The DASS-21, specifically the 7-item subscale for anxiety was used (Lovibond & Lovibond, 1995), please see appendix D for copy of DASS-21. Several demographic variables such as age gender and whether the student is a full time or part time student will be investigated.

The following sections will investigate the variables of Time management, Anxiety, and Academic Motivation in much more detail. The methodology of how the present study was conducted will be laid out, with the description of each of the measurement instruments provided, followed by a detailed presentation of the results achieved. These results will then be discussed in detail with the provision of the strengths and weaknesses of the present study, and whether there is support or contradicting evidence with regards to previous studies. Furthermore, if there are potential avenues for future research that stem from the results, these will also be provided.

Time Management

Time management is possibly the most valuable commodity in people's lives today as most other activities are dependent on the presence and availability of time (Ghiasvand, Naderi, Tafreshi, Ahmadi, Hosseini, 2017). Time management has been researched for a significant period of time. The issue of managing time has been investigated as far back as the 50's and 60's, which caused some researchers to propose ways to manage time more effectively, such as simple tasks as writing down to do lists (e.g. McCay, 1959, Drucker 1967, and Mackenzie 1972). McCay (1959) also went as far as to develop a concept for time management program that is currently still in use. It has been noted that the overall term of time management is misleading, therefore, in a review of time management, Claessens, van Wendelien, & Rutte Christel (2005) stated that time cannot be managed as it is an inaccessible factor, only the way it is dealt with can be influenced.

It is a skill that all students should have reasonable knowledge about and should also be able to apply it constructively during their studies. During their studies, college students find that what they learn during their lectures, they only receive a certain amount of

information related to the subject and therefore it is up to them to do more research outside of the class to perform well in their course. In conjunction with their studies there are numerous areas of a student's life that take up their time such as family commitments, social activities with their friends, work, furthermore they can be distracted from managing their time effectively due to spending time partaking in what they deem more preferential activities than that of academia. Campbell & Svenson (1992) found that effective time management strategies increase academic performance and has also been suggested to be used as an aid for students to improve their academic achievement. Furthermore, Macan (1994) discovered that by utilising time management effectively, it would have a positive effect on somatic tensions and other health problems. Macan (1994) says that by "by setting goals, scheduling, and organizing one's time, one gains a sense of mastery over how one allocates time, that is, the perception that one has control over time".

Time management comprises of several different behaviours in how students deal with their academic workload and extracurricular activities, such as planning their day to day activities. Having appropriate time management abilities has been shown to contribute to work effectiveness and academic success (Misra & McKean, 2000). In terms of defining time-management, Lakein (1973), suggested that time management involves the process of determining needs, setting goals to achieve these needs, prioritising and planning tasks required to achieve these goals. It has also been defined as a technique for effective time use, especially having enough time to accomplish the many tasks required (Orpen, 1994; Slaven & Totterdall, 1993). Lay & Schouwenburg (1993) define time management in terms of clusters of behaviour that are deemed to facilitate productivity and alleviate stress. According to Eilam and Aharon (2003) time management should be viewed as a way of monitoring and controlling time.

There are several reasons as to why individuals engage in time management practices in order to perform well in their everyday lives. A study by Bond and Feather (1988) that participants structure of time was positively related to a sense of purpose in life, self-esteem and negatively to neuroticism. In another study by Lay and Schouwenburg (1993), they found that participants who were high on procrastination were more likely to be behind schedule on aspects of the lives such as studying fewer hours for exams and scoring low on feeling in control of their time, setting goals, and they also used less time management techniques.

In relation to how an individual's stability of their time management behaviours can withstand varying levels of academic stress, Shahani, Weiner & Streit (1993), argued that time management is a personality trait and that a person's time management behaviours would remain unchanged under varying levels of stress.

Previous studies on time management have investigated it in relation to variables that are important aspects of an individual's life. For example, college grades (Britton & Tesser, 1991), estimated time duration (Burt & Kemp, 1994), strain (Jex & Elacqua, 1999), and health (Bond & Feather, 1988). Results from some of these studies showed that parts of time management behaviour were positively related to a perceived control of time, college grades, health, and negatively to strain and psychological distress. However, some of these studies achieved only modest or ambiguous results. In the study by Jex and Elacqua (1999) they found modest effects of time management behaviour on the mental health of employees. With regards to the area of motivation in relation to time management, Francis-Smythe and Robertson (1999) found that participants who believed they were more adept at time management produced better results in the context of planning, with an emphasis placed on motivation being the deciding factor.

Anxiety

Anxiety is a general feeling of worry or nervousness about something with an uncertain outcome. Poor use of time management would seem to cause anxiety levels in college students to rise the less time they have in completing an assignment or preparing for an upcoming exam. Evidence of this was found in a study on university students by Erdul (2005), where it was showed that there was a significant negative correlation between time management scores and continuous anxiety levels. Furthermore, Cohen (2004) found that students who perceived a subject as being difficult, would display higher levels of anxiety.

Most people have experienced symptoms of anxiety at some stage in their lives as it can be an essential aspect for survival. For instance, a college student may feel anxious when facing an important event, such as an exam. According to Brown (1991), students regularly ignore time management techniques which in turn puts them under increased distress. It can lead an individual to better performance or it can help a person act on their concerns. Students may feel general anxiety or anxiety in relation to other situations such as social anxiety, or public speaking. Signs of anxiety include: stress, panic, avoidance, irrational fears, fear of losing control, and problems sleeping and/or eating.

College students who lack in academic motivation, might be due to a negative degree of anxiety (Omidvar, Omidvar & Omidvar, 2013). It is important for students to do well in college and an important part of this depends on their ability to utilize time properly (Kaya, Kaya, Pallos & Kucuk, 2012). Students can suffer an increase in levels in anxiety from various sources such as the new environment of college surroundings, developing new relationships and difficult subjects. Research has shown that anxiety while undertaking various assignments and examinations is a major predictor of academic performance, (McCraty, 2007). It has been noted that college is an extremely stressful time for students,

and when that stress is negative or too much to handle, then it leads to anxiety and excessively affect their academic achievements (Kumari & Jain, 2014). Elevated levels of anxiety could also affect a students' concentration and memory, both of which are imperative for academic achievement. There are numerous psychological symptoms which a student could feel including, feeling nervous or panicky or helplessness, whereas physiological symptoms include sweaty palms and a racing heartbeat (Spielberger, 1983). Hancock (2001) suggests that students who exhibit a high level of anxiety display substantially less motivation in class than students who report with low levels of anxiety.

Academic Motivation

Motivation itself is an internal factor within human beings that drives them to attain a specific goal or goals. There is a view that motivation is a multifaceted dynamic phenomenon where “learners can be motivated in multiple ways” (McGrew, 2007). Linnenbrink & Pintrich (2002) state that in order to understand an individual’s motivation, there is a need to understand their regulation of motivation, thinking and behaviour that mediates the relationship between the person, context, and overall achievement.

In the area of education, motivation is one of the most important psychological concepts (Vallerand, Pelletier, Blais, Briere, Senecal & Vallieres, 1992). In a study by Ahmad and Rana (2012), they found that motivation influences college students’ performance. Academic motivation according to Pintrich and Zusho (2002) is “internal processes that instigate and sustain activities aimed at achieving specific academic goals”. It is further defined by Gresham (1988) as being “a subtype of the general construct of effective motivation, which is defined as the need to be successful or effective in dealing with one’s environment”. There is also evidence to suggest that academic motivation is influenced by anxiety levels in college students. Ryan and Deci (2000) asserted that motivated learners had enough energy to finish a certain task rather than leaving it uncompleted. Ghiasvand, Naderi, Tafreshi, Ahmadi & Hosseini (2017), found that anxious students had less motivation to continue their studies.

There are numerous studies stating that motivation is a key factor in performance and achievement (e.g. Clark & Schroth, 2010; Linnenbrink & Pintrich, 2002), and it also plays a key role in cognitive and metacognitive strategies that college students employ throughout

their learning (Liu, Wang, Koh & Chye, 2012). In a recent study, Öz (2015) explained that academic motivation provided learners with an inner desire to do learning tasks. He also added that academic motivation gave them the sense of personal autonomy. Motivation and the cognitive strategies can be broken down into several aspects for each college student dependent on the situation, and for the purposes of the current study the areas of self efficacy, intrinsic value, cognitive strategy use, and self-regulation have been reviewed.

With regards to college students, Pintrich, Smith, Garcia & McKeachie (1991) describe these aspects of motivation and cognition: If college students display an intrinsic goal orientation towards their academic work, it is seen as, their participation is enough for them to complete it. Self-efficacy is how an individual has self-judgements about their ability to accomplish a task. In relation to cognitive strategies, these make up how an individual regulates the planning and monitoring activities. Regulation of activities are assumed to improve a student's performance. According to Shia (1998), academic motivation comprises of intrinsic (individual's need to know, to accomplish and to experience stimulation) and extrinsic motivation (external forces influencing behaviour). According to Wentzel (1999), students who perceive their academic behaviour as connected to goals and objectives would tend to display increased positive motivational and academic outcomes than those who do not.

College students in pursuit of academic achievement, may find that managing their time efficiently might prove quite difficult with the workload put before them, in terms of relevant reading, studying, and completing assignments. Their social activities and the possibility of them having part-time employment or full-time employment, are other factors that may add to poor use of time management, possibly leading to heightened anxiety levels and may also negate any academic motivation they may have. Part-time college students are

more than likely individuals who are returning to third level education, motivated by various reasons such as, change of career or upskilling. A report by the Higher Education Authority (HEA) in 2015/16 found the number of people enrolling in part-time third level education was 37,249 (17% of total enrolments) and 85% of these enrollees were of the age of 25 or above. Since part-time students are usually above the age of 25 there is a high chance that some of them will be engaged in fulltime employment while studying part time and possibly running a household with children which can interfere and cause increased levels of anxiety therefore would need better time management skills and academic motivation.

While there is a large amount of literature that has been published on the effect of motivation on learning, most of it focused on elementary, middle and high school students (Komarraju & Karau, 2005). Furthermore, some studies over the past decade have indicated that academic motivation is a contributing factor of academic achievement (Green, Nelson, Martin, & Marsh, 2006; Linnenbrink & Pintrich, 2002).

It is generally understood that college students both full-time or part-time, encounter various experiences throughout their academic endeavours. There is the potential that some of these experiences could be considered as negative and could impact a student's level of anxiety. Developing appropriate time management and displaying a positive amount of academic motivation should in theory, help negate the rise in levels in anxiety. College students may use various coping strategies utilising motivation in various contexts, such as working towards extrinsic motivational rewards they set themselves which according to Kuhl (1984) would be contingent on the completion of an academic task. It is also suggested by Wolters (1998), that college students would set extrinsic motivational goals such as achieving good grades to maintain their levels of motivation. Students could also try to increase their

levels of intrinsic motivation for the various difficult tasks they might encounter during their academic pursuits by making them more interesting (Wolters, 1998b).

Most college students would likely have basic elements of time management before entering the third level of education and potentially even more so for those returning to college on a part time basis. The long arduous academic journey through college has many obstacles that college students will encounter and cause them to feel increased levels of anxiety that could affect their academic motivation.

Rationale

There are very few research papers that look at the impact of the psychological variables of time management, anxiety and academic motivation in relation to each other, therefore this study will look to add to previous empirical studies and increase the knowledge in the area of time management and what effect it has on anxiety and academic motivation, and for this reason the following research questions will be examined:

- 1: Is there a relationship between anxiety and time management and is it significant.
- 2: is there a significant difference between time management and gender among college students.
- 3: is there a significant difference between time management and age among college students,
- 4: is there a significant difference in academic motivation between full-time and part-time college students.
- 5: is there a significant relationship between time management and academic motivation.

Hypotheses

To add to the research in the area of time management, the objective of this study is to examine these variables in relation to each other and some demographic variables, therefore the following hypotheses were formulated:

Hypothesis 1: It is hypothesised that there will be a negative correlation between levels of anxiety and time management.

Hypothesis 2: It is hypothesised that there will be a significant difference between time management and gender among college students.

Hypothesis 3: It is hypothesised that there will be a significant difference between time management and age among college students.

Hypothesis 4: It is hypothesised that there will be a significant difference in academic motivation between full-time and part-time college students.

Hypothesis 5: It is hypothesised that there will be a significant positive correlation between levels of academic motivation and time management.

Method

Participants

In total 101 participants took part in this study. The participants were drawn from students who are attending college in either a full time (n = 59) or part time (n = 42) capacity. All participants were above the age of 18 in order to negate any ethical concerns due to their age. Of these participants there were 40.4 % (n = 40) male and 60.6% (n = 61) female. The age range for the male participants was 18 and the mean age was 30.95 (M = 30.95, S.D. = 11.52) and the age range for the female participants was 18 and the mean age was 28.02 (M = 28.02, S.D. = 10.43). The age range for the full-time students was 18 with the mean age of 22.78 (M = 22.78, S.D. = 4.03), the age range for the part time students was 18 with the mean age of 22.78 (M = 22.78, S.D. = 11.22). From the 101 college students who completed the survey, none were excluded due to missing data. Participation in this study was voluntary and there was no added incentive for its completion. Consent was gained via the completion and returning of the survey.

Design

The study is a cross sectional, quantitative correlational design using data gathered through participants that completed an online self report questionnaire which consisted of three self report measures, as well as demographic questions regarding age, gender and mode of study. A within groups design was used for H1, H3 and H5, whereas a between groups design was used for H2 and H4.

The first hypothesis looked at the relationship between anxiety (predictor variable) and time management (criterion variable). The second hypothesis looked at the differences between time management (criterion variable) and gender (predictor variable). The third hypothesis looked at the differences between time management (criterion variable) and age

(predictor variable). The fourth hypothesis looked at the differences between academic motivation (criterion variable) and mode of study (predictor variable). The fifth hypothesis looked at the relationship between academic motivation (predictor variable) and time management (criterion variable). To reconfirm, the predictor variables used in the current study were anxiety for H1, gender for H2, age for H3, mode of study for H4 and academic motivation for H5

Materials

The participants via Google forms were asked to complete a self-report questionnaire on some demographic factors and their mode of study. Within the questionnaire, there were items relating to psychological factors which were, academic motivation, anxiety, and time management. The following measures listed below were incorporated into the questionnaire. Please see appendix A for a copy of the information sheet, appendix B for a copy of the consent form, and appendix C for contact information of helpful services.

Time Management Questionnaire (Britton & Tesser, 1991)

The Time Management Questionnaire originally developed by Bruce K. Britton and Abraham Tesser. It was designed to measure the time management behaviour among college students. The scale initially contained 35 items, however after a factor analysis of the questionnaire, a shorter 18-item scale was constructed consisting of three subscales: a 7-item measure of Short Range Planning, a 6-item measure of Time Attitudes, and a 5-item measure of Long Range Planning. The 18-item scale was used for the purposes of this study. Each of the participants were directed to score their level of time management on a 5-point likert scale ranging in scores from 1 to 5. The response categories available for this scale were: Always, Frequently, Sometimes, Infrequently and Never. The response of 'Always' was scored as 1 for items 8,10,12 and 15 and scored as a 5 for all other items. The participants

would have to respond to such statements on the questionnaire such as “do you feel you are in charge of your own time” and “Do you continue unprofitable routines or activities”. Please appendix E for copy of questionnaire.

DASS-21 (Lovibond & Lovibond, 1995)

The DASS-21 scale is a shortened version of the original 42 item scale. This scale is designed to measure the negative emotional states of depression, anxiety and stress over the last week, and it contains three subscales that measure the above emotional states. For the purposes of this study, only the scores from the anxiety subscale will be considered. The anxiety subscale, which consists of 7 items, is intended to measure autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. Participants are directed to rate their levels of anxiety over the last week on a 4-point likert scale ranging in scores from 0 to 3, with 0 representing “Did not apply to me at all”, and 3 representing “Applied to me very much or most of the time”. They had to answer statements such as “I was aware of dryness in my mouth” and “I felt scared without any good reason”.

Scoring the DASS-21

Since the DASS-21 is a short version of the DASS (which consists of 42 items), the final score of the subscales need to be multiplied by two. The anxiety subscale was the only one used for this current study, therefore each of the participants had their total anxiety scores multiplied by two. It must be noted that the DASS-21 is not a diagnostic tool, however it can contribute to an overall diagnosis of anxiety or depression. Please see appendix D for copy of questionnaire.

Motivated Strategies for Learning Questionnaire (Pintrich & DeGroot, 1990)

The Motivated Strategies for Learning Questionnaire (MSLQ) is a self-report questionnaire designed to measure a college student’s motivational orientations and how they

use various learning strategies for a college course. It is based on a general cognitive view of motivation and learning strategies (Pintrich, 2003). There is a total of 81 items in the full version of the MSLQ broken into two categories: (1) a section on motivation and (2) a section on learning strategies (Pintrich, Smith, Garcia, & McKeachie, 1991). It is constructed with 15 different subscales that can be either used together or separately. For the purpose of this study, a shortened version of the MSLQ with 40 items was administered in the overall self report questionnaire. It was divided into four subscales which measured: (1) Self Efficacy, (2) Intrinsic Value, (3) Cognitive Strategy Use, and (4) Self-Regulation. The subscale of test anxiety consisting of four items was removed as the subscale for anxiety on the DASS-21 instrument was used to measure a participant's anxiety.

Scoring the MSLQ

Participants had to rate themselves on a seven-point Likert scale from “not true of me at all” at one end, to “very true of me” at the other end. To achieve a participant's total score, each subscale would be summed up and the mean would be taken as a participant's score. For example, the self-efficacy subscale consists of 9 items, therefore the 9 items would be summed up and the mean taken. Reverse coding was required for items 22,23,33, and 34 on the MSLQ used for the purposes of this study. On the original short version of the MSLQ, these reverse coded items are numbered as follows: 33,34,45, and 46. Please see appendix F for copy of questionnaire.

Procedure

The participants of this study completed the self report questionnaire online via a link to the survey on Google Docs. Participants were informed that the study was to investigate the effects of anxiety and academic motivation on time management of college students. They were informed of the right to withdraw at any time, and it ensured them of complete

anonymity and the secure storage of data. Participants were also made aware of the potential sensitivity of some of the questions, therefore the provision of contact details of some support services were available on the last page of the questionnaire. The details of both the researcher and supervisor were provided in case of any further questions. By completing the survey, participants confirmed that they consent to participate and were over the age of 18.

The following section consisted of the demographic questions required for this survey, such as age, gender, and whether the participants were full time or part time college students. As mentioned, please see appendix A for a copy of the full questionnaire, which also contains the information sheet and debrief sheet. Ethical guidelines as prescribed by the Psychological Society of Ireland and Dublin Business School were adhered to, when gaining informed consent and providing the right to withdraw.

Results

Descriptive Statistics

The sample used in the current study consisted of 101 participants, with there being significantly more females (n=61) than males (n=40). The results were analysed using the statistical program SPSS version 24. Descriptive statistics were taken to analyse the data of the psychological variables of Time management, Anxiety and Academic motivation. The results for each of these variables was achieved using a number of statistical tests.

A Pearson's R was run for hypothesis 1, to explore if there was a significant negative correlation between anxiety and time management, and hypothesis 5, to explore if there was a significant positive correlation between academic motivation and time management. For hypothesis 2 an independent t-test was run to explore if there was a significant difference in time management between males and females. For hypothesis 3, a paired samples t-test was run to explore whether there was a significant difference in time management and age of college students. Finally, for hypothesis 4, an independent t-test was run to explore whether there was a significant difference in academic motivation between full-time and part-time college students. Table 1 below displays the descriptive statistics for the psychological measures. See table 2 for descriptive statistics on age.

Table 1: *Descriptive Statistics for Psychological Measures*

Variable	Mean	Standard Deviation	α	N
Anxiety	15.58	9.90	.84	101
Time Management	54.69	9.32	.75	101
Academic Motivation	20.24	3.24	.94	101

Table 2 *Descriptive Statistics for Age*

Variable	Mean	Standard Deviation
Age Overall	29.18	10.92
Age Male	30.95	11.52
Age Female	28.02	10.43
Age Full-time students	22.78	4.03
Age Part-time students	38.17	11.23

Inferential Statistics

A Pearson correlation was carried out for hypothesis 1 to see if there was a negative correlation between anxiety and time management. It was found that there was no correlation between the levels of anxiety (M = 15.58, SD = 9.90) and time management (M = 54.69, SD = 9.32) ($r(101) = -.01, p < .001$). Therefore, the null can be rejected.

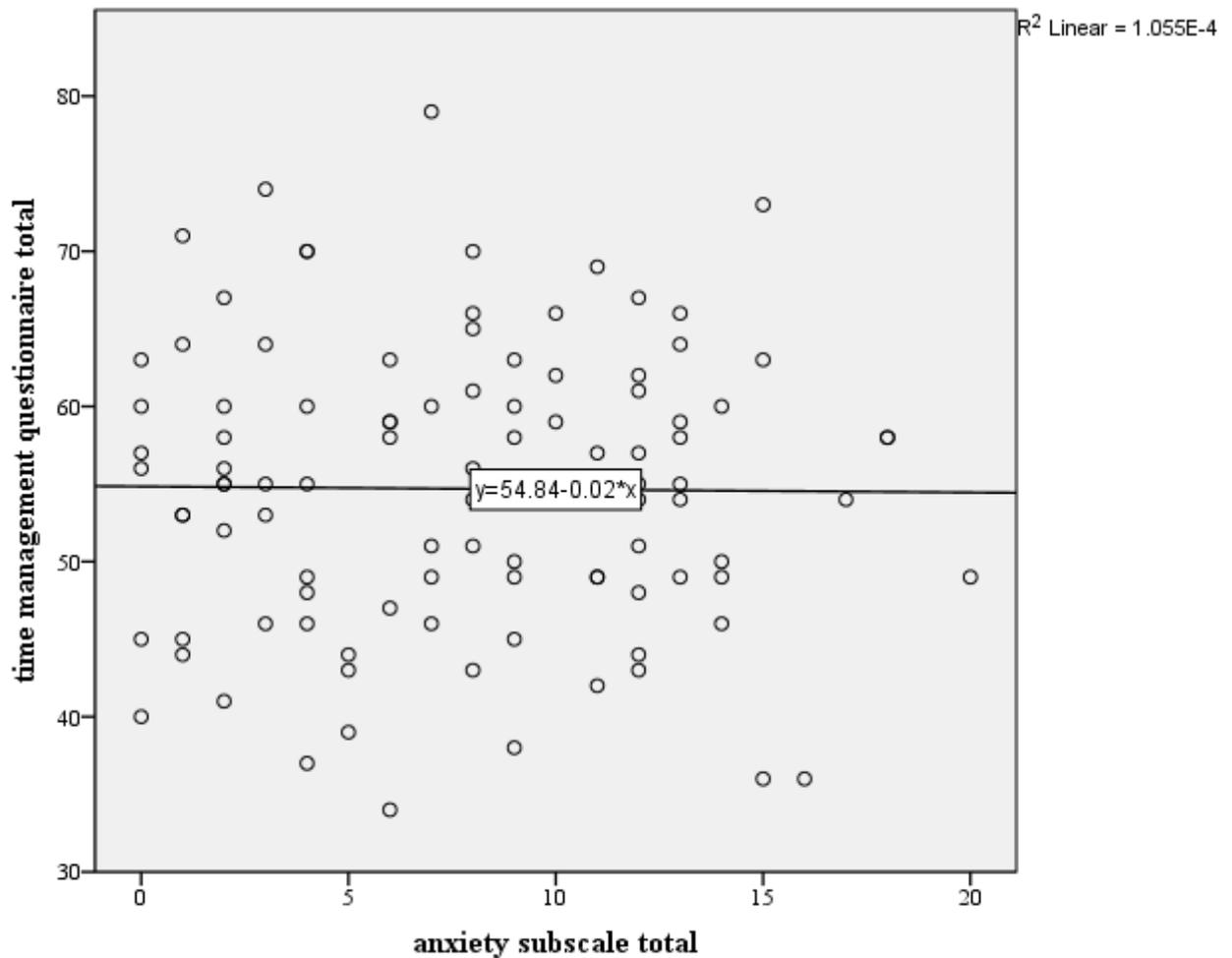


Figure 1. *Pearson r results displaying correlation between anxiety and time management.*

An Independent t-test was ran to investigate Hypothesis 2 which suggested that there would be a significant difference in time management between male and female college students. The Independent t-test found that there was no significant difference between time management of males ($M = 53.20$, $SD = 9.61$) and females ($M = 55.67$, $SD 9.08$) ($t (101) = -$

1.31, $p = .194$, CI (95%) -6.22 -> 1.3. Therefore, the null can be rejected. See figure 2.

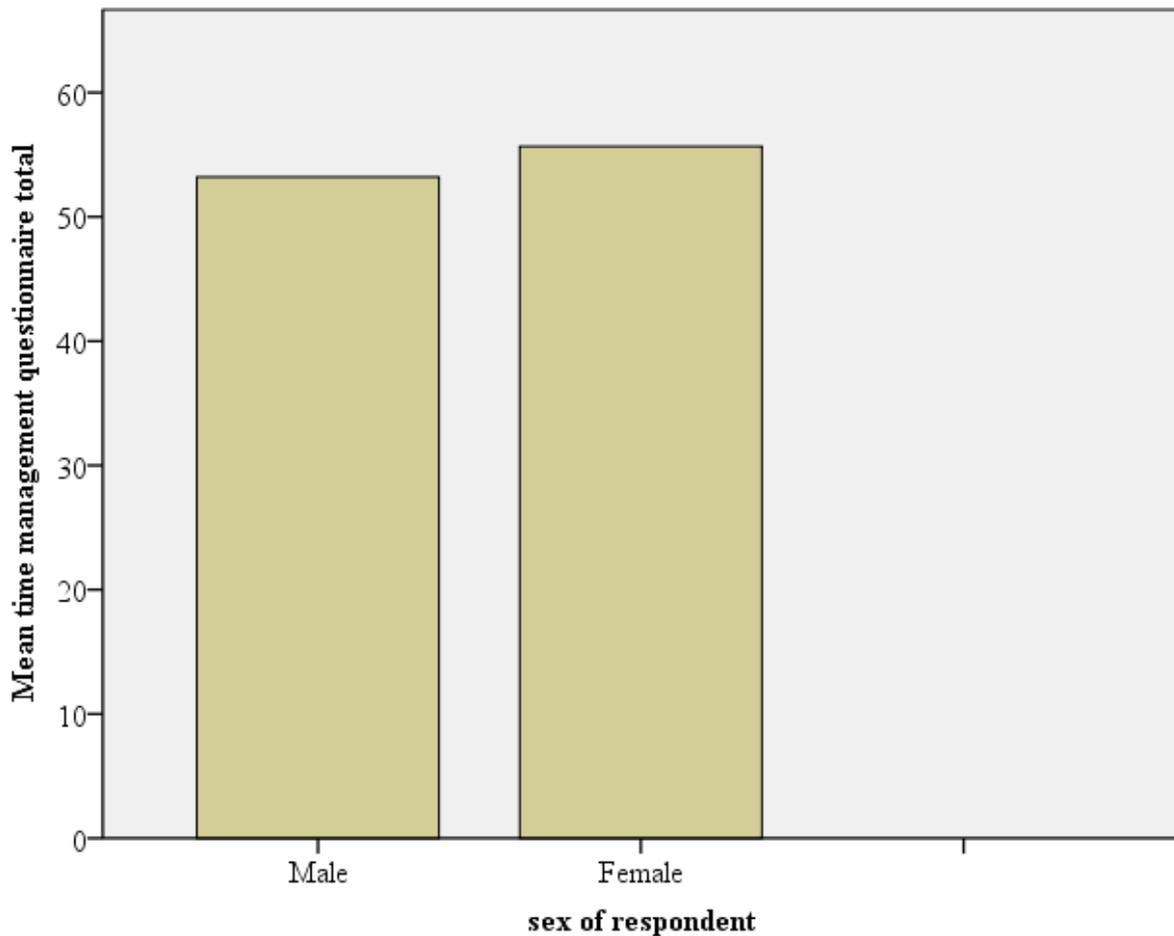


Figure 2. Bar Graph displaying differences in time management between male and female college students.

To investigate Hypothesis 3, a paired samples t-test was conducted to ascertain if there was a significant difference in time management and age of college students. It was found that there was a significant difference in time management ($M = 54.69$, $SD = 9.33$) and age ($M = 29.18$, $SD = 10.92$) in college students, $t(100) = 19.30$, $p < .001$. The mean increase in time management and age was 25.52 with 95% confidence interval ranging from 22.90 to 28.14. Therefore, the null cannot be rejected. See table 3.

Table 3 Paired samples t-test results examining differences in time management and age.

Variables	Mean	SD	t	df	P
Time management	54.69	9.33	19.30	100	.001
Age	29.18	10.92			

To investigate Hypothesis 4, an independent t-test was run to ascertain if there was a significant difference in academic motivation between full-time and part-time college students. The independent t-test found that there was no significant difference in academic motivation ($M = 19.44$, $SD = 3.53$) between full-time ($M = 19.86$, $SD = 3.15$) and part-time college students ($M = 20.80$, $SD = 3.32$); $t(99) = -1.47$, $p = .146$. The magnitude of the differences in the means (mean difference = -1.34 , 95% CI: -2.62 to $-.05$).

Table 4 Independent t-test table displaying differences in academic motivation between full-time and part-time college students.

Variable	Mean	SD	t	df	p
Academic motivation	20.24	3.24	-1.47	99	.146
Full-time	19.86	3.15	–	–	–
Part-time	20.80	3.32	–	–	–

For hypothesis 5, the relationship between academic motivation and time management was investigated using Pearson r . A preliminary analysis was run to ensure there was no violation of the assumptions of normality, linearity and homoscedasticity. There was a strong, positive correlation between academic motivation ($M = 20.24$, $SD = 3.24$) and time management ($M = 54.70$, $SD = 9.33$) ($r = .38$, $n = 101$, $p < .001$). Therefore, the null cannot be rejected.

Table 5 *Pearson's r table displaying relationship between academic motivation and time management*

Variables	Academic Motivation	Time Management
Academic Management	–	.34**
Time Management	.34**	–

** $p < .001$

Discussion

The aim of the current research study was to investigate the effect of time management had on the anxiety and academic motivation levels of college students. The demographic variables of age, gender and mode of study were also investigated in relation to the psychological variables previously mentioned.

The results of the first hypothesis showed that there was no correlation between the levels of anxiety and time management in the sample of college students. This suggests that the time management skills of college students have a resilient effect against rising levels of anxiety. This type of result also suggests some support for the findings in prior research by Shahani et al. (1993), in which they found that students' self-reported use of time-management behaviours relatively stable under varying levels of pressure during their academic pursuits. The results of this hypothesis provides support for the apparent buffering effect time management has against the negative affects the anxiety causes, as found by Misra & McKean (2000). One possibly as to why the current study supported the previous research mentioned, is the use of scales used to measure time management and anxiety as the achieved a Cronbach's alpha score of .84 and .75 respectively.

The second hypothesis investigated whether there was a significant difference in time management between males and females. The results showed that there was no significant differences. This result is contradictory to the findings of Trueman & Hartley (1996) in which they found that female students reported significantly greater time-management skills than male students. One reason for the lack of support for previous research, could be due to the sample size of the participants, or the possibility that since they participants were college students, they had developed a relative amount of time management skills during their academic pursuits.

The third hypothesis investigated whether there was a significant difference between time management and age of college students. The results showed that there was a significant difference. Evidence of these findings can be found in the study by Misra & McKean (2000), in which they reported that older students reported better time management behaviours than younger students. This is further supported in the previously mentioned study by Trueman & Hartley (1996) in which they reported that the older students (25 years and over) reported significantly better time-management skills than their other two sample groups of 21-25 years old and those aged 21 or less. The current study utilised a sample that consisted of a good range of ages, ranging from the age of 18 to 60, which proved adequate in showing the increasing development of time management skills over time.

The fourth hypothesis investigated whether there was a significant difference in academic motivation between full-time and part-time college students. The results showed that there was no significant difference. There is relatively little research to compare results to the one found regarding college students in the current study, however in a study by Gottfried, Fleming and Gottfried (2001) on middle school through to high school students, they found support for the increase in the stability of academic motivation as students aged. This might suggest that part-time students should have displayed a higher degree of academic motivation than what was found in the current study. A possibility for the contradicting results in the current study is the possibility that the students sampled were of a small population and that they already possessed a sufficient amount of motivation by the stage of completing the self-report questionnaire.

The fifth hypothesis investigated whether there was a positive correlation between academic motivation and time management of college students. The results showed that there was a strong positive correlation. This result supports those found by Ghiasvand et al. (2017),

which showed that academic motivation of students increases through the successful control and planning of activities within time. There is also very little research on the relationship between academic motivation and time management, however there is more support shown in a study by Yaghoobi, Mohagheghi and Mottaghian (2014) that shows positive effect of time management education on the increase of academic motivation.

Limitations with current study

Limitations of the current research must be recognised when analysing the results. This study was conducted to investigate the effect of time management on various psychological and demographic variables. The first limitation that this current study proposes is the reliance on self-report questionnaire used to gather the data from the participants, and the results are based on a relatively small sample size. The study was also constricted to using data from college students only and taken at a time when students were also under pressure to perform their own academic pursuits, therefore they may not have reported accurately on the questionnaire. The use of a self report questionnaires has been noted to be limitations when conducting research as answers from participants could be exaggerated or also there is the potential of bias by the participants feeling at the time of completing the questionnaire. The exclusion of some the measures from the DASS-21, such as the sub scales of depression and stress. The inclusion of these scales may have revealed varying relationships with college students time management and academic motivation then already found with just the subscale of anxiety.

The low sample size used for the purposes of this study is another limitation and it might reflect the reason for the lack of correlation found in some of the hypotheses investigated, namely H2 and H4 as they were contradictory to findings from previous research. Since this study was conducted by just using a snapshot of a college students' time

during the academic year, may not accurately reflect some of the levels of the psychological variables measured, therefore it may be of interest to conduct a longitudinal study using the same variables, to see if support can be found for the hypotheses in the current and previous research. Participation in this study was taken by more females than of males which might affect results. An example of why gender may have impacted results can be seen in the study by Misra and McKean (2000) where they reported that females displayed higher levels of anxiety than males. This however, is non consistent with findings in the current study when levels of anxiety measured against time management reported similar levels of anxiety in males and females. A study conducted in the United States conducted by McLean, Asnaani, Litz & Hoffman (2012) showed that women displayed higher rates for the anxiety disorders investigated and that women were more likely to be diagnosed with another anxiety disorder in conjunction with an already diagnosed disorder. These results suggest that anxiety is indeed more prevalent in women than in men.

Strengths of the current study

The main strength of the current study can be seen in some of the results it produced and that it adds to the limited research in the area of the psychological variables investigated. It was found that prominent levels of time management skills corresponded positively with academic motivation in the student sample measured. This result could have implications in the area of education, in that, if the provision of teaching time management skills is introduced into the curriculum of students, there is a high probability of them having increased levels of motivation during their academic pursuits.

Future research

There is plenty of scope for future research on the psychological variables investigated in the current study. The addition of other variables such as ethnicity, socio economic status and other environmental variable, might result in strengthening the results found. By employing a longitudinal study to assess these psychological variables, might result in a more indicative understanding of how college students utilise their time management skills, academic motivation, and how they cope with and protect themselves against the negative effects of anxiety. Further research, specifically in the area of time management, could investigate its potential in educating students to develop better time management skills in order to navigate the various obstacles associated with academia and throughout their lives. Therefore, teachers and lecturers alike should encourage students to partake in time management programmes to help increase academic performance. This understanding of the importance of time management and academia, college students might begin to learn how to manage their time and be able to cope with their anxiety. It might also be of interest to replicate this study on a larger college population size or that of the general population. More emphasis in future research could be placed on how people plan and prioritise their course work while contending with their other daily routines.

By conducting a qualitative research study, it could elicit more detailed information on how college students put time management skills into practice. One such type of qualitative study that might be employed is that of a diary study, where students would mark down how they plan and prioritise their daily activities and also how they deal with unexpected situations. This study format is advantageous in that it is information on time spent is recorded at the time it occurs (Pentland, Harvey, Lawton & McColl, 1999; Conway & Briner, 2002).

Conclusion

The aim of this study was to explore the possible relationships and differences between time management and the psychological variables of anxiety and academic motivation, and the demographic variables of age, gender and mode of study. This study gave a more of an insight into the area of time management in relationship with anxiety and academic motivation of college students. The results achieved an important understanding of the positive impact of time management has on academic motivation and also the resilient effect time management has on the negative effects of anxiety. It was also shown that time management does increase with age. Overall this study underlines the importance time management plays in college students' academic pursuits and in its ability to be relatively useful coping strategy against anxiety. Results therefore should indicate the necessity for students to recognise the importance of each of these variables so they can develop an improved method of managing their time whilst dealing with other daily activities.

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Appendices

Appendix A: *Copy of Information Sheet*

My name is William O' Reilly and I am conducting research in the Department of Psychology that explores the relationship between college students' time management, anxiety and academic motivation. This research is being conducted as part of my studies and will be submitted for examination and presentation.

You are invited to take part in this study and participation involves completing and returning the attached anonymous survey. While the survey asks some questions that might cause some minor negative feelings, it has been used widely in research. If any of the questions do raise difficult feelings for you, contact information for support services are included on the final page.

Participation is completely voluntary and so you are not obliged to take part.

Participation is anonymous and confidential. Thus, responses cannot be attributed to any one participant. For this reason, it will not be possible to withdraw from participation after the questionnaire has been collected.

The questionnaires will be securely stored on a password protected computer.

Thank you for taking the time to complete this survey.

Appendix B: *Copy of consent form:*

It is important that you understand that by completing and submitting the questionnaire that you are consenting to participate in the study.

Should you require any further information about the research, please contact

William O' Reilly, xxxxxxx@mydbs.ie. My supervisor can be contacted at

xxxxxxxx@dbs.ie

Appendix C: *Contact information for helpful services*

Thank you for taking the time to participate in this study. If any issues emerged as a result of completing this questionnaire, below are contact details of support groups which can help.

AWARE: 01 661 7211

The Samaritans: 116123

Appendix D: Copy of DASS21

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

- 0 Did not apply to me at all
- 1 Applied to me to some degree, or some of the time
- 2 Applied to me to a considerable degree, or a good part of time
- 3 Applied to me very much, or most of the time

1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (e.g., in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3

Lovibond, S.H. & Lovibond, P.F. (1995). *Manual for the Depression Anxiety Stress*

Scales. (2nd. Ed.) Sydney: Psychology Foundation

Appendix E: *Copy of Time Management Questionnaire*

Britton and Tesser Time Management Questionnaire (1991):

5 = Always, 4 = Frequently, 3 = Sometimes, 2 = Infrequently, 1 = Never

Short-Range Planning

Do you make a list of things you have to do each day?

1 2 3 4 5

Do you make a schedule of the activities you have to do on work days?

1 2 3 4 5

Do you plan your day before you start it?

1 2 3 4 5

Do you write a set of goals for yourself each day?

1 2 3 4 5

Do you have a clear idea of what you want to accomplish during the next week?

1 2 3 4 5

Do you spend each day planning?

1 2 3 4 5

Do you set honour priorities?

1 2 3 4 5

Time Attitudes

Do you continue unprofitable routines or activities?

1 2 3 4 5

Do you believe that there is room for improvement in the way you manage your time?

1 2 3 4 5

Do you often find yourself doing things which interfere with your coursework simply because you hate to say “NO” to people?

1 2 3 4 5

Do you feel you are in charge of your own time?

1 2 3 4 5

On an average day do you spend more time with personal grooming than doing coursework?

1 2 3 4 5

Do you make constructive use of your time?

1 2 3 4 5

Long-Range Planning

The night before a major assignment is due, are you usually still working on it?

1 2 3 4 5

Do you have a set of goals for the entire day?

1 2 3 4 5

Do you usually keep your desk clear of everything other than what you are currently working on?

1 2 3 4 5

When you have several things to do, do you think it is best to do a little bit of work on each one?

1 2 3 4 5

Do you regularly review your course notes, even when a test is not imminent?

1 2 3 4 5

Appendix F: *Copy of Motivated Strategies for Learning Questionnaire*

Motivated Strategies for Learning Questionnaire* Please rate the following items based on your behaviour in this class.

Your rating should be on a 7- point scale where 1= not at all true of me to 7=very true of me.

1. I prefer class work that is challenging so I can learn new things.
2. Compared with other students in this class I expect to do well
3. I am so nervous during a test that I cannot remember facts I have learned
4. It is important for me to learn what is being taught in this class
5. I like what I am learning in this class
6. I'm certain I can understand the ideas taught in this course
7. I think I will be able to use what I learn in this class in other classes
8. I expect to do very well in this class
9. Compared with others in this class, I think I'm a good student
10. I often choose paper topics I will learn something from even if they require more work
11. I am sure I can do an excellent job on the problems and tasks assigned for this class
12. I have an uneasy, upset feeling when I take a test
13. I think I will receive a good grade in this class
14. Even when I do poorly on a test I try to learn from my mistakes
15. I think that what I am learning in this class is useful for me to know
16. My study skills are excellent compared with others in this class
17. I think that what we are learning in this class is interesting

18. Compared with other students in this class I think I know a great deal about the subject
19. I know that I will be able to learn the material for this class
20. I worry a great deal about tests
21. Understanding this subject is important to me
22. When I take a test I think about how poorly I am doing
23. When I study for a test, I try to put together the information from class and from the book
24. When I do homework, I try to remember what the teacher said in class, so I can answer the questions correctly
25. I ask myself questions to make sure I know the material I have been studying
26. It is hard for me to decide what the main ideas are in what I read
27. When work is hard I either give up or study only the easy parts
28. When I study I put important ideas into my own words
29. I always try to understand what the teacher is saying even if it doesn't make sense.
30. When I study for a test I try to remember as many facts as I can
31. When studying, I copy my notes over to help me remember material
32. I work on practice exercises and answer end of chapter questions even when I don't have to
33. Even when study materials are dull and uninteresting, I keep working until I finish
34. When I study for a test I practice saying the important facts over and over to myself
35. Before I begin studying I think about the things I will need to do to learn
36. I use what I have learned from old homework assignments and the textbook to do new assignments
37. I often find that I have been reading for class but don't know what it is all about.

38. I find that when the teacher is talking I think of other things and don't really listen to what is being said
39. When I am studying a topic, I try to make everything fit together
40. When I'm reading I stop once in a while and go over what I have read
41. When I read materials for this class, I say the words over and over to myself to help me remember
42. I outline the chapters in my book to help me study
43. I work hard to get a good grade even when I don't like a class
44. When reading I try to connect the things I am reading about with what I already know.

*Pintrich, R. R., & DeGroot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance, *Journal of Educational Psychology*, 82, 33-40.