

Students' time management skills during the first year of studies and the support services of higher education institutions

Andriana Ioannidi¹
University of Patras

Abstract

During the transition from secondary education to university, students experience difficulties, as their lives undergo various changes. These difficulties contribute to a major problem in higher education, the early dropout of studies. One of these difficulties is related to the inability of first-year students to manage their academic time. This literature review focus on first-year students time management skills, and the role of support services of higher education institutions. At first, what constitutes time management and what it generally includes is analyzed. Then, the importance of time management skills for organizing students' study and balancing their academic and personal needs is described. Furthermore, the existing literature focusing on first-year students is quoted. These studies reveal that time management skills are important for first-year students as in university there are different demands on students' time use compared to secondary education. Those skills positively affect academic performance and reduce transition stress. Moreover, they can be taught to students and in this setting, the role of the support services of higher education institutions is crucial.

Keywords

Time management, first-year students, support services, higher education.

¹ PhD candidate, Dprt of Educational Sciences and Social Work, pn4919@ac.upatras.gr

Introduction

A large percentage of students who enter higher education² will never complete their studies and many drop out in their first year of study (Kehm, Larsen & Sommersel, 2019; Mujica et al., 2019; Mostert & Pienaar, 2020). Thus, the transition from secondary to higher education can be difficult as students, at the same time, are trying to adjust to many academic and social changes (Reed & Jones, 2021). More precisely, the transition from secondary to higher education is a demanding process, since during this period, incoming students face an important set of challenges, such as entering in an unfamiliar social environment, performing well in the university community, learning and following new regulations and obligations, adapting time management strategies, separating from friends and family and taking part in decisions concerning their professional future (Wasylikiw, 2016; Trautwein & Bosse, 2016; Kyndt et al., 2018). Many freshmen³ struggle with managing their academic time, and this weakness is one of the reasons for dropping out of studies in the first year (Gibney et al., 2010). More specifically, most students at the beginning of their studies are called to manage their study time and workload for the first time, which is a challenge for them considering the intricacy and different needs of each course. As a result, this challenge can even lead some students to drop out of their studies (Tabuenca, Greller & Verpoorten, 2022). Incoming students are characterized by lack of time management skills, which makes it necessary to develop interventions regarding those skills (Trentepohl et al., 2022). Institutional support and academic help are essential during the transition from secondary to higher education (White, 2007). However, many institutions are lacking proper student support as far as time management is concerned (Adams & Blair, 2019). Therefore, it is important to investigate how students can be supported regarding time management (Hüvös, 2023).

The purpose of this research is twofold. The first is to highlight the importance of time management skills for first-year students. To achieve this goal, the challenges faced by first-year students regarding time management during their transition from secondary to higher education are first highlighted. and the changes it entails. It also mentions the critical role of effective time management as a self-regulatory process in ensuring

² In this study, all the surveys refer only to universities and colleges.

³ This term refers to first-year students and comes from the 16^o century England and 17^o century USA (Upcraft & Gardner, 1989 as reported in Stamelos, in press).

academic success. On the other hand, the purpose is to synthesize the known evidence for the effects of support services of higher education institutions in the development of these skills in first-year students, highlighting the relevant policies that have been developed regarding the development of support services that will help students manage time more effectively them, and the research that has been developed on the effectiveness of these services. Therefore, the research questions of the study are formulated as follows. 1. what is the importance of effective time management for freshmen? 2. Do the support services of higher education institutions contribute to the development of first-year students' time management skills?

The academic time management importance, justify the significance of the chosen topic. Proper time management is important for both individuals and organizations (Kader & Eissa, 2015) as it contributes to success in various situations of human life (Shehzad & Farah, 2021). The demands of modern society make it necessary to use time management strategies from a very young age. From elementary education, students need to organize their study time, set goals, priorities and avoid procrastination (Nasrullah & Khan, 2015). Time management is critical for higher education students as they are responsible for organizing and balancing personal and academic life (Kitsantas, Winsler & Huie, 2008). Students who have not developed self-directed study behavioral skills find it difficult to adapt to universities that require autonomy (Hensley et al., 2015). Research conducted by Plant et al. (2005) investigated the effect of time spent studying on student's academic performance. They found that total study time only arises as an essential effector of cumulative grade point average (CGPA) when studying quality is taken into consideration such as proper time planning and the environment where individuals choose to study. Consequently, proper time management could lead to more efficient studying effort and thus greater achievement potential. Boothe (2023), characterizes time management and study strategies as the "broccoli" of education. This is because, although students recognize that proper use of time and learning strategies can affect their academic performance, they are reluctant to use new strategies as they find it difficult to apply them. Just like broccoli. Although people are aware of its health benefits, they do not seem to consume enough of it. In general, time management has a positive influence on student learning achievements (Claessens et al., 2007).

Finally, this research becomes important, as it is believed that in the future, it will contribute to the development of those support mechanisms on the part of universities and especially Greek universities that will help students overcome the problem of time

management during the first year of their studies, a fact that can contribute to the completion of their studies and avoid dropping out.

1. Methodology

The literature review was performed through the research engines of, Google Scholar, Scopus, Eric Database and DOAJ. Information was also sought on the website of the European Higher Education Area, in order to locate articles in the context of the Bologna Process for the development of policies for the support services of higher education institutions, not included within the former databases.

The keywords used were:

1. “Time management” or “time management skills” or “support services” or “support services on time management skills”

AND

2. “First year students” or “freshmen” or “incoming students” or “new students”

AND

3. “Higher education” or “universities” or “colleges”

The first and second search strings focused on the subject of interest; the third string specified the educational level, as this research only focuses on universities or colleges.

A publication date restriction has not been imposed, thus the search covered articles until 2023. According to the inclusion and exclusion criteria applied, included were the studies in which either only first-year students participated, or the largest proportion of participating students were first-year students. Moreover, studies with students from senior years were also allowed, but had to contain information specific to first-year students. Also, only surveys in English language were included. Finally, the sources were international review articles, empirical studies and theoretical papers. On the contrary, studies including sophomore students and above were excluded. Also, dissertations, conference papers and editorials, have been excluded.

2. Synthesis and Analysis

In this review, 28 studies were included and analyzed. The entire texts were read thoroughly, focusing particularly on the results/findings and discussion sections. Initially,

an analysis of the content of the studies was carried out, from which it emerged that out of all the studies, 10 referred to the importance of time management for first-year students and 4 pointed out that first-year students face challenges when it comes to managing their time. In addition, 18 studies examined the importance and extent to which time management interventions are effective. Six more surveys reported how these interventions should be implemented to be more effective and finally, 1 is the research that sheds light on the management of the study style and the relationship with the demographic characteristics of the students. Based on the content analysis of all studies, all the studies were categorized thematically in the following subsections. All relevant studies are depicted in Table 1. However, before proceeding to the analysis of these subsections it is necessary to define what time management is.

2.1 Time management definition

According to Kelly (2002), time management includes setting goals, scheduling what to do based on priorities, evaluating and sticking to the schedule, and breaking down tasks into simpler parts. Claessens et al. (2007) define time management as «*achieving an effective use of time while performing certain goal-directed activities*». In this definition, the aim is not to manage time itself for the sake of time but rather to achieve a goal via effective time manipulation strategies (p.262). A comprehensive, interdisciplinary review found that time management is often defined by: (a) time analysis, (b) planning, (c) goal setting, (d) prioritizing, (e) scheduling, (f) organizing, and (g) establishing new and improved time habits (Hellsten, 2012). According to Aeon and Aguinis (2017), time management «*is a form of decision making used by individuals to structure, protect, and adapt their time to changing conditions*». In the face of challenging requirements, academic time management is the specialty responsible for helping students mapping out their work and allocating their time to each project efficiently (Shehzad & Farah, 2021). Academic time management can be viewed as a process by which students control when, where, and how long they will study (Wolters, Won & Hussain, 2017). This means that time management is a self-regulatory process and can contribute to better learning outcomes and achieving academic goals (Wolters & Brady, 2020). This is also agreed by Hensley et al. (2018), according to whom, students need to have mastered a set of different behaviors and self-regulation skills in order to manage time effectively. More

specifically, self-regulated learning is the cognitive, emotional, and behavioral process learners adopt during their studies (Panadero, 2017).

According to definitions of time management, it seems that there is no agreement on a common definition. More specifically, some definitions present time management as a set of techniques followed. In fact, these techniques are not common to all definitions. Over time, definitions emphasized the role played by the individual in effective time management, as time management can only be effective if the individual himself knows what his goal is, what he needs to do, and what is the deadline needed to complete the goal. It could be argued that no precise universally accepted time management techniques exist, but they vary according to individual goals and needs of each person.

2.2 Time management challenges for the first-year student

Incoming students during the beginning of their studies, face challenges regarding time management and self-study (Meer, Jansen & Torenbeek, 2010). Higher education has different demands on students' time use compared to secondary education and although the university schedule is more flexible, academic requirements are greater. Thus, students are called to adapt to these changes which is a challenging (Thibodeaux et al., 2016; Wolters & Brady, 2020; Reed & Jones, 2021). The study of Tabuenca et al. (2022), referred to changes in the way students study from secondary to higher education. Students in secondary education were guided by their parents or teachers or other adults in relation to how to organize their study time. However, students in university need to be autonomous, arrange their own study time and balance their personal, social and academic obligations. The research concludes that first-year students cannot manage this sudden change and have not developed time management skills. Another study by Meer et al. (2010), conducted in two different countries, confirms that first-year students struggle with time and its management and self-study. They found that many students were aware about the need to manage their time self- sufficiently and devote a part of their time on self-study. Despite that, many students did not know how to properly organize their study time and faced difficulties in self-regulated learning. Students in this study mentioned that they knew more work was necessary, but that awareness did not lead to plans for handling the increased load. Indeed, first-year students have incorrect perceptions of both the skills needed for the organization of their study and the amount of time outside of the classroom that are necessary to be a successful student. The survey

outlines that there is a huge gap between students' expectations of how much time was required for academic studies and what was the actual time commitment needed. At the end of their first semester, students expect to study more during their second semester than they did in their first semester, at a large deviation of more than 10 hours a week (Reed & Jones, 2021). A survey of 589 freshmen regarding their time use, found that during the first semester, students spent more time socializing or work commitments and less time on academic demands. Academic time use was associated to higher self-regulated learning and target grade achievement in the first and second semester. Students who deviated from their first-semester target, lowered their second-semester target GPA instead of planning to dedicate more time in studying. On the other hand, students exceeding their target first-semester grades, planned to emphasize more in their social connections in their second semester (Thibodeaux et al., 2016). Regarding demographic characteristics and time management of college freshmen, females reported significantly better time management skills than males. So did older students (over 25 years old), relative to younger students (Trueman & Hartley, 1996). These results contradict more recent research according to which time management behaviors were not significantly different across gender, age, entry qualification, and time already spent in the program (Adams, & Blair, 2019).

2.3 The importance of time management during the first year of studies

The effective management of their time can contribute to the reduction of these challenges and, by extension, to the retention of students in their studies (Trentepohl et al., 2022). Generally, research focusing on college freshmen has shown that time management skills are crucial for academic success (McCarthy & Kuh, 2006) and is one of the factors that may influence student's academic performance in university (Hensley et al., 2018; West & Sadoski, 2011; Masre et al., 2020; Jansen & Suhre, 2010). Hollowell, Brandon & Grillo (2013), through students' study log data concluded that students who scored higher in a course, spent less time studying than those who scored lower. This is because students with higher scores had more techniques than those with lower scores. In another study, where ninety freshmen and sophomore undergraduates volunteered for course credit to complete a set of questionnaires, showcased an encouraging relationship between time-management attitudes and skills and grade point average (Britton & Tesser, 2001). In addition, Huie, Winsler & Kitsantas (2014), studied first year working students, and the relationship between their working hours and their grade point average (GPA). Working

students who were able to maintain a high GPA had stronger time management and effort regulation skills compared to working students who received lower grades (Huie et al., 2014). In one notable study, Kitsantas et al. (2008) examined university first-year students' self-reported time and study management and revealed that time management was a strong predictor of academic success during the following semester and two years later that. Indeed, students who did not continue to second year of studies, had less time management skills than those who remained in college. Furthermore, it was shown that students characterized by conscientiousness, use time management and effort regulation strategies. By using these learning strategies, conscientiousness positively influences academic performance (Waldeyer et al., 2022). In addition to the positive impact that proper time management has on academic performance and success, it also entails the reduction of academic stress. More specifically, Krumrei-Mancuso et al. (2013), examined the role of psychosocial factors for college success among 579 first-year college students. Results show that time management was a factor predictive of college students' life satisfaction. Also, practice of time management skills appears to be decreasing academic stress (Jansen & Suhre, 2010).

2.4 Support services and time management

In recognition that the transition from secondary to higher education and the first weeks or months during the first year of studies, is a distinct period for students, many universities have integrated support services that contribute to a smoother transition for students (Meer et al., 2010). Universities and colleges in the USA and Australia have been known to conduct this type of programs (Barefoot, 2000; Wright et al., 2017). In the case of Europe, in the context of the social dimension of the European Higher Education Area (EHEA), institutional development of support services for students like student counseling, financial support services, mental health services and services for students with disabilities are promoted. However, in the case of Greece, it seems that these services are not sufficiently developed. In a survey carried out in a department of a Greek university, it was found that a significant percentage of students needed support during their studies, with greater intensity referring to educational support, which they did not receive from the university (Evaggelakou, 2019). The three most common measures to help first-year students adapt to the new learning environment in higher education institutions are *introductory* or *induction* courses (usually taking place at the beginning of the academic year), *tutoring* or *mentoring* programs (by fellow students or academic

stuff) and *support* provided to students to *acquire learning and/or organization skills* (through specific courses or individual support) (European Commission/EACEA/Eurydice, 2015). According to the 2015 Bologna Process implementation report, only about half of the EHEA countries have developed policies and practices specifically focused on supporting first-year students. In the case of Greece, almost no support services concerning incoming students exist (Stamelos, in press).

Considering the importance of proper time planning in academic performance, higher education institutions support services often aim to develop these skills (Truschel & Reedy, 2009) and help students understand and improve these strategies (Hensley et al., 2018). Many studies indicate that universities should play an active role in helping students learn time management skills (Thibodeaux et al., 2016; Meer et al., 2010; Kelly, Cucculo, & Clinton-Lisell, 2022), as time management consists of habits and practices that can be learned from people who do not perform these behaviors (MacCann, Fogarty & Roberts, 2012). Also, it is important for students to take part in activities that help them with time management, especially for those who have difficulty with proper time allocation (Adams & Blair, 2019). The interventions concerning the development of students' time management skills focus on goal setting, scheduling, prioritizing tasks (e.g., making to-do lists), self-monitoring, problem-solving techniques, delegating, and negotiating, as well as conflict resolution (Morisano et al., 2010) and preferences regarding organization (e.g., preference for a well-organized rather than disorganized workday) (Claessens et al., 2007).

As found from the literature review, Greek universities, in contrast to other countries, have not developed interventions for the development of time management skills in first-year students. More specifically, not only in American universities (Kelly, 2002) but also in European countries such as Germany (Hafner et al., 2013), programs aiming at constructing time management skills have been developed. Such programs can be seminars in addition to the course program such as the brief OTMP (organizing, time management, and planning) (Stevens, 2018) and short-term (2 hour) time management training programs administered to university freshmen at the beginning of the semester. Students received training in scheduling and prioritizing, goal setting and monitoring, and mental simulation as a method of goal achievement. Concerning priorities, for example, the students were instructed to note down all tasks they want to work on the next day on a sheet of paper and to prioritize these different tasks: (1) high priority, (2) medium priority, (3) moderate priority. (Hafner et al. (2013). There are also interventions

integrated into existing courses, as for example instructor-implemented time management interventions in undergraduate psychology courses (Kelly, 2002).

2.5 Effectiveness of support services

Universities need to construct freshman transition courses, as part of intervention strategies, in order to help with students' academic adjustment and success. That being said, these courses must be evaluated to check their efficiency and application so that students can more easily reach their goals (Cambridge-Williams, Winsler, Kitsantas & Bernard, 2013). In case of time management interventions, many studies confirm their effectiveness. The perceived study skills preparation concerning time management and learning skills does have a positive impact on college students' first-year study behavior and academic achievement (Jansen & Suhre, 2010). Ismail, Putri & Noviyanti (2022), aimed to evaluate the effect the use of the pomodoro technique (25 minutes of work followed by a 5-minute break period) would have on students' academic motivation, engagement and time management. This technique was adapted to a lesson held via Zoom. The results showed that this technique positively affected students' motivation and engagement and that students could manage their time better. Therefore, this technique is beneficial as students can use it to organize their study time, but also for use by teaching staff. Moreover, first-year students participated in a short two-hour training session on time management strategies such as goal setting and tracking, prioritizing tasks, and goal implementation strategies. After the end of the course, it was observed that the students who completed this short training had a reduced level of stress and were able to manage their time better, compared to the control group (Häfner et al., 2014). Teaching time management strategies has also been shown to be effective in research conducted on first-year students with disabilities. These students developed academic self-efficacy beliefs and had improved their study time management skills after attending the intervention course (Kader & Eissa, 2015). In addition, a comparison was made between 2 time management interventions conducted on undergraduate students, of which 54.9% were freshmen. The first intervention aimed at teaching the usefulness of time management but also how to apply planning strategies and goal setting. In the second intervention the students were only taught goal planning. After the end of both interventions, the students had developed time management skills, a fact that shows the need to apply such interventions to freshmen (Kelly et al., 2022). Furthermore, an organization, time management, and planning (OTMP) skills intervention was implemented at freshmen

with high risk of dropout. Students who belonged in the intervention group performed significantly better than controls regarding impairment measurements and lack of attention. These findings were considered significant, pinpointing that OTMP training, as part of intervention strategies, can improve academic adjustment of high-risk students (Stevens et al., 2018). Masre et al. (2020), investigated the role of motivation camp program concerning time management of incoming students. The purpose of motivational camp is to increase students' interest for studies and to get students acquainted with new skills required by the university, such as time management and socialization skills, that can help students overcome the transition challenges. The results of this study show that there was no significant difference in time planning, between the students who attending the camp and those who did not. But there was a significant difference between those two groups with regards to time attitude.

2.6 When and how to apply time management training

Many researchers have studied when and how time management interventions need to be implemented in order to be most effective. In the research of Trentepohl et al. (2022), first-year students who had not developed time management strategies were divided into three groups. The first group comprised of students who were taught time management strategies, whereas the second group practiced time management knowledge, and the third was the control group. Both intervention groups showed improvement in time management skills, but the practice group had better results. So, it is not enough to just learn time management strategies, but it is important to practice this knowledge so that the students can optimize and consolidate those strategies. The importance of practice is also mentioned by Hvs (2023). More specifically, it is stated that a lesson that will teach students how to learn is important. This lesson will include time management among other things. This course needs to combine teaching information on time management strategies as well as best practices such as ways to avoid procrastination. This information should also aim to reduce the stigma of time management struggles (Hvs, 2023). At the same time, integrating time management assessment and material into existing courses is helpful as freshmen can thereby understand the importance of time management and how to apply relevant strategies. Instead, positioning it as a separate topic or section is not efficient. Also, the provision of an educational manual or book, where the student needs to study independently to improve time management skills, is

considered ineffective. It is therefore useful to integrate time management training into the curriculum (Lincoln, Adamson & Covic, 2004).

The most appropriate timepoint for training in time management strategies is very early in secondary education before the students even arrive at university. In this way students experience the transition more smoothly and familiarize themselves with the university's requirements more easily (Kitsantas et al., 2008). Another view is that time management is best taught in the middle of the first semester. This is because, at the beginning of the semester, students have not been confronted with the real demands of the university in relation to time management, since relatively little is asked of them at the beginning. So, students feel they have the right skills to succeed, and the relevant training is not necessary. Even at the end of the semester it would have negative consequences for students who have difficulties in time management, resulting in valuable time being wasted. In the middle of the semester, students face time management difficulties and can probably have a better understanding of their importance (Reed & Jones, 2021). Finally, Lincoln et al. (2004), argue that students in the first semester cannot understand the importance of their education in time management and more generally the need to be self-directed in their way of studying. This is because a time management course is not compatible with their current academic needs, since the first semester is usually not that demanding for first-year students. In that case, students run the risk of not appreciating such a course, underestimating it and let the chance of learning time management skills slide. Therefore, time management training should be done after the first semester.

2.7 Gaps, Limitations and Future Directions

While time management is a crucial subject affecting first year student success, it is rarely stated explicitly and never included in European educational policies. Policymakers and researchers need to study this multidimensional issue more, so that greater attention can be paid to the smoother transition of new students. However, even though nearly all study manuals included in this review recommend that the interventions from higher education institution have a central role in developing students' time management skills, there is actually very little research as to when is the right time for those interventions to take place.

Secondly, the research focuses on the role of the university and the support services it provides to students. However, the lack of time management skills may be due

to the lack of guidance and information from secondary education about the requirements of the university, therefore this aspect could also be explored.

Moreover, from the first days of study, university academic personnel, need to make clear to students what their obligations are and what the required workload is. That is how they can be transformed into autonomous university students.

Even secondary education may participate by organizing seminars for students finishing school and before entering higher education. These seminars will teach students how to be successful and self-regulated so that they can meet the various requirements of the university, including time management.

In summary, the university needs to provide introductory courses, as well as courses integrated into the curriculum, that will teach students time management skills. These courses can be attended by both teaching staff and older students or PhD students. Also, it would be useful for universities, upon arrival of students, to test time management skills (for example through questionnaires), so as to identify students who have problems in this area and need support. Finally, it would be useful to have a study mentor, who will act as an advisor at the beginning of the studies and discuss the educational needs of first-year students, with great emphasis on difficulties they face in managing their time and organizing their studies.

3. Conclusions

The aim of this research was to investigate the importance of time management skills of first-year students and the role of support services of higher education institutions regarding the development of these skills. This review concludes that time management skills are crucial at the beginning of the studies and universities can play a central role. Specifically, proper time management from the beginning of studies is critical as it can contribute to students' academic success (McCarthy & Kuh, 2006; Kitsantas et al., 2008) and to increasing academic performance (Hensley et al., 2018; West & Sadoski, 2011; Masre et al., 2020; Hollowell et al., 2013; Britton & Tesser, 2001; Huie et al., 2014). It also, promotes the reduction of anxiety experienced by students during the transition and the feeling of satisfaction in life (Krumrei-Mancuso et al., 2013; Jansen & Suhre, 2010). In university, students are required to be more autonomous, and self-manage their way of studying, in relation to secondary education and they need to adapt to this change (Thibodeaux et al., 2016; Wolters & Brady, 2020; Tabuenca et al., 2022). First-year

students struggle with time management and organizing their study as they are not properly prepared (Meer et al., 2010) when they arrive at higher education with incorrect expectations about how to manage their time in order to be a successful university student (Reed & Jones, 2021).

Moreover, this research highlights the critical role of support services of higher education institutions in the development of time management skills in first-year students and the effectiveness of these interventions. Time management consists of habits and practices that can be taught to students (Kader & Eissa, 2015; Masre et al., 2020; Kelly et al., 2022; Ismail et al., 2022). These interventions focus on goal setting, planning, and task prioritization (Morisano et al., 2010). It is emphasized that practical application of the strategies taught to students (Hüvös, 2023; Trentepohl et al., 2022) and the integration of time management training into the curriculum (Lincoln et al., 2004) are important. Regarding the exact timepoint in which time management interventions must occur for maximum efficacy, the opinions of the researchers vary. Some propose that time management application must take place before students arrive at university (because they need to be prepared) (Kitsantas et al., 2008) and others support that it can happen in the middle of the first semester (Reed & Jones, 2021) or even after the first semester (Lincoln et al., 2004).

Finally, it is important to mention some limitations. For the needs of this particular research, this review focused only on first-year students, and in a few studies, older students also participated. However, time management is a problem that students face from the beginning until the end of their studies. That being said, time management skills are considered essential for academic success and more studies need to be conducted, especially focusing on first-year students. Also, European educational policies could be established with the inclusion of time management in their repertoire.

Acknowledgments

The research work was supported by the Hellenic Foundation for Research and Innovation (HFRI) under the 4th Call for HFRI PhD Fellowships (Fellowship Number:9170).



Table 1: Summary of selective research on the relationship of time management and first-year students

First-year students time management literature			Topics on which studies of first-year students time management focus				
	Authors	Participants	Importance of academic time management	First-year students face time management difficulties	Importance and effectiveness of time management interventions	Application of time management interventions	Time management and demographic characteristics
1.	Hüvös, 2023	Literature review			✓	✓	
2.	Trentepohl et al., 2022	118 first-semester university students	✓		✓	✓	
3.	Kelly et al., 2022	142 students-78 freshmen (54.9%)			✓		
4.	Ismail et al., 2022	53 freshmen students			✓		
5.	Waldeyer et al., 2022	461 first-year students			✓		
6.	Tabuenca et al., 2022	348 freshmen students	✓	✓	✓		
7.	Wolters & Brady, 2020	Literature review	✓				
8.	Reed & Jones, 2021	395 first-year students			✓	✓	
9.	Masre et al., 2020	32 first year student			✓		
10.	Uzir et al., 2019	241 first-year students	✓				
11.	Stevens et al., 2018	66 first-year students			✓		
12.	Hensley et al., 2018	414 students, 34% first-year, 31% second-year, 19% third year, 17% fourth year	✓		✓		
13.	Thibodeaux et al., 2016	589 first-year college students		✓	✓		
14.	Kader & Eissa, 2015	60 first-year students with learning disabilities			✓		

15.	Häfner et al., 2014	177 freshmen			✓		
16.	Huie et al., 2014	834 first-year college students	✓				
17.	Cambridge-Williams et al., 2013	590 first-year students			✓		
18.	Hollowell et al., 2013	54 students total, 47 first year	✓				
19.	Krumrei-Mancuso et al., 2013	579 first-year college students	✓				
20.	West & Sadoski, 2011	106 students in the first semester			✓		
21.	Meer, Jansen & Torenbeek, 2010	1905 first-year students		✓	✓		
22.	Jansen & Suhre, 2010	245 first-year students				✓	
23.	Morisano et al., 2010	85 students ranged in age from 18 to 23 years			✓		
24.	Gibney et al., 2010	1,227 first-year students		✓			
25.	Kitsantas, et al., 2008	N = 243, 99% freshmen students, 1% technically sophomores	✓			✓	
26.	Lincoln et al., 2004	478 first-year students in their first semester			✓	✓	
27.	Britton & Tesser, 2001	90 freshmen and sophomore undergraduate	✓				
28.	Trueman & Hartley, 1996	193 first-year students					✓

References

- Adams, R. V., & Blair, E. (2019). Impact of Time Management Behaviors on Undergraduate Engineering Students' Performance. *SAGE Open*, 9(1). <https://doi.org/10.1177/2158244018824506>
- Aeon, B., & Aguinis, H. (2017). It's about time: new perspectives and insights on time management. *Academy of Management Perspectives*, 31, 309–330.
- Barefoot, B. (2000). The first-year experience: Are we making it any better? *About Campus*, 5(1), 12–18.
- Boothe C. M. (2023). Study Strategies and Time Management: The Broccoli of Academics. *The University of Mississippi Medical Center ProQuest Dissertations Publishing*.
- Britton, B. K., & Tesser, A. (2001). Effects of time management practices on college grades. *Journal of Educational Psychology*, 83, 405-410.
- Cambridge-Williams, T., Winsler, A., Kitsantas, A., & Bernard, E. (2013). University 100 orientation courses and living-learning communities boost academic retention and graduation via enhanced self-efficacy and self-regulated learning. *Journal of College Student Retention: Research, Theory & Practice*, 15, 243-268.
- Claessens, B. J. C., van Eerde, W., Rutte, C. G., & Roe, R. A. (2007). A review of the time management literature. *Personnel Review*, 36, 255–276.
- Jansen E.P.W.A & Suhre C.J.M. (2010). The effect of secondary school study skills preparation on first-year university achievement. *Educational Studies*, 36(5), 569-580. DOI: 10.1080/03055691003729070
- Evaggelakou, P. (2019). Οι ανάγκες των φοιτητριών/φοιτητών των παιδαγωγικών τμημάτων για στήριξη εκπαιδευτική, ψυχολογική και επαγγελματικού προσανατολισμού: η περίπτωση του Π.Τ.Δ.Ε. του Πανεπιστημίου Πατρών. *Academia*, 14, 39-69.
- European Commission/EACEA/Eurydice, 2015. The European Higher Education Area in 2015: Bologna Process Implementation Report. *Luxembourg: Publications Office of the European Union*
- Gibney, A., Moore, N., Murphy, F., & O'Sullivan, S. (2010). The first semester of university life; “will I be able to manage it at all?” *Higher Education*, 62(3), 351-366. doi:10.1007/s10734-010-9392-9
- Häfner, A., Stock, A., Pinneker, L., & Ströhle, S. (2014). Stress prevention through a time management training intervention: An experimental study. *Educational Psychology*, 34, 403–416. doi:10.1080/01443410.2013.785065
- Hellsten M. L.A (2012). What Do We Know About Time Management? A Review of the Literature and a Psychometric Critique of Instruments Assessing Time Management. *Time Management*. doi:10.5772/37248
- Hensley L. C., Wolters C. A., Won S. & Brady. A. C. (2018). Academic Probation, Time Management, and Time Use in a College Success Course. *Journal of College Reading and Learning*, 48(2), 105-123. DOI: 10.1080/10790195.2017.1411214

- Hensley L., Shaulskiy, S., Zircher, A., & Sanders, M. (2015). Overcoming Barriers to Engaging in College Academics. *Journal of Student Affairs Research and Practice*, 52(2), 176–189. doi:10.1080/19496591.2015.1020246
- Hollowell, G. P., Brandon, D. T., & Grillo, W. H. (2013). Student achievement in an introductory biology course: assessing grade motivation and study log metacognition. *Atlas Journal of Science Education*, 2(2), 84-90.
- Huie, F. C., Winsler, A., & Kitsantas, A. (2014). Employment and first-year college achievement: the role of selfregulation and motivation. *Journal of Education and Work*, 27, 110–135.
- Hüvös, A. (2023). Teaching Students How to Learn. In *Educational Utopias: Liber Amicorum Alkeline van Lenning*. Open Press TiU. <https://doi.org/10.26116/7af3-n693>
- Ismail, N. M., Putri, Z., & Noviyanti, A. (2022). Pomodoro Technique Analysis in Zoom-Based Classrooms. *JEELS (Journal of English Education and Linguistics Studies)*, 9(1), 75–96. <https://doi.org/10.30762/jeels.v9i1.4298>
- Kader, F.A., & Eissa, M.A. (2015). The Effectiveness of Time Management Strategies Instruction on Students' Academic Time Management and Academic Self Efficacy. *Int. J.Psycho-Educational Sci*, 4(1), 44–50.
- Kehm, B. M., Larsen, M. R., & Sommersel, H. B. (2019). Student dropout from universities in Europe: A review of empirical literature. *Hungarian Educational Research Journal*, 9(2), 147–164. <https://doi.org/10.1556/063.9.2019.1.18>
- Kelly A. E., Cuccolo K., Clinton-Lisell V. (2022). Using Instructor-Implemented Interventions to Improve College-Student Time Management. *Journal of the Scholarship of Teaching and Learning*, 22(3), 89-104. doi:10.14434/josotl.v22i3.32378
- Kelly, W. E. (2002). No time to worry: the relationship between worry, time structure, and time management. *Personality and Individual Differences*, 35, 1119-1126.
- Kitsantas, A., Winsler, A., & Huie, F. (2008). Self-regulation and ability predictors of academic success during college: a predictive validity study. *Journal of Advanced Academics*, 20, 42–68.
- Krumrei-Mancuso, E. J., Newton, F. B., Kim, E., & Wilcox, D. (2013). Psychosocial factors predicting first-year college student success. *Journal of College Student Development*, 54, 247–266.
- Kyndt, E., Donche, V., Coertjens, L., van Daal, T., Gijbels, D., & Van Petegem, P. (2018). Does self-efficacy contribute to the development of students' motivation across the transition from secondary to higher education? *European Journal of Psychology of Education*. doi:10.1007/s10212-018-0389-6
- Lincoln M., Adamson B. J. & Covic T. (2004) Teaching time and organizational management skills to first year health science students: does training make a difference? *Journal of Further and Higher Education*, 28(3), 261-276. DOI: 10.1080/0309877042000241742
- MacCann, C., Fogarty, G. J., Roberts, R. D. (2012). Strategies for Success in Education: Time Management Is More Important for Part-Time than FullTime Community College Students. *Learning and Individual Differences*, 22(5), 618-623.

- Masre, S. F., Ishak, I., Mat Ludin, A. F., Shamhari, A. A., Syed Idros, S., 'Imran, Abdul Rahman, N. A., Baso, S., Sim Nyam Joo, F., Jamaludin, I., Omar, N. E., & Jufri, N. F. (2020). The role of motivation camp towards academic performance and time management among first year biomedical science students. *Life Sciences, Medicine and Biomedicine*, 4(9). <https://doi.org/10.28916/lsm.4.9.2020.59>
- McCarthy, M., & Kuh, G. D. (2006). Are students ready for college? What student engagement data say. *Phi Delta Kappan*, 87, 664–669. doi:10.1177/003172170608700909
- Meer, J., Jansen, E., Torenbeek, M. (2010). It's almost a mindset that teachers need to change: first-year students' need to be inducted into time management. *Studies in Higher Education*, 35(7), 777-791. doi: 10.1080/03075070903383211
- Morisano, D., Hirsh, J. B., Peterson, J. B., Pihl, R. O., & Shore, B. M. (2010). Setting, elaborating, and reflecting on personal goals improves academic performance. *Journal of Applied Psychology*, 95, 255–264.
- Mostert, K., & Pienaar, J. (2020). The moderating effect of social support on the relationship between burnout, intention to drop out, and satisfaction with studies of first year university students. *Journal of Psychology in Africa*, 30, 197–202. <https://doi.org/10.1080/14330237.2020.1767928>
- Mujica, A. D., Villalobos, M. V. P., Gutiérrez, A. B. B., Fernández-Castañón, A. C., & González-Pienda, J. A. (2019). Affective and cognitive variables involved in structural prediction of university dropout. *Psicothema*, 31(4), 429–436. <https://doi.org/10.7334/psicothema2019.124>
- Nasrullah, S. & Khan, M.S. (2015). The impact of time management on the students' academic achievements. *Journal of Literature. Languages and Linguistics*, 11, 66-71.
- Panadero, E. (2017). A Review of Self-regulated Learning: Six Models and Four Directions for Research. *Frontiers in Psychology*, 8. doi:10.3389/fpsyg.2017.00422
- Plant, E. A., Ericsson, K. A., Hill, L., Asberg, K. (2005). Why study time does not predict grade point average across college students: Implications of deliberate practice for academic performance. *Contemporary Educational Psychology*, 30(1), 96–116. doi: 10.1016/j.cedpsych.2004.06.001
- Reed, D.E. & Jones, G.Z. (2021). The Importance of First Semester Seminars for At-Risk First-Year Students: Analysis of Student Skills and Time Spent on Class Preparation. *Educ. Sci.*, 11, 510. <https://doi.org/10.3390/educsci11090510>
- Shehzad A. & Farah S. (2021). Impact Of Time Management Skills on Students' Motivation at University Level. *Palarch's Journal of Archaeology of Egypt/Egyptology*, 18(18), 115-127.
- Stamelos, G. (in press). *Η μετάβαση από τον μαθητή στον φοιτητή: Στοιχεία για μια κοινωνική και πολιτική ανάλυση του εκπαιδευτικού μας συστήματος 1974-2024 (The transition from pupil to student: Evidence for a social and political analysis of our education system)*. Πάτρα: Εκδόσεις HepNet.
- Tabuenca, B., Greller, W. & Verpoorten, D. (2022). Mind the gap: smoothing the transition to higher education fostering time management skills. *Univ Access Inf Soc*, 21, 367–379. <https://doi.org/10.1007/s10209-021-00833-z>

- Thibodeaux, J., Deutsch, A., Kitsantas, A., Winsler, A. (2016). First-Year College Students' Time Use. *Journal of Advanced Academics*, 28(1), 5–27. doi:10.1177/1932202x16676860.
- Trautwein, C. & Bosse, E. (2016). The first year in higher education - critical requirements from the student perspective. *Higher Education*, 73(3), 1-17.
- Trentepohl, S., Waldeyer, J., Fleischer, J., Roelle, J., Leutner, D., Wirth, J. (2022). How Did It Get So Late So Soon? The Effects of Time Management Knowledge and Practice on Students' Time Management Skills and Academic Performance. *Sustainability*, 14, 5097. <https://doi.org/10.3390/su14095097>.
- Trueman, M., & Hartley, J. (1996). A Comparison between the Time-Management Skills and Academic Performance of Mature and Traditional-Entry University Students. *Higher Education*, 32(2), 199–215. <http://www.jstor.org/stable/3447923>
- Truschel, J. & Reedy, D. L. (2009). National survey—What is a learning center in the 21st century? *The Learning Assistance Review*, 14(1), 9–22.
- Upcraft, M., & Gardner, N. (1989). *The Freshman Year Experience. Helping Student Survive and Succeed in College*. Dan Francisco: Lossey-Bass Publishers.
- Waldeyer, J., Dicke, T., Fleischer, J., Guo, J., Trentepohl, S., Wirth, J., & Leutner, D. (2022). A moderated mediation analysis of conscientiousness, time management strategies, effort regulation strategies, and university students' performance. *Learning and Individual Differences*, 100. <https://doi.org/10.1016/j.lindif.2022.102228>
- Wasylikiw, L. (2016). Students' Perspectives on Pathways to University Readness and Adjustment. *Journal of education and Training Studies*, 4(3), 28-39.
- West, C., & Sadoski, M. (2011). Do study strategies predict academic performance in medical school? *Medical Education*, 45(7), 696-703.
- White, C.B. (2007). Smoothing out transitions: How pedagogy influences medical students' achievement of self-regulated learning goals. *Advances in Health Sciences Education*, 12(3). 279-297. <https://doi.org/10.1007/s10459-006-9000-z>
- Wolters, C. A., & Brady, A. C. (2020). College Students' Time Management: a Self-Regulated Learning Perspective. *Educational Psychology Review*. doi:10.1007/s10648-020-09519-z.
- Wolters, C. A., Won, S., & Hussain, M. (2017). Examining the relations of time management and procrastination within a model of self-regulated learning. *Metacognition and Learning*, 12(3), 381-399.
- Wright, C., Lenette, C., Lewis-Driver, S., Lamar, S. (2017). The revised 'Common Time' program as a strategy for student engagement and retention at university. A Practice Report. *Student Success*, 8(1), 79-86. doi: 10.5204/ssj.v8i1.354.