



Impact of working while studying on university students' academic performance in Egypt during the COVID-19 pandemic and transition to online learning

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Abstract

In the context of online education, which has been growing as a common approach, this paper examines the impact of working while studying on university students' academic performance, namely Cumulative GPA (CGPA), as a rising trend in Egypt, especially after the pandemic and the shift into online learning. The research followed an exploratory survey method, namely a quantitative approach, with a sample of 361 students randomly selected using the convenience sampling method from a total of 3326 students, both working and non-working, from years 2 to 4 across the four schools at Nile University – Cairo, Egypt. The study examines a cause-and-effect relationship between working students and their CGPA. Literature points out that with online education becoming a conventional mode, there has been an increase in “working while studying” in Egypt, which requires further investigation. Thus, this paper bridges this empirical gap as the first study of its kind by studying the case of Nile University working students and the effect of working while studying on their academic performance and their ability to strike a work-life balance. The study revealed a slightly negative relationship between working while studying and students' CGPA compared to non-working, as well as a negative effect on their work-life balance. The findings imply that a new mindset in the pedagogical system is needed, combining new assessment methods and modes of delivery to accommodate the rising trend. The study has its own limitations, focusing on Egypt and specifically Nile University students.

Keywords: Academic performance, online learning, Student employment, University students, Work life balance, working students.

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Contents

1. Introduction	628
2. Literature Review	628
3. Research Methods	630
4. Results	630
5. Discussion	633
6. Conclusion	634
7. Limitations & Future Implications	634
References	634

Contribution of this paper to the literature

There has been an increase in “working while studying” in Egypt, which requires further investigation. This paper bridges this empirical gap as the first study of its kind to investigate the effect of working while studying on students’ academic performance and their ability to strike a work-life balance in Egypt.

1. Introduction

Students’ employment and its relationship to educational outcomes were extensively researched worldwide. In general, research on this topic has undergone rapid growth in the past two decades.

The spread of COVID-19 led the world to shift mostly to online learning. Several schools and institutions were forced to close due to the pandemic. Numerous schools, universities, and colleges have discontinued face-to-face instruction. Cathy and Farah (2020) mentioned that even before COVID-19, online learning was seeing rapid expansion and adoption, with worldwide tech investments extending to US\$18.66 billion in 2019 and online education expected to attain \$350 billion by 2025. Since online learning has become one of the most efficient educational options during the spread of the COVID-19 pandemic, other phenomena have started to rise and have been observed in Egypt, including the increase in “working while studying students” not only in the fourth year of college but at the beginning of the first and second years as well. A recent study addressed this critical phenomenon of the effect of working while studying on university students’ academic performance and their work-life balance in Ghana, Africa (Tetteh & Attiogbe, 2019). Though student employment is a common pattern for many students in the Organization for Economic Cooperation and Development (OECD) countries, both in secondary and tertiary education (Beerkens, Mägi, & Lill, 2011; Marsh & Kleitman, 2005), student employment is reaching around 49% in the United States (US) and 47% in Europe (Beerkens et al., 2011).

To the best of our knowledge, no studies have investigated this rising trend in Egypt. The aim of this study is to investigate the relationship between “working while studying” and its effect on academic performance and work-life balance. Thus, this paper bridges this empirical gap by studying the case of Nile University working students in Egypt and the effect on their academic performance. Investigating the relationship and its effect on CGPA and work life balance is critical not only to shed light on academic performance but also to explore possible practical movements that need to be considered in the pedagogical approach, mode of delivery, shifts in lecture time, assessment criteria, and roles of different stakeholders within the educational ecosystem. This study is a trigger for more research to explore the different dimensions related not only to working students but also to support building a more comprehensive environment to accommodate this rising trend.

Hypotheses were inferred from literature and previous research studying the effect of working while studying on CGPA. The study has one major hypothesis (H1) and 4 minor hypotheses as described below:

H₁: Working while studying is negatively affecting CGPA.

H₂: Working above 5 hours per day is negatively affecting CGPA.

H₃: Working while studying reduces the time students need to spend on assignments.

H₄: Working while studying increases the level of stress.

H₅: Working while studying reduces students’ social activities.

2. Literature Review

This review examines previous studies of student employment and its effect on students’ academic performance and their work-life balance. It also presents controversial theories about working while studying.

2.1. Students’ Employment

The literature points out that the majority of students in the US enrolled in universities today work at least part-time (McFarland et al., 2018). It is reported by the NCES that in 2017, 81% of part-time students and 43% of full-time students in years two and four were employed in public institutions in the United States (McFarland et al., 2018). Students working while studying is a widespread phenomenon across many European countries and generally a familiar practice among university students (König, 2018). Working students in Western Europe spend an average of 23–28 h per week in a job, whereas students in central and Eastern Europe surpass 30 h per week throughout the semester (Masevičiūtė, Šaukeckienė, & Ozolinčiūtė, 2018).

Generally, students seek employment for different purposes, be it financial support, personal reasons, or to have a better career (Curtis & Shani, 2002; Hall, 2010; Scott-Clayton, 2012). Employed students may be termed “students who work” or “employees who study” based on their point of focus, whether their studies or employment (Berker, Horn, & Carroll, 2003; Horn & Malizio, 1998). In addition, unclear career tracks for graduates also influence a student’s decision to work while studying. (Pitman, Roberts, Bennett, & Richardson, 2019).

In Africa, and more specifically in Ghana, the literature points out that working while studying at universities has witnessed some growth over the past two decades. There has been a sharp rise in part-time, evening, and weekend programmes as well as distance programmes, probably due to the increase of private universities across the country, leading to more flexible curricula (Tetteh & Attiogbe, 2019). In Egypt, the literature points out that with online education becoming a conventional educational mode (Coates et al., 2020), it seems like an increase in “working while studying” is on the rise.

2.2. Relationship between Student Employment and Academic Performance

Although the benefits of working have been remarked on for years, institutions of higher education tend to assume that students should put their academic path over their employment as a priority (Remenick & Bergman, 2021). From the students’ perspective, they perceive working while studying as a double-edged weapon with both positive and negative outcomes (Robotham, 2012). However, some studies have highlighted that most students who work believe that their work interferes with their studies, leading to missed classes, late deliverables, and lower grades (Curtis & Shani, 2002; Hawkins, Smith, Hawkins, & Grant, 2005; Triventi, 2014). While overlapping

responsibilities continue to have their challenges for students, post-pandemic allowed a new mode of learning that allowed access to working students through online, evening, and weekend courses, mitigating some major challenges and allowing for better engagement in academics (Remenick & Bergman, 2021).

2.3. Working While Studying Controversial Theories

The objective of this paper is to investigate the impact of working while studying on university students' academic performance. Different theories investigate the impact of working while studying on students' performance and work-life balance, as discussed below.

2.3.1. Social and Behavioral Science Theory

Literature pointed extensively to the aspect of student employment across various disciplines in the social and behavioural sciences: its impact on educational engagement and performance (Bachman, Staff, O'Malley, Schulenberg, & Freedman-Doan, 2011; Stinebrickner & Stinebrickner, 2003). Originally, it was highly important to assess the effect of student employment on educational achievement since the compromise of allocating time for work while studying is a critical decision every student has to make (Bozick, 2007; Triventi, 2014). Second, if student employment influences educational achievement, it indirectly involves and affects positively all outcomes in life that are partially influenced by their achievement (e.g., labor market success, wealth, and happiness) (Blundell, Dearden, Meghir, & Sianesi, 1999; Chiswick, Lee, & Miller, 2003; Hartog & Oosterbeek, 1998).

2.3.2. Human Capital Theory

According to the Human Capital Theory (Becker, 1964), working while studying is seen as a complement to education due to the additional skills and knowledge students attain while working. First, student employment supports students in acquiring new general and transferable skills such as work values, communication skills, and a sense of time management (Buscha, Maurel, Page, & Speckesser, 2012; Rothstein, 2007; Staff & Mortimer, 2007). Second, the practical application of what they have learned in school (Geel & Backes-Gellner, 2012; Hotz, Xu, Tienda, & Ahituv, 2002). Third, student employment may improve future business orientation and motivate students to work harder in university in order to achieve certain career goals (Oettinger, 1999; Rothstein, 2007).

2.3.3. The Allocation of Time Theory

The theory of the Allocation of Time (Becker, 1965) promotes the idea that student employment may have a disadvantageous effect on educational success and that student employment and education are interchangeable. Kalenkoski and Pabilonia (2012) and Schoenhals, Tienda, and Schneider (1998) find that time spent working does not reduce the time spent on school-related activities alone; rather, working students also reduce the time spent on non-school-related activities such as time spent with family or friends and time spent watching television or on a computer. Research also suggests that the longer students work, the lower their academic performance (Callender, 2008; Holmes, 2008). Dundes and Marx (2006) discovered that students who worked 10–19 hours per week had better academic performance (as evaluated by grade quality) than all other students, working and non-working. Some studies found that fewer work hours were associated with a slightly higher GPA, while higher perceived work was correlated with a slightly lower GPA (Dundes & Marx, 2006; Hawkins et al., 2005; Wenz & Yu, 2010). Moreover, research suggests that the area of specialization is key; when students work beyond their area of specialization, their academic performance is lower (Callender, 2008; Holmes, 2008). It is then important to address the previous statement while exploring the controversial relationship between different theories.

2.3.4. The Primary Orientation Theory

Another theory that reinforces a negative correlation between student work and educational success is the Primary Orientation Theory (Baert, Marx, Neyt, Van Belle, & Van Casteren, 2017; Bozick, 2007; Warren, 2002), often mentioned in the field of sociology. This theory suggests that the lower academic performance of working students is related to their primary orientation being towards work instead of school. The theory focuses mainly on highlighting the disengagement effect. Therefore, instead of providing an explanation for the causal negative effect of student work, it discloses a likely selection issue that one wants to control for practical analyses. Indeed, Bozick (2007), Staff and Mortimer (2007), and Triventi (2014) hypothesize that when previous differences between working and non-working students, such as their primary orientation, are contained, the difference in academic performance between these two groups fades. With such a controversial relationship over decades between working and non-working students and its impact on their academic performance, this paper is adding value to the relationship given the development happening, whether in the educational systems or even the learning modes, which are witnessing dramatic changes, especially following the pandemic.

2.4. Work-Life Balance (WLB) among Working University Students

Work-Life Balance has been one of the most important concerns in human resource management practice and research all over the world (Brough, Holt, Bauld, Biggs, & Ryan, 2008; Guest, 2002). Additionally, it received more attention from organizations and researchers after COVID-19 (Hjálmsdóttir & Bjarnadóttir, 2020; Irawanto, Novianti, & Roz, 2021). WLB is considered the result of a worker's specific level of equilibrium between work and non-work activities (Hill, Hawkins, Ferris, & Weitzman, 2001). WLB is also defined by Kalliath and Brough (2008) as the individual belief that work and non-work activities are compatible and support growth in line with an individual's life goals. According to them, the concept of balance is dynamic, and an assessment of it should be based on an individual's preferences at a specific point in his or her career. According to Bird (2006), WLB does not always imply equal balance; it may change over time with the individual, and there is no one-size-fits-all.

One crucial component of this WLB phenomenon is balancing work with education (Tetteh & Attiogbe, 2019). Several studies have been undertaken to investigate various aspects of working and studying. Most students believed they could balance employment and study. Other studies revealed that students work for financial reasons, personal

reasons, and/or professional development (Curtis & Shani, 2002; Hall, 2010; Scott-Clayton, 2012). According to a study done by Hall (2010) at the University of New South Wales, part-time work by full-time students is on the rise. In addition, hours spent studying outside of class and time spent on recreational activities both decreased steadily. Combining a degree with work might also have negative implications, with students missing courses and feeling more stressed (Robotham, 2012). Finally, it was also concluded that students' employment has a significant impact on their mental well-being and a potential impact on their sleep time (Jack, Bodenlos, Kingery, & Rogge, 2021). This paper also investigates the main reasons for working while studying in Egypt and the impact of working while studying on the students' participation in social activities and their levels of stress.

3. Research Methods

Since the topic and issue under study are relatively new in Egypt, and since the researchers have a general idea and a specific question to study about the relationship between working and studying the rising phenomenon in Egypt following the pandemic and its effect on the academic performance and work-life balance of students, with no preexisting knowledge about the context in Egypt, the authors used an exploratory survey approach, namely the quantitative method, to gain information and define the problem at hand (Malhotra, Nunan, & Birks, 2017). A sample of 361 university students both working and non-working, with a focus on students from year two to year four (sophomores, juniors, and seniors) across the four schools (Business Administration, Computer Science, Engineering, and Biotechnology) at Nile University – Cairo, Egypt. A sample was randomly selected from a total of around 3326 students from the four schools based on convenience sampling method. We split the collected sample into two groups: common variables, valid for working and non-working students, and working-only variables, valid for working students only. The major question of this survey is exploring the effect of working while studying on students' performance (Comparison between working and non-working students). The rest of the research questions explore the acquired skills in terms of efficiency and the work-life balance of working students, as reflected below in the hypotheses. Hypotheses were analyzed using a p-value at a 95% confidence level.

3.1. Hypotheses

Hypotheses were derived from literature and previous research studying the effect of working while studying on CGPA and relevant variables. The study has one major hypothesis (H1) and 4 minor hypotheses as described below:

H₁: Working while studying is negatively affecting CGPA.

H₂: Working above 5 hours per day is negatively affecting CGPA.

H₃: Working while studying reduces the time students need to spend on assignments.

H₄: Working while studying increases the level of stress.

H₅: Working while studying reduces students' social activities.

3.2. Data Collection Method

The survey was conducted at Nile University, addressing the four schools, as previously explained, and the last three years of study (sophomores, juniors, and senior students). The survey was placed on MS Forms and announced via emails sent out to all students, and 361 successful questionnaires were filled out. The survey was designed with several randomly located cross-check questions for validity verification (Calvert, Cade, Barrett, & Woodhouse, 1997). Results were analyzed using JMP® Pro software to present both descriptive and inferential analysis.

4. Results

4.1. Descriptive analysis

The overall sample has the below distribution, with sophomores being the highest (149, 41%), followed by juniors (107, 30%), and seniors (105, 29%), as illustrated in Figure 1. Students with a high CGPA between 3.01 and 4 represent (212, 59%), whereas students with a Cumulative GPA (CGPA) between 2.51 and 3.00 represent (89, 25%), and students with a lower CGPA less than 2.50 represent (60, 17%), as illustrated in Figure 2.

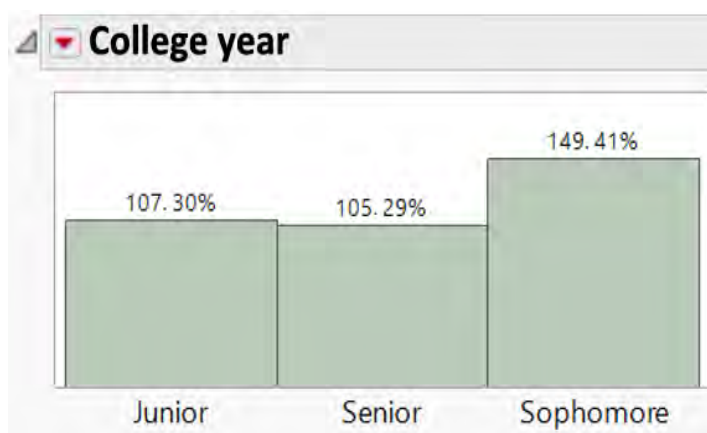


Figure 1. College year distribution.

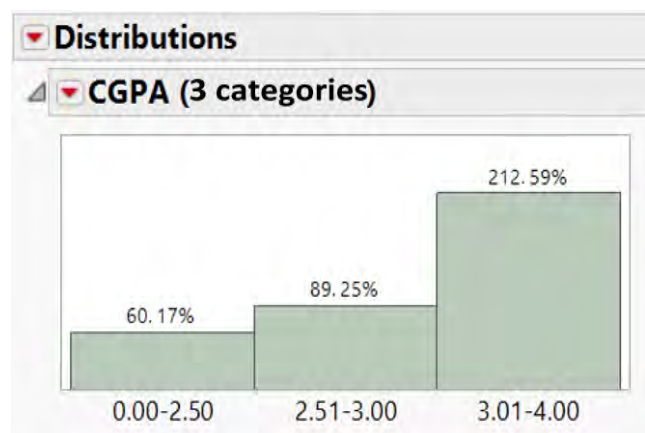


Figure 2. Distribution of the sample's CGPA.

The overall sample has the below distribution for working and non-working students across the four schools, as presented in Table 1. The sample is dominated by Business School students (221, 61.2%), followed by Computer Science students (85, 23.5%), Engineering (43, 12%), and Biotechnology (12, 3%). Table 1 also illustrates the split of working students per school, where the sample has the highest representation from the Business School, followed by Computer Science, Engineering, and Biotechnology (75.4%, 13%, 10.9%, and 2.7%, respectively).

Table 1. Distribution for working and non-working students across the four schools.

Business		CS		Eng.		Bio	
Working	Non-W	Working	Non-W	Working	Non-W	Working	Non-W
221 (61.2%)		85 (23.5%)		43 (12%)		12 (3%)	
104	117	18	67	15	28	1	11
75.4%	52.5%	13%	30%	10.9%	12.6%	0.7%	4.9%

The gender split of the sample is slightly higher for females (190, 52.6%), while males represent (171, 47.3%). Our sample represents (223, 61.8%) non-working students, while working students are (138, 38.2%), as shown in Figure 3.

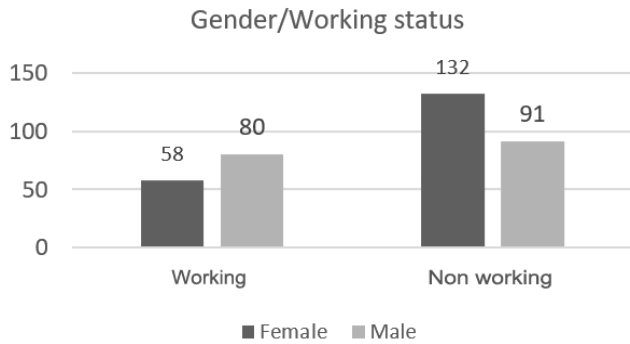


Figure 3. Gender split versus working status.

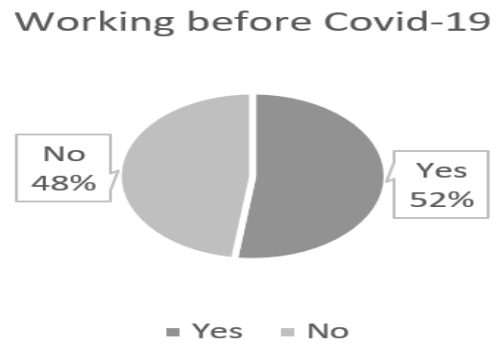


Figure 4. Working status before and after Covid-19.

Working students' status was further explored to check on whether they worked before or following COVID-19, reasons to work, online learning, and whether they worked within their specialization.

As shown in Figure 4, strikingly, it does not seem that COVID-19 impacted the sample students' chances to get work, as (72, 52%) indicated they were working before COVID-19, while (66, 48%) indicated they started working after COVID-19. When asked about the reasons to work while studying, Sample shows that working for job experience is the most common reason (62, 44.9%), followed by working to spend money (30, 21.7%), and only (16, 11.6%) of students mentioned they work to pay tuition. (21, 15.2%) of students mentioned they work for basic living experience, while the remaining are working whether to fill extra time or for other reasons, as illustrated in Figure 5.

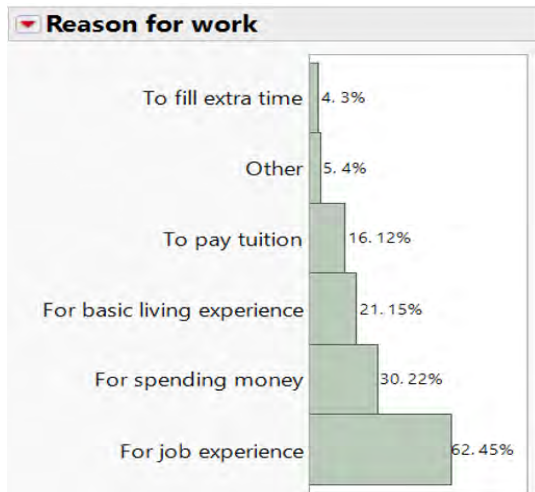


Figure 5. Reasons for work.



Figure 6. Students working within specialization.

As for whether work relates to their specializations or not, the sample shows a 50/50 distribution between students working within their specialization and those who work outside the field of their specialization as illustrated in Figure 6. For the working students (122, 88.4%), online delivery mode following COVID-19 helped them to keep their work, which can be understood as they can attend classes from their work location.

4.2. Inferential Analysis

The major hypothesis explored in this research was to better understand the relationship between working while studying and the academic performance of students as reflected in their CGPA.

H₁: Working while studying is negatively affecting CGPA.

H₂: Working while studying is positively affecting CGPA.

H₃: Working while studying is negatively affecting CGPA.

For the sample of 361 responses, (212, 58.7%) are considered to have a relatively good CGPA >3.01; (60, 16.6%) have a poor CGPA <2.0; and (89, 24.7%) have a moderate CGPA between 2.51 and 3.00.

Results show that non-working students follow the distribution of the overall students, while working students' distribution shows a relatively lower percentage in the high CGPA category (53.6%, compared to 61.9% in non-working). This infers that working may negatively impact a student's CGPA. It is worth noting that the lower percentage of high CGPAs is not highly significant, as illustrated in Figure 7. The results are statistically significant with a p-value < 5%. Accordingly, researchers rejected the null hypothesis.

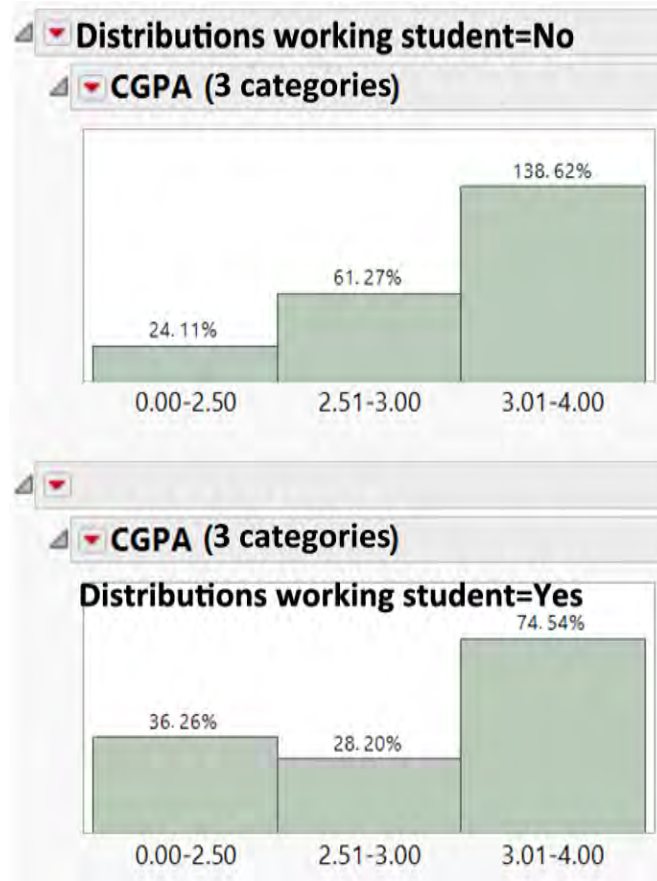


Figure 7. Working students' effect on CGPA.

Contingency analysis of CGPA (3 categories) by working hours per day (2 categories) working student =Yes

Mosaic plot

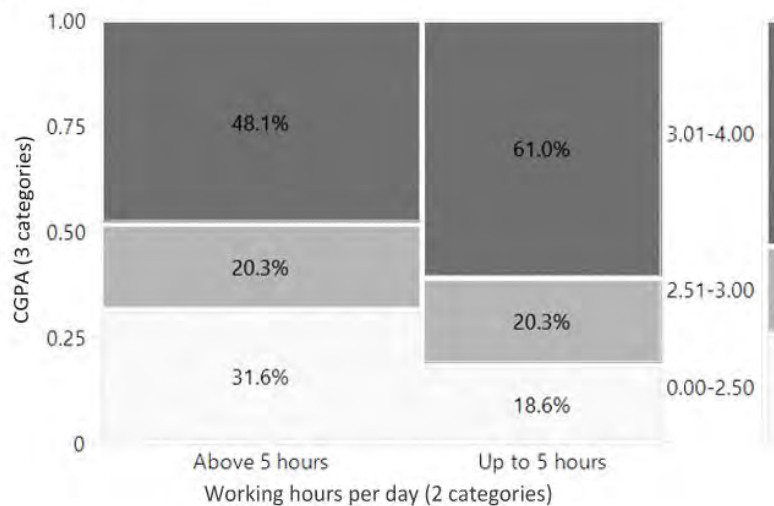


Figure 8. Working hours and effect on CGPA.

H₂: Students working above 5 hours per day are negatively affecting their CGPA.

H₀: Working above 5 hours per day is positively affecting CGPA.

H₁: Working while studying is negatively affecting CGPA.

Working students can be split by their working hours (longer or less than 5 hours a day), and their CGPA can be plotted as below. 61% of students working less than 5 hours have a higher CGPA vs. 48.1% working above 5 hours. Furthermore, we can see a clear reduction in moderate and good CGPA and an increase in poor CGPA, especially for students working more than 5 hours a day (31.6% with poor CGPA), as plotted in Figure 8. Accordingly, researchers rejected the null hypothesis.

H₂: Working while studying reduces the time students need to spend on assignments.

H₀: Working while studying does not reduce the time students need to spend on assignments.

H₁: Working while studying reduces the time students need to spend on assignments.

It was deduced that (65, 47%) of working students indicate that working helps them reduce time spent on assignments, compared to (24, 17%) who said they do not agree with this statement, as illustrated in Figure 9. Accordingly, researchers rejected the null hypothesis.

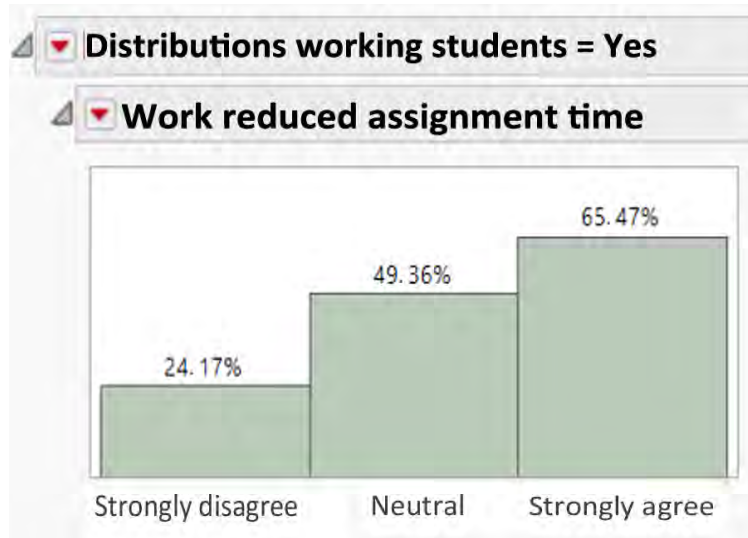


Figure 9. Work and effect on assignment time.

Both H4 and H5 are related to working students' ability to maintain work-life balance.

H₄: Working while studying increases the level of stress.

H₅: Working while studying does not increase the level of stress.

H₄: Working while studying increases the level of stress.

(77, 55.8%) of working students agree that working while studying increased their stress level, while only (21, 15.2%) see that working while studying did not increase their stress level, as illustrated in Figure 10. Accordingly, researchers rejected the null hypothesis.

H₄: Working while studying reduces social activities.

H₅: Working while studying does not reduce social activities.

H₄: Working while studying reduces social activities.

For the working students, (72, 52.1%) see that working while studying reduced their social activities, while only (34, 24.6%) see that working did not reduce their social activities, as illustrated in Figure 11. Accordingly, researchers rejected the null hypothesis.

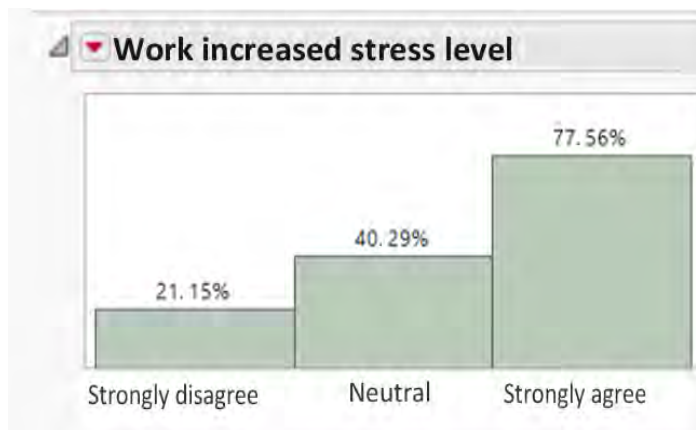


Figure 10. Work and effect on stress level.

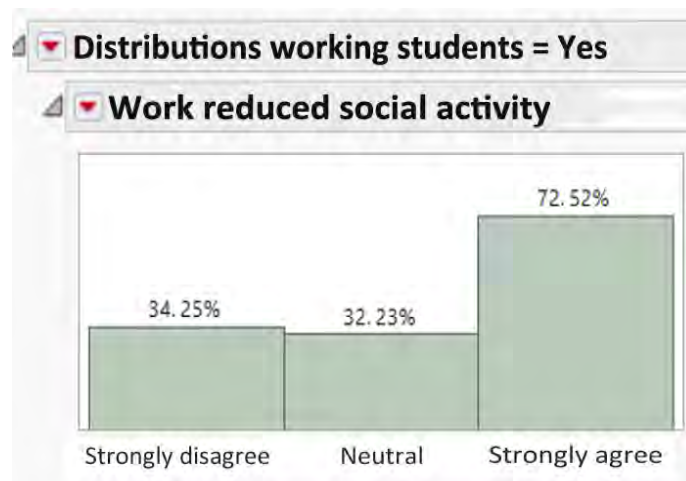


Figure 11. Work and effect on social activities.

5. Discussion

Online education is becoming a conventional educational mode (Coates et al., 2020), and it seems like an increase in “working while studying” is on the rise in Egypt. This paper investigated the case of Nile University working students in Egypt and the effect on their academic performance. Based on this study, the working students (122, 88.4%) see that online delivery mode for courses helped them to keep their jobs; this can be understood as they can attend classes from their work location, and (66, 48%) also indicated they started working after COVID-19 during

this online mode transition. During this period, Nile University offered its courses in online and hybrid modes using distance learning technologies (video conferencing and audio recordings) via Zoom, Microsoft Teams, and Moodle.

In light of the different theories investigating the ‘working while studying’ phenomenon, the results of the major hypothesis reflecting a negative effect of working students on their academic performance are aligned with the Theory of Allocation of Time (Becker, 1965) and the Zero-Sum Theory advocating the negative effect on educational fulfilment and that both employment and education are substitutes. Results are also aligned with the work of Kalenkoski and Pabilonia (2012), Schoenhals et al. (1998), and Warren (2002), confirming that time spent working does not reduce the time spent on school-related activities alone; rather, working students also reduce the time spent on non-school-related activities such as time spent with family or friends and time spent watching television or on a computer. Accordingly, the Zero-Sum Theory is not (or is less) valid. Results are also in agreement with the Primary Orientation Theory (Baert et al., 2017; Bozick, 2007; Warren, 2002), confirming a negative correlation between students work and education success due to their primary orientation being for work and not for university. Results are in line with the Human Capital Theory, confirming that working while studying supports students in acquiring new general and transferable skills such as a sense of time management (Buscha et al., 2012; Rothstein, 2007; Staff & Mortimer, 2007), which is aligned with H3, and confirming that students spend less time on their assignments. The study is also aligned with the research of Callender (2008) and Holmes (2008), stressing that the longer students work, the lower their academic performance.

It is highly recommended to further study the phenomenon due to the slight difference when comparing working with non-working students and their CGPA, as hypothesized by Bozick (2007), Staff and Mortimer (2007), and Triventi (2014). When pre-existing differences between working and non-working students, such as their primary orientation, are properly controlled, the difference in academic performance between these two groups fades.

6. Conclusion

While literature investigates and demonstrates the trend of working while studying in different contexts in the US, and Europe, this paper sheds light on and bridges a gap in research for this phenomenon in Egypt and is considered an extension of the work exploring this new phenomenon in Africa. Its originality comes from spotting the gap in Egypt, the future addition to the literature, and the practical implications as it acts as an early signal for the policymakers within the educational ecosystem to accommodate the rising trend.

The paper provides an empirical contribution by undertaking the first study of this rising phenomenon of ‘working while studying’ within the Egyptian context. Based on an exploratory survey method with a sample of 361 university students both working and non-working across different schools at Nile University – Cairo, Egypt, this study shows a slightly negative relationship between working while studying and students’ academic performance reflected in their CGPA, despite the fact that working students’ negative effect on CGPA was negligible compared to non-working. The study also emphasized the negative effect of working while studying on the work-life balance, reflected in reduced time for social activities and an increased level of stress. Moreover, the study sheds light on how online learning and the use of distance learning technologies helped to maintain the rise of working while studying. The research implies that a new mindset for the pedagogical system and approach needs to be addressed to bridge the gap between the rising trend of working student’s benefits and the current mindset that needs attention from all stakeholders within the educational ecosystem, including higher education, government, universities, employers, students, and parents.

The study has managerial implications, as it is recommended for universities to have a pronounced role in linking students to their specialization with the labor market through internships and summer training to make them benefit and connect them to their studies, with 40% of students with high CGPAs working beyond their specializations and stating that they do so for job experience! This could be due to facing challenges in finding jobs relevant to their specializations. This calls for, in turn, student affairs departments and units in charge of internships and employment to support fitting relevant jobs to their students.

7. Limitations & Future Implications

The study bridges the empirical gap on this critical phenomenon within the Egyptian context. It supports policy makers and stakeholders within the educational institutions to attend to the new demand of students to start working while still studying and direct their attention to the importance of attending to this growing trend affecting the students’ academic performance from one side and to propose solutions to ultimately support a new mindset and system to accommodate a more sustainable development within the educational sector to support students striking the balance between study and work.

It is highly recommended to further study the phenomenon due to the slight difference when comparing working with non-working students and their CGPA.

The study has its own limitations since it focuses on Egypt and is a single case of Nile University students. Future research needs to expand focus and scope and enlarge the sample to substantiate the outcome. More studies are needed to explore the skills possibly gained by students while working and the competencies needed. Tracking the relationship and its impact on academic performance requires a longitudinal study to assess the possible development.

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