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THE EFFECTS OF PROCRASTINATION AND HOURS
WORKED IN EMPLOYMENT ON THE SELF-ESTEEM OF
COLLEGE STUDENTS

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Declaration

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I declare that this submission is my own work. where I have read, consulted, and used the work of others I have acknowledged this in the text.

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Abstract

The self-esteem of college students as a component of overall subjective wellbeing has long been a topic of interest within psychology. Despite procrastination being well recognised as being rampant in the student population and a rising number of students having to take up work during the college term. Little research has been conducted looking at the effects of procrastination and employment during college on the self-esteem of college students. The present study sought to address this gap in the research, it had 3 main objectives: 1. Determine the effects of hours worked weekly during the academic term on the self-esteem of college students, 2. Determine the effects of procrastination levels on the self-esteem of college students and 3. Investigate the relationship between hours worked weekly during the academic term and procrastination levels.

212 students participated in the study. Results from multiple Kruskal-Wallis tests and subsequent Mann-Whitney U tests showed no significant difference for students' self-esteem based on the hours they work weekly during the academic term. However significant differences were for students' self-esteem based on their procrastination. Additionally, a positive significant relationship was found for hours spent in working weekly and procrastination.

The results of this study contribute to the knowledge of the college experience alongside making suggestions for optimal hours students should work weekly as to not impede their procrastination. Suggestions are also made regarding the support education institutes should provide for students who work alongside their studies.

Weaknesses of the study are recognised and addressed, suggestions for future research to be conducted using parametric statistical analysis and expanding the variables of the study.

Introduction

1.1: Introduction

The college student's experience has long piqued the interest of psychological researchers. It is heterogeneous and can be impacted by various factors: environmental, social, and personal factors (Karaman et al., 2019). Such as socioeconomic status (Li et al., 2020), the social culture of alcohol consumption during college (Pilatti et al., 2022), and students' mental health status.

Within the umbrella term 'mental health,' many facets have been researched. One being the self-esteem of college students. Previous research has shown that self-esteem is a mediator of the college experience, high self-esteem can have positive repercussions in many domains. Students who attain higher self-esteem adjust better in multiple domains (social, personal, academic) (Pasha & Munaf, 2013), have higher academic achievement (Maniaci et al., 2021), and decreased dropout rates (Daniels et al., 2019). Self-esteem is a determinant in multiple areas of success within college, understanding the factors that affect it is crucial. One such important determinant of self-esteem is procrastination, which has an inverse relationship with self-esteem (Arias-Chávez et al., 2020).

Procrastination, self-esteem, and employment during college have all been researched individually. However, there is a discerning lack of research examining the effects of procrastination and employment on the self-esteem of college students. This lack of research and an annual increase in the number of college students working, requires more research into these effects and subsequent impact on domains of the college experience.

1.2: Procrastination

In simplest terms, procrastination is an irrational tendency to delay tasks that should be completed (Lay, 1986). Procrastination tendencies can be explained by the Temporal Motivation Theory (TMT) (Steel & König, 2006) The TMT explains procrastination as the result of how an individual perceives tasks based on the time frame in which they must be completed and the weight/reward of completing the task. It elaborates that individuals prioritize the task based on their initial perceptions (Steel et al., 2018). The TMT states procrastination results from interactions between expectancy, value, impulsiveness, and time (Steel & König, 2006). In an academic context, is better explained by other frameworks: self-regulation theory and self-determination theory

(Oram et al., 2022, Wu & Fan, 2016). Self-regulation theory explains the processes by which people their feelings, thoughts, and actions to reach goals (Mithaug, 1993). Therefore, procrastination is understood to be a failure of self-regulation (Rebetez et al., 2016). Self-determination theory theorises that individuals are inclined to procrastinate activities if they are not deemed to be interesting, despite their importance (Deci et al., 1994, Tisocco & Liporace, 2022).

1.3: Academic procrastination

Within an academic domain, procrastination is defined as *'To voluntarily delay an intended course of study-related action despite expecting to be worse off for the delay'* (Steel & Klingsieck, 2016, p.37). It is predicted to have a prevalence as high as 80% in college students (Abbasi & Alghamdi, 2015). Özer (2011) conducted a study employing the PASS (Procrastination Assessment Scale-Student) for high school, undergraduate, and graduate students. Using a one-way analysis of variance, undergraduates had the highest levels of procrastination when compared to other stages of study. Academic procrastination is an acratia tendency (Rozenal et al, 2022), students are aware that academic achievement relies on completing tasks but procrastinate, nonetheless. It is the result of several mediators: Year of study, Undergraduate students reportedly procrastinate more due to fear of failure and task aversiveness, while postgraduates procrastinate due to fear of failure and lack of assertiveness (Rahimi & Hall, 2021). The nature of the task at hand. Exams with higher levels of ambiguity have been found to increase levels of procrastinating when studying for such exams (Wieland et al., 2022) However, these studies fail to consider additional factors that could also be increasing procrastination such as employment and mental health difficulties.

1.4: Employment during college

There has been an increase in the number of college students needing to find employment alongside their studies. The Irish League of Credit Unions ILCU (2019) reported that 74% of college students work to cover the costs of living and learning. However, Douglas and Attewell (2019) reported that 93% of student participants self-reported financial gain as their reason for working, rather than practical reasonings. While some students may work to gain experience in their field of study and improve future

employment opportunities (Baum, 2023) Additionally, they found 55% of students are forced to miss scheduled lectures to work.

Working alongside studying can allow for professional and personal growth. It can increase employability, foster connections, and offer opportunities for progression (Jackson & Bridgstock, 2020). Personal and social skills can also be developed by working while studying, which are often efficacious in finding employment after graduation.

While working during the college term can be advantageous to the college student's life and subsequent career progression, the effects of working on academic achievement must be considered. In a study by Tessema et al. (2014), students were grouped by hours worked instead of just 'working' or 'non-working' to account for variations. Students who engaged in less than 10 hours a week in employment reported that working positively affected their life satisfaction and overall GPA score. Students who worked eleven or more hours weekly had significantly lower satisfaction and GPAs. However, the study in question was conducted in a singular university categorized as 'small' by the author; as such, the results may not be generalizable to a larger population.

1.5: Self-esteem

Self-esteem is a sense of self-worth and self-respect (Monteiro et al., 2021), it is a complement of all judgments a person makes of themselves: their perception of their qualities, appearance, products of work, personality, reputation, worth, and value (Bailey, 2003). Contingent self-esteem is understood to be a subsection of self-esteem in which an individual's self-esteem is reliant on certain standards. As such, factors such as academic success, frequency of study and overall college success can be understood to be facets of contingent self-esteem of college students.

Self-esteem is idiosyncratic, relatively stable across developmental stages (Orth & Robins, 2014). In recent years there has been a rise in the research area of self-esteem as a mediator of subjective well-being (SWB). Due to the rise in talk of well-being and mental health in mainstream media (Katsantonis et al., 2022, McClellan et al., 2016) employed a longitudinal study with subsequent longitudinal invariance analyses, to establish the development of SWB and its relationship with self-esteem in adolescence. Utilizing the subjective well-being scale and a shortened version of the Rosenberg self-esteem scale. Both materials had a high Cronbach's alpha of more than 0.74. Results

found that higher self-esteem was a predictor for higher subjective well-being and increased stability of the growth of SWB over time. However, the study was conducted only with adolescents from age 11-14. Although the researchers employed valid and reliable methods and subsequent statistical analyses, the results cannot be relied on wholly when translated to a larger population. Due to the unique biological, emotional, social, and cognitive factors and changes present in adolescents (Alderman et al., 2019).

1.6: Procrastination and employment during college

Working during college can negatively affect many factors that are likely to predispose students to procrastinate. Students who work full-time reported higher levels of depression and anxiety when compared to those who did not work during the college term (Lee, 2020). Constantin et al. (2017) used two multiple mediator models to investigate the mediation relationships between anxiety, depression, and procrastination. The authors concluded that the prevalence of anxiety and depression in students resulted in increased negative rumination and thus could contribute to procrastination.

Employment during college compounds the pressures of college, mentally and physically. Mentally it reduces students' 'psych cap' (or psychological capacity). 'Psych cap' is an individual's mental resources and ability to deal with stress, problems, and situations. As such, an increased psych cap will reduce individuals' capacity to complete tasks, thus leading to increased academic procrastination (Saman & Wirawan, 2021). Although there is little research on the effects of procrastination on employment, it could be concluded, based on previous literature, that high procrastination levels lead to lower self-esteem. It could reduce an individual's likeliness to secure employment.

Employment during college can result in a 'work-school conflict' whereby demands of employment interfere with the demands of study. Students with a higher work-school conflict self-report higher levels of depression symptoms, high levels of substance abuse, and lower overall health (Oviatt et al., 2017). Substance abuse can have detrimental outcomes on academic performance and cognitive functioning (Lannoy et al., 2020). Reducing academic performance could, in turn, reduce self-esteem, which could increase procrastination further.

1.7: Procrastination and Self-esteem

Procrastination and self-esteem have an inverse relationship; the interaction between the two can result in a toxic cycle of cognitive distortion, and failure to self-regulate. Individuals with low self-esteem may delay completing a task as self-preservation to avoid reducing already low self-esteem (Burka & Yuen, 2009). However, by delaying such tasks, individuals are likely to experience guilt and self-deprecating thoughts, further reducing self-esteem, giving rise to the cyclical negative relationship (Kınık & Odacı, 2020). Zhang et al., (2018) investigated the relationship between self-esteem, self-efficacy, and procrastination, reporting lower levels of self-esteem decrease self-efficacy, subsequently increasing procrastination. Low self-esteem can also give rise to procrastination due to a lack of sense of self-confidence, causing a lack of pride or achievement when completing tasks, not motivating individuals to complete more tasks (Lyubomirsky et al., 2005). Additionally, lower levels of self-esteem are associated with higher occurrence of depression and anxiety, which can lead to increased rumination and negative thinking resulting in procrastination.

1.8: Employment during college and self-esteem

The effects of employment on self-esteem have been researched in an adult population. Working necessitates productivity, which has been suggested to increase self-esteem (Gómez-Jorge & Díaz-Garrido, 2023). While these findings can be used to suggest the effects of employment on college students' self-esteem, they may not be completely transferable to student sample. As it can be assumed the adult sample studied were working in a career they aspired to. Many college students work in a field unrelated to their area of study/career goals during college, such as hospitality (Reid, 2021) and thus may not gain the same level of productivity. Additionally, employment during college, alongside studies and additional hours of self-work, can take up most of the student's time. Leaving little time for recreational activities such as physical activity. Physical activity has a positive relationship with self-esteem (Wang et al., 2022); Thus, indirectly, employment could reduce self-esteem.

1.9: The present study.

The present study intends to address the aforementioned gap in research. Although self-esteem and procrastination (Burka & Yuen, 2009, Zhang et al., 2018). have been studied in conjunction with each other, as has procrastination and self-esteem. little research has been conducted investigating all three variables, particularly in specific to a college student sample. As increased numbers of students are being forced to find employment during the college term, the effects of employment on students procrastination and self-esteem in the context of their overall college experience is a vital area of research. The present study additionally aims to make subsequent suggestions theoretical and practical suggestions: About optimal hours spent working weekly and additional supports that educational institutes could provide to students.

1.10: Research questions.

1. Is there a difference on the self-esteem of college students, based on the hours they work weekly during the college term?
2. is there a difference on the self-esteem of college students, based on their procrastination scores?
3. Is there a relationship between the hours students work weekly during the college term and their procrastination scores?

1.11: Hypothesis

Alternative hypothesis 1 (Ha 1); there will be a difference for the students, on their self-esteem scores, based on the hours they work weekly during the college term. (no work, low, medium, high). (ha1: $\mu_i \neq \mu_k$).

Alternative hypothesis 2 (Ha2): There will be a difference for the students, on their self-esteem scores, based on their procrastination levels (low, medium, high, very high) (Ha2: $\mu_i \neq \mu_k$).

Alternative hypothesis 3 (Ha3): There will be a significant relationship between the procrastination levels of college students and the hours they work weekly during the college term. (Ha3: $\mu_jk - \mu_j - \mu_k + \mu \neq 0$).

2.0 Method

2.1: Design

The present study employed a 4x4 factorial between-group design. Independent variable one was the hours worked weekly during the college term (K=4: no work [0 hours], low (1-9), medium [9-19] and high [20 or more]). The second independent variable was procrastination levels (K=4: low [0-31], medium (32-37] high [38-43] and very high [44 or more]). Both independent variables were grouping according to the quartile frequencies. The dependent variable was self-esteem. The present study conducted 3 Kruskal-Wallis tests, subsequent Mann Whitney U post hocs where significant results were reported in the Kruskal-Wallis tests.

2.2: Participants

220 participants took part in the present study, 73 males, 125 females, 8 prefer not to say and 5 others, they were recruited via convenient and snowball sampling (a data collection fair, in person recruitment social media posts and recruitment flyers (appendix A) 8 participants were removed due to failing to complete all questions in the survey (N=212).

Table 1 -

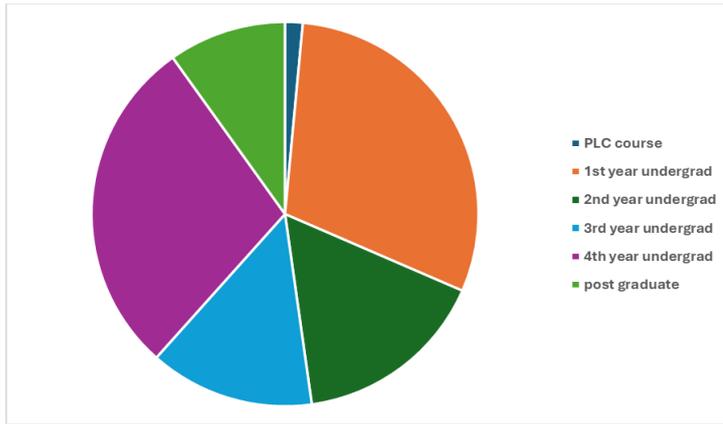
Mean, frequency, and standard deviation of the age of participants.

Mean	SD	Median	Minimum	Maximum	Variance
22.64	6.59	21	18	62	43.43

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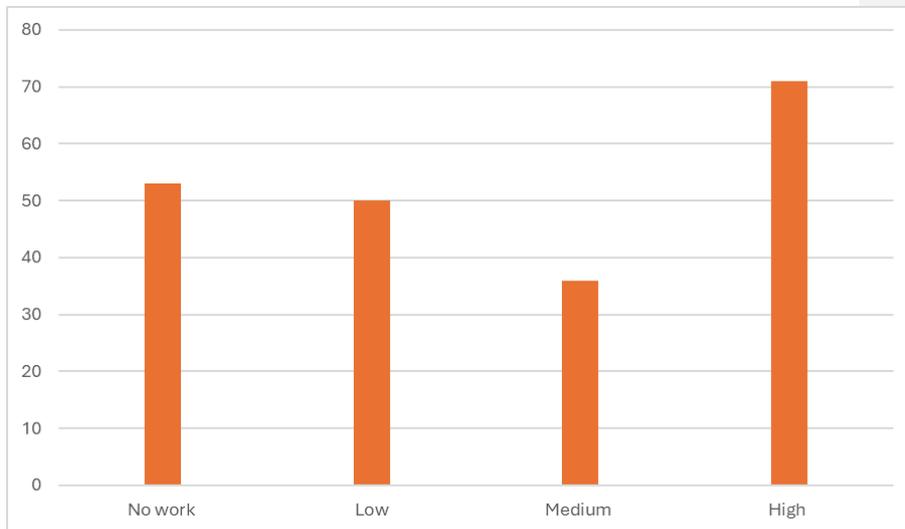
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Figure 1 –
Stage of study of participants



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Figure 2 –
Hours worked weekly by participants.



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2.3: Ethics

This research was approved by the Department of Technology and Psychology Ethics Committee (DTPEC) in IADT (Appendix B and C). The study was conducted in accordance with the Ethics code of the psychological Society of Ireland (Psychological Society of Ireland, 2019) and the ethics guidelines for internet mediated research (British Psychology Society, 2021).

2.4: Materials

All the materials used were compiled into a Microsoft forms questionnaire. Which contained an information sheet (Appendix D) that provided a synopsis of the purpose of the study, explained data storage/protection policies, and contact information. A consent form (Appendix E) was provided that asked participants to confirm they were over 18 and to consent to partaking if they were willing. A demographic form (Appendix F) that asked participants age, gender and to for them to provide an anonymised code, in case the requested their data to be removed later. The demographic form also had questions designed by the researcher embedded, that asked for their year of study, working status, what type of working contract they are under and how many hours they work a week.

The first 6 subscales of the Procrastination Assessment Scale-Students (PASS) (Solomon & Rothblum, 1984) (Appendix G) were employed. These were 1. *Writing a term paper*, 2. *Studying for exams*, 3. *Keeping up with weekly reading assignments*, 4. *Academic administrative tasks*, 5. *Attendance tasks* and 6. *School activities in general*. The last 2 sections of the PASS (reasons for procrastination and interest in changing your procrastination) were not included as they were deemed unrelated to the topic of study. The included subsections of the PASS amounted to an 18-item scale and were answered on a 5-point Likert scales, of which there were 3. The first question of each subscale 'to what degree do you procrastinate on this task' was answered on a scale of 1-5 whereby 1 = never procrastinate and 5= always procrastinate. The second question 'to what degree is procrastination on this task a problem for you?' was answered on a 1-5 scale where by 1 = not at all a problem and 5 = always a problem. The third question in each subscale 'to what extent do you want to decrease your tenancy to procrastinate on

this task?’ was answered on a 1-5 scale where by 1 = do not want to decrease and 5 = want to decrease. The Cronbach’s alpha of the PASS scale has been reported at 0.77, with an internal consistence of 0.84-0.66 (Yockey & Kralowec, 2015).

The Rosenberg self-esteem scale (RSES) (Rosenberg, 1965). (Appendix H) was used. The Cronbachs alpha of the Rosenberg self-esteem scale has previously been reported as 0.7 (Park & Park, 2019). The RSES is a 10-item questionnaire answered on a 4-point Likert scale. 5 of its items indicate a positive attitude towards the self, whilst 5 indicate a negative attitude towards the self.

Table 2 –

Question 1 and 10 of the Rosenberg Self-esteem scale

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
I feel that I am a person of worth, at least on an equal plane with others				
At times I think I am no good at all				

Lastly a confirmation of consent form was provided (Appendix I), alongside a debrief sheet (Appendix J) that provided further information about withdrawal of data, support services and thanked participants for their assistance.

2.5: Pilot study

A pilot study was conducted to establish the time it took to complete the survey and check for any errors that may have been missed. 5 participants (all female) took part in the study, 3 were in their final year of undergraduate, one was in a PLC course and the other was in a post-graduate degree. On average it took approximately 12 minutes to complete. Minor Grammar issues were reported and were subsequently amended. Additionally, some differentiation in answers to the questions regarding working hours was noted, as such, questions 11 and 12 were amended to avoid confusion.

2.6: Procedure

Participants were provided with either a link or a QR code to the Microsoft forms. Which first provided the information sheet and the consent form, both of which needed to be read before participation. Once participants had been informed of the study and had consented, they were then presented with the demographic questionnaire. After completing the demographic questionnaire, the participants were asked to complete the first 6 subscales of the Procrastination assessment scale for students (PASS) and the Rosenberg self-esteem scale. Participants were then asked to confirm their agreement for their data to be used in the present study. Lastly participants were provided with a debrief form and were thanked for taking part.

3.0 Results

3.1: Overview

The present study investigated the effects of hours worked weekly during the college term and procrastination on self-esteem. Participants were grouped into 4 groups based on the hours they worked during the week (no work [0 hours], low [1-11 hours], medium [12-19 hours] and high [20 or more hours]). Additionally, participants were divided into 4 groups based on their procrastination levels (K=4: low [0-31], medium [32-37] high [38-43] and very high [44 or more]).

The procrastination assessment scale for students had a robust Cronbach alpha of 0.9 and the Rosenberg self-esteem scale had a robust Cronbach's alpha of 0.88.

3.2: Descriptive statistics

220 students took part in the present study; however, 8 participants were removed due to failing to complete all questions in the survey (N=212).

For both the grouping procrastination and hours worked weekly, students were grouped according to percentiles.

Table 3-

Grouping of participants hours worked weekly

Percentile	Hours worked	Level
25	0	No work
50	1-11	Low
75	12-19	Medium
99	20 or more	High

Table 4-

Procrastination grouping

Percentile	Procrastination score	Level
25	0-31	Low
50	32-37	Medium
75	38-43	High
99	44 or more	Very high

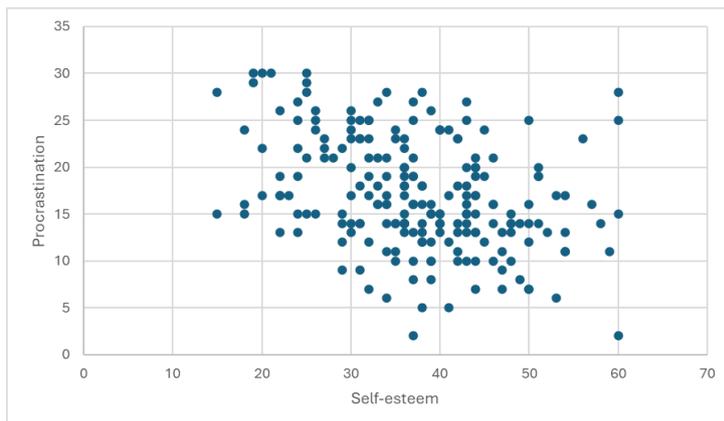
Table 5-

The mean, standard deviation, minimum, maximum and variance of procrastination, hours in employment and self-esteem.

	M	SD	Minimum	Maximum	Variance
Procrastination	37.42	9.67	15	60	93.54
Hours in employment	13.20	10.23	0	40	104.74
Self-esteem	17.07	5.93	2	30	35.12

Figure 3-

The distribution of procrastination and self-esteem of participants.



3.3 Inferential statistics

Preliminary analyses were carried out to ensure the assumptions of a two-way between groups analysis of variance were not violated. Levene's test for equality of variance was not violated for hours worked weekly ($F = [1.85]$ $p = [1.39]$) or for procrastination, ($F = [.94]$ $p = [.42]$). However, the assumption of normality was violated.

Table 6-

Shapiro - Wilk test of Normality

Variable	z score	Sig. Value
Hours worked weekly	.824	<.001
Procrastination grouping	.862	<.001

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Due to this violation of the assumptions of a two way between groups analysis, multiple Kruskal-Wallis tests were performed as a non-parametric alternative. Subsequent Mann-Whitney U post hoc was performed where statistically significant results were reported.

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Further pre-analyses were conducted to determine if the assumptions of the Kruskal-Wallis statistical analysis were violated. The variability of the variables differed so therefor mean ranks were interpreted.

A Kruskal-Wallis test was performed on the self-esteem scores based on hours worked weekly (no work, low, medium, high). The difference between the mean rank totals of 97.58 (no working), 107.42 (low), 97.14 (medium) and (116.97) were not significant ($H(3) = [4.11], P = .250$).

A Kruskal-Wallis test was performed on the self-esteem scores based on procrastination levels (low, medium, high and very high). The difference between the mean rank totals of 139.63 (low), 106.35 (medium), 95.61 (high) and 78.63 (very high) were significant ($H(3) = [27.310], P = .<001$).

A Kruskal-Wallis test was performed on the procrastination scores based on the hours worked weekly (no work, low, medium, high) the difference between the mean rank totals of 98.62 (no work), 103.81 (low), 133.53 (medium) and 100.73 (high) were significant ($H(3) = [8.62], P = 0.35$).

Subsequent Mann-Whitney U post hoc tests were conducted on self-esteem and procrastination with a Bonferroni adjustment (to account for the possibility of type 1 errors) $p < .0125$.

Table 7-

The results of the Mann-Whitneys performed comparing significance between levels of self-esteem based on procrastination.

Levels of procrastination	Z value	Sig value
Low vs medium	-2.998	.003*
Medium vs high	-1.01	.312
High vs very high	-1.53	.126
Low vs very high	-4.713	<.001*

Further Mann-Whitney U tests were conducted on hours worked weekly and procrastination with a Bonferroni adjustment (to account for the possibility of type 1 errors) $p < .0125$.

Table 8-

The results of multiple Mann-Whitneys U tests performed comparing significance between levels of procrastination, based on hours worked weekly.

Levels being compared	Z value	Sig value
No work and low	-.522	.602
Low and medium	-2.397	.017
Medium and high	-2.518	0.12*
Low and high	-.146	.884

4.0 Discussion

4.1: Overview of findings

The present investigated the effects of employment during college and procrastination on the self-esteem of college students. No statistical significance was found when analysing the self-esteem of the participants based on the hours, they spent in working weekly during the college term. However statistical significance was found on the self-esteem of college students based on their procrastination levels and on the procrastination levels of college students based on the hours they spent working weekly during the college term.

4.2: Hours worked weekly during the academic term

Hypothesis one was not supported. As in the sample collected in the present study, the hours worked weekly during the college term had no significant impact on the self-esteem of college students. These results were not in line with the findings of previous literature, that reported increased hours in employment increased self-esteem (Gomez-Jorge & Diaz-Garrido 2023). The lack of positive effect on self-esteem by hours spent working could be attributed to the fact that many college students do not work in a job related to their topic of study/career trajectory. Whilst studying to become qualified to pursue their wanted career many students work in hospitality and retail. It should be considered that previous findings found high self-esteem in a working adult population (Gómez-Jorge & Díaz-Garrido, 2023) that can be assumed were working in their desired career. as such it could be concluded that hypothesis one was not supported as many students do not work in their desired career during college. Therefore they may not attain as much of a sense of productivity and subsequent self-esteem from working.

Additionally, these results were not in line with previous research that gave rise to conclusions that increased hours in employment can cause a decrease in self-esteem. for example, findings that recreational activity increased self-esteem (Wang et al., 2022). Given the increasing number of students working during the college term, the results drawn from the sample are assuring that increased hours in employment have not impeded the self-esteem of the students significantly.

4.3: Procrastination

Hypothesis two was supported, in the sample collected in the present study there appeared to be a difference for students on their self-esteem scores, based on their procrastination. Students with high levels of procrastination reported lower levels of self-esteem. These findings are in line with previous literature. The Mann-Whitney U post hoc tests performed determined that the significance was present when comparing the low and medium levels of procrastination and when comparing the low and very high levels of procrastination. Increased procrastination caused lower self-esteem in the present study.

Hypothesis 2 Theoretical and Practical Implications

From these findings, several practical implications can be suggested. Educational institutes should be advised to consider implementing more academic supports to assist students in reducing their procrastination. Such supports could explain reasons that students may procrastinate in an accessible manner for example explaining the assumptions of the temporal motivation theory. (Steel & König, 2006) By making students more self-aware of why they may procrastinate, they could in turn reduce their academic procrastination. Additionally, supports regarding self-esteem in relation to academics (achievement and attainment) is advised to be established to support students whose self-esteem may have already been decreased due to procrastination and subsequent problems it may have caused across their college experience.

4.4: Hours worked weekly during the academic term and procrastination.

Hypothesis three was supported, in the sample studied, there was a significant interaction between hours worked weekly during the academic term and procrastination. The Mann-Whitney U tests identified significant differences between the medium and high procrastination groups. However, no significant findings were found when comparing the other levels.

As such from the results of these post Hoc, it can be concluded that students who worked 9-19 hours a week during the academic term had increased procrastination. These findings support that optimally students should not work more than 9 hours a week, as doing so can increase procrastination and could impede academic success. These results are like those found in previous studies that reported working 11 hours or more during the academic term had negative repercussions on students' academic achievement (Tessema et al.,2014).

The insignificant difference in the mean ranks of the not working and high working hours must be addressed, both groups had similarly high levels of procrastination. The high level of procrastination in the group that worked 20 or more hours per week could be attributed to increased hours in work limiting their psychological capacity (Saman & Wirawan, 2021) to complete academic tasks in a timely manner.

Hypothesis 3 theoretical and practical implications

The results could also be explained by the Temporal Motivation Theory (Steel & Konig, 2006). Students may prioritize work related tasks as they are deemed more important (failure to complete could result in employment being ceased) and subsequently not prioritize academic related tasks. -The high procrastination evident in those who do not work could be attributed to a lack of incentive to complete tasks in a timely manner from the added pressure of working. Working a low number of hours could facilitate a certain amount of pressure that forces students to not procrastinate.

As such, it can be concluded that employment is beneficial to students when they undertake no more than 9 hours weekly. To support students finding employment, educational bodies could encourage students to attend career fairs, join professional networking sites such as LinkedIn and provide students with resources to find employment. By doing so, educational bodies would be supporting an overall positive college experience for students. Which can be vital for student success (Lee, 2020).

4.5: Strengths

The entirety of the study was conducted with the uttermost ethical consideration and in line with the ethical guidelines of the institution it was conducted under. The procrastination assessment scale for students (Solomon & Rothblum, 1984) to establish the academic procrastination levels of a student sample. By employing a scale that is

specific to the student population and that's items are specific to academic domains, the results were targeted and specific to the area of research. Additionally, both the procrastination assessment scale for students and the Rosenberg Self-esteem (Rosenberg, 1965) scale was both previously been found to have high Cronbach's alphas and similar findings were reported in this study. Both scales having high internal consistency increased the reliability of the results.

When grouping the participants working hours, instead of simply comparing the students that do not work to those that did, students were grouped according to the number of hours they worked. This accounted for individual differences that may have been present in the students. For example, although two students could have both been working, a student that works 5 hours likely has a very difference working experience and subsequent effects when compared to a student that works 30 hours a week. This grouping was justified by the statistically significant differences in procrastination between students in difference working hours groups.

This study employed nonparametric statistical analysis, statistical procedures that are often more beneficial for smaller samples when compared to their parametric counterparts (Coolican, 2014). The Kruskal- Wallis and the Mann Whitney U tests are more sensitive to smaller sample size and thus the results of the study are strengthened by this. Furthermore, when interpreting the results of the Mann Whitney U tests, a Bonferroni adjustment was made to the p value. This adjustment accounted for the possibility of type 1 error and reduced the likelihood of one being made (Armstrong, 2014).

4.6: Weaknesses

The data was collected via an online self-report survey. Whilst this method poses some advantages, it could have resulted in several disadvantages. For example, it could give rise to the social desirability bias, in which participants answer questions in manner that they think will make them appear well-adjusted and socially acceptable (Larson, 2018). Alternatively, research participant bias could have occurred, in which participants may have answered in a manner they thought the researcher desired (McCambridge et al., 2014).

Due to the types of data collection, the majority of the participants are students in the Institute of Art, Design and Technology and from the South Dublin region. As such the

results of the study may be limited to that population. Additionally, whilst advantageous in some regards, are considered less powerful than their parametric counterparts (Nahm, 2016). Therefore, the results and conclusions addition to knowledge is limited.

4.7: Suggestions for future research

The method utilized in this study could be replicated but employ a parametric test such as a two-way ANOVA. By doing so any results reported could be used to infer conclusions about the student population. Additionally, the stage of study of the participants could be incorporated into the study as a covariate, to establish the impact of stage of study on self-esteem. The stage of study of participants has been analysed in previous research on procrastination (Rahimi & Hall, 2021). By adding this as a covariate, the study could also add to knowledge regarding changes in self-esteem across years. Such information could be used to provide additional supports from college institutes to years that are susceptible to drops in self-esteem (and subsequent subjective well-being).

Additionally, a longitudinal study could be conducted measuring students' self-esteem and procrastination in intervals over an academic year. By measuring procrastination and self-esteem at the beginning of the year and then at times of high stress. Researchers could further identify the cyclical relationship between the two factors. lastly, further research could be conducted into the procrastination of students who do not work during the college term. Researchers could employ all subsections of the procrastination assessment scale for students to identify their reasons for procrastination.

4.8: Conclusions

To conclude, the present study addressed a vital gap in research, addressing both the effects of employment during college and academic procrastination on the self-esteem of college students. Informed suggestions have been made for practical implications of the results and future research that could be conducted.

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Appendices

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Appendix A: Recruitment flyer

**EMPLOYMENT,
PROCRASTINATION
AND SELF-ESTEEM**

PARTICIPANTS NEEDED FOR A 4TH
YEAR APPLIED PSYCHOLOGY
THESIS

Scan to participate



Or follow the link
<https://forms.office.com/e/heKU4DhAY0>

**Participants
needed:**

- over 18
- In any stage of
third level
education

The study:

- Only takes 5-10
minutes to
complete
- Is completely
anonymous

IF YOU HAVE ANY
QUESTIONS, PLEASE
DON'T HESITATE TO
CONTACT THE
RESEARCHER
CAITLIN HENNESSY
AT
n00200358@iadt.ie

Appendix B: Ethics form

IADT Psychology Ethics Committee (PEC)

Application Form 2023-2024

Instructions:

1. Please read all sections carefully, include all of the information relevant to your project, and include all necessary appendices.
2. All students must complete Sections 1, 2, 3, and 4. You will also need to complete at least one other section, depending on the type of research that you plan to do.
3. Email the completed form to your supervisor for approval.
 - a. If your project is a red route application, then it must be submitted to your supervisor by **5pm on Monday 20th November 2023**.
 - b. If your project is a Green or Amber route application then it must be submitted to your supervisor by **5pm on Monday 27th November 2023**.
4. Your supervisor will then complete Section 0 and will forward the application to the ethics committee.
5. If your application is under the Red Route, then you may also be required to submit four printed copies of your application (including all appendices). You will be advised closer to the deadline if this is necessary or not.
6. If your study changes from how you have described it in this form then you will need to reapply for approval from the PEC. The PEC does not guarantee that a revised project will be approved, even if the original project was approved.
7. All communication between students and the PEC will occur via the student's project supervisor.
8. The PEC will consider all of the information provided in the form when making their decision. **Incomplete forms (including forms which do not include all of the necessary Appendices) will be rejected.**
9. If the PEC's decision is that a revised application must be made then they will provide a list of required changes which are necessary to ensure participant wellbeing. Even if all of these are followed, the PEC makes no commitment to approve a revised application.
10. It is highly recommended that 'Red Route' students continue to formulate ideas for projects which fit the criteria for 'Green Route' and 'Amber Route' submissions until they are advised that their application has been approved. This is to ensure that the student can still complete the module, even if their 'Red Route' project does not receive approval from the PEC.
11. There is an obligation on the researcher to bring to the attention of the PEC any issues with ethical implications not clearly covered by the checklist in Section 6 of this form.
12. 'Signatures' may be typed, scanned in, or digitally signed.
13. The Psychology Ethics Committee can refuse any application which they consider unsuitable for student research.
14. Occasionally further information may be requested by the PEC with regard to Green and Amber route project applications where there is uncertainty regarding these applications. In some cases a Green or Amber route project ethics application may need to be reformatted and resubmitted as a 'Red' route application.
15. If you receive approval from the Psychology Ethics Committee to proceed with your research, this is valid for 2 calendar years from the date approval is issued by the PEC chair.

All data collection must be completed within these 2 calendar years. If this time lapses during the course of your project data collection then you must reapply for ethical approval.

16. If your project when conducted does not conform to the project as described in your ethics application then you may be subject to certain outcomes. Depending on the circumstances, these can include a reduction in grade, a capping of the project module grade at a 'C', receiving an 'F' grade on the module, and/or potential invocation of the IADT Student Disciplinary Procedures.
17. Occasionally students wish to conduct projects on highly sensitive topics which would not be suitable for primary data collection. In these cases the student can consider 'Green' route methodologies (e.g. analysis of existing datasets, completing a Rapid Structured Literature Review, or similar). Approval by the PEC for all projects relating to sensitive topics is dependent on an appropriate and willing supervisor being available for such projects, and on the student's recognition that their pursuance of such a project is not mandatory and that they voluntarily chose such a project. Students should ensure that they are familiar with the supports available to them (for example, the student counselling service) and should ensure that their actions follow relevant legal statutes and requirements at all times. In exceptional cases a student can cease work on projects on highly sensitive topics and prepare a new project idea, although this may result in the need for a deferral or leave of absence in some cases.

Section 0: For Completion by the Supervisor

I confirm that this application to the PEC by Caitlin Hennessy (student name) accurately reflects all of the ethical implications in the project.

Application type (tick all that apply for mixed methods):

Green Route	<input type="checkbox"/>
Amber Route	<input checked="" type="checkbox"/>
Red Route	<input type="checkbox"/>

Signed



Date: 7th December 2023

Section 1: Project Information

Student Name: Caitlin Hennessy

Student Email Address: N00200358@iadt.ie

Supervisor Name: Dr Liam Challenor

Working Project Title: The effects of procrastination and hours worked weekly during the college term by college students on their self-esteem.

Main Variables Being Investigated: Independent variable 1: procrastination, independent variable 2: hours worked weekly, dependent variable: self esteem

Section 2: External Agencies

Does your project involve recruitment from any external agency (e.g. a school, sports club, medical centre, voluntary organisation, or any other organisation outside of the IADT)?	Yes*	No 
* You must include a letter from a senior manager of each organisation stating that you have approval to collect data within that organisation. Include copies of each of these letters in the Appendices to your application. If the organisation has its own ethical review board (which is very common in some settings, such as hospitals), then you are also required to get ethical approval from that board prior to starting data collection, and to submit notice of this approval to your supervisor so that it can be forwarded on to the ethics committee. Some online forums also require permission to post requests for participants – make sure to check the relevant forum/organisation's code of conduct or terms and conditions. You do not need to include approval letters if you are conducting recruitment using mainstream social media routes (e.g., Twitter, Instagram, Facebook, Snapchat, TikTok) to your own followers, and/or snowball sampling/word of mouth recruitment.		

Section 3: Project Methodology – Please tick which type of project you are seeking approval from the PEC for. If your project involves mixed methods, then tick all which apply.

Route Type	Methodology	Tick here
Green Route (no direct contact with participants required, and no data is collected/recorded which could identify participants)	Theoretical paper / systematic literature review / Rapid Structured Literature Review (RSLR)	
	Novel analysis of an existing dataset gathered by another researcher or group which you are certain has abided by appropriate ethical procedures for the relevant discipline	
	Observation of participants in a public place in which they could reasonably be expected to be observed by strangers or in an online space which does not require users to log in to access.	
	Content analysis of material which is publicly available and does not require users to log in to access content.	
	Other method without direct contact with participants **	
Amber Route (direct contact with participants, but no additional ethical considerations beyond the minimum requirements)	Requirements gathering for and/or user testing of a prototype which is highly unlikely to cause any harm or distress to participants and which does not aim to collect data from a potentially vulnerable group	
	An experiment which is highly unlikely to cause any harm or distress to participants and which does not aim to collect data from a potentially vulnerable group	
	A survey/questionnaire design which is highly unlikely to cause any harm or distress to participants and which does not aim to collect data from a potentially vulnerable group	
	An observational study which is highly unlikely to cause any harm or distress to participants and which does not aim to collect data from a potentially vulnerable group	

	Content analysis research which is highly unlikely to cause any harm or distress to participants and which does not aim to collect data from a potentially vulnerable group	
	Interviews and/or focus groups which are highly unlikely to cause any harm or distress to participants and which do not aim to collect data from a potentially vulnerable group	
	Other method which is highly unlikely to cause any harm or distress to participants and which does not aim to collect data from a potentially vulnerable group **	
Red Route (direct contact with participants, including one or more project aspects which require special ethical consideration)	Requirements gathering for and/or user testing of a prototype which may cause harm or distress to participants and/or which involves collecting data from any potentially vulnerable group	
	An experiment which may cause harm or distress to participants and/or which involves collecting data from any potentially vulnerable group	
	A survey/questionnaire design which may cause harm or distress to participants and/or which involves collecting data from any potentially vulnerable group	
	An observational study which may cause harm or distress to participants and/or which involves collecting data from any potentially vulnerable group	
	Content analysis research which may cause harm or distress to participants and/or which involves collecting data from any potentially vulnerable group	
	Interviews and/or focus groups which may cause harm or distress to participants and/or which involves collecting data from any potentially vulnerable group	
	Any project which includes use of any illegal materials or substances as part of the materials for the study, regardless of methodology employed.	
	Any project which includes use of any dangerous materials or substances as part of the materials for the study, regardless of methodology employed.	
	Any project employing ethnographic or autoethnographic methodologies.	
	Other method which may cause harm or distress to participants and/or which involves collecting data from any potentially vulnerable group **	
** If you are using a methodology not listed above then provide a short description (fewer than 100 words) here:		

Section 4: Checklist of Attached Appendices and Other Completed Sections

Applicable Project Ethics Route Colour Guide	Section / Item	I have attached this item/completed this section	I have checked with my supervisor and we have agreed that this item/section is not relevant to my project
	1 Section 1	✓	
	2 Section 2	✓	
	3 Section 3	✓	
	4 Section 4	✓	
	5 Letters of permission from any external agencies to be used for data collection		
	6 Statement of approval from ethical review boards in external agencies		
7 Section 5 (Green Route Projects only)			
	8 Section 6 (Amber and Red Route Projects only)	✓	
	9 Section 7 (Amber Route Projects only)	✓	
	10 Section 8 (Red Route Projects only)		
	11 Section 9 (Red Route Projects only)		
	12 Evidence of why you need to complete a Red Route Project (see note in Section 8)		

	13	Project Information Sheet (Red Route Projects only)		
	14	Project Consent Form (Red Route Projects only)		
	15	Project Demographic Questionnaire (Red Route Projects only)		
	16	All Other Questionnaires and Data Collection Materials (Red Route Projects only)		
	17	Project Debrief (Red Route Projects only)		

Section 5: Declaration of a Green Route project

I hereby declare that [all of / this aspect of (delete as appropriate)] my project involves no direct interaction between me and any research participants, and that having checked with my supervisor, that I do not need to seek informed consent from those whose data I use in my research. In addition, I will ensure that all data which I do gather is held in a manner which is compliant with GDPR, and will be deleted once it is no longer required (and definitely within 6 years of collection). At all times my study will be conducted in adherence to the ethical policies of the Psychological Society of Ireland and the British Psychological Society.

Student Signature: _____ Date: _____

Section 6: Confirmation of Adherence to Basic Ethical Principles for Amber and Red Route Projects

Complete the Table below with guidance from your supervisor. If you need to tick any of the 'red' boxes, then your project must be submitted under the 'Red Route'.

		Yes	No	N/A
6.1	I will describe the main research procedures to participants in advance so that they know what to expect. I will use the sample Information Sheet provided by PEC to do this.	✓		
6.2	I will tell participants that their participation is voluntary.	✓		
6.3	I will obtain written consent from participants using a 'tick' consent form which follows the current template provided by PEC prior to starting data collection.	✓		
6.4	I will verify that participants still wish to include their data in online studies by including a final indicator of consent at the end of the questions.	✓		
6.5	If my research involves content analysis or observation in any private or partially private setting then I will ensure to obtain informed consent prior to collecting data.	✓		

6.6	I will explain to participants that they can withdraw from the study at any time and for any reason.	✓		
6.7	I will ensure that participants know that they can refrain from answering any question that they don't want to, even if this is part of a psychometric scale.	✓		
6.8	If using an online data collection method I will ensure that the only questions which require answers in order to proceed are the questions relating to providing informed consent, and I will ensure that participants are provided with an option which indicates that they do not give their consent.	✓		
6.9	I will inform participants that their data will be treated with full confidentiality, and that, if published, it will not be identifiable as theirs.	✓		
6.10	I will debrief participants at the end of their participation (i.e. give them a brief explanation of the study, whether or not deception was involved) following the current template provided by PEC	✓		
6.11	I will obtain passive consent from parents/guardians for studies involving people aged between 16 and 18 years, as well as active consent from the participant and their school/organisation			✓
6.12	I will obtain active consent from parents/guardians for studies involving people aged under 16 years. Where feasible I will also obtain active consent from the participant themselves. I will ensure that the parent/guardian or their nominee (e.g. a teacher) will be present throughout the data collection period.			✓
6.13	I will ensure that my project supervisor has full access to the data that I collect and will only use data collection software which permits this.	✓		
6.14	I will ensure that my project supervisor retains full rights to the data collected, including the ability to delete all data at any time, and that third-parties (e.g., software companies) will not 'own' the data collected.	✓		
6.15	I will ensure that participants in studies involving Virtual Reality (VR) are not susceptible to extreme motion sickness or other physical conditions which may result in harm to the participants. I will ensure that a chaperone is present during VR sessions, and that the participant has the option of also having a nominee of their choosing present as well.			✓

6.16	I will ensure that any equipment used in this study is cleaned and disinfected after each participant, and that appropriate hygienic barriers (e.g. masks) are used by all participants			✓
6.17	Is there any realistic risk of any participant experiencing either physical or psychological distress or discomfort?		✓	
6.18	I plan to use animals as part of my research study			✓
6.19	I plan to tell participants their results on a task or scale which I am using in my research.		✓	
6.20	I am researching a sensitive topic which may cause some participants distress (such as, but not limited to, religion, sexuality, alcohol, crime, drugs, mental health, physical health, parenting, family relationships)		✓	
6.21	One or more aspects of my study is designed to change the mental state of participants in a negative way (such as inducing aggression, frustration, sadness, etc.)		✓	
6.22	My study involves deception or deliberately misleading participants in some way.			✓
6.23	My target population includes people who have learning or communication difficulties			✓
6.24	My target population includes patients (either inpatient or outpatient)			✓
6.25	My target population includes people in custody			✓
6.26	My target population includes people who may feel under personal or professional pressure to take part in my research (for example, close friends; family; employees or staff of managers or school principals who may support the research).			✓
6.27	My project includes the use of any illegal materials or substances as part of the materials for the study, regardless of methodology employed.			✓
6.28	My project includes the use of any dangerous materials or substances as part of the materials for the study, regardless of methodology employed.			✓
6.29	My project employs ethnographic or autoethnographic methodologies.			✓

Section 7: Declaration of an Amber Route project

I hereby declare that [all of / this aspect of (delete as appropriate)] my project involves no risk of physical, emotional, social or cognitive harm to participants; that I will obtain full informed consent from all participants and provide a full debrief afterwards (using the templates provided); that I will provide full anonymity and/or confidentiality to participants; and that my participants are not a potentially vulnerable population. In addition, I will ensure that all data which I gather is held in a manner which is compliant with GDPR and will be deleted once it is no longer required (and within 6 years of collection). At all times my study will be conducted in adherence to the ethical policies of the Psychological Society of Ireland and the British Psychological Society.

Student Signature: *Caitlin Hennesy* Date: 7th December 2023

Section 8: Additional Information for Red Route Projects

8.1 What are the aims of your research? Include your research question and hypotheses for all studies which are not exploratory in nature (Max. 100 words)
8.2 What is the specific reason(s) why this is a Red Route project? (Max. 100 words)
8.3 How will you ensure that participants are not harmed as a result of participation in your research, given your answer to 8.2 above (Max. 100 words)
8.4 Why do you need to do this project at this stage in your career? For example, is there a specific postgraduate programme which you wish to apply for which requires you to have completed research in this area? Do you have specific additional qualifications or experience which equip you to manage the additional ethical implications in this project? Bear in mind that if your main reason for wishing to do this research is because the area of study is important then your application is likely to be refused – in general it is better for research with important societal implications to be conducted at a time when you have more research experience. (Max. 100 words)
8.5 Provide rationale as to why other methodologies related to your chosen topic (such as a systematic review, RSLR, theoretical paper, content analysis, or analysis of an existing dataset) cannot be done in your case (Max. 100 words)

Appendix C: Ethical approval

Subject: The effects of procrastination and hours worked weekly during the college term by college students on their self-esteem.

Dear **Liam**

Thank you for forwarding the revised ethics application from Caitlin Hennessy

The amber route project entitled "The effects of procrastination and hours worked weekly during the college term by college students on their self-esteem." has been approved by the Psychology Ethics Committee and the student may proceed with data collection whenever you deem them to be ready.

Best wishes

Grainne

Appendix D: Information sheet

Information sheet

You are being invited to take part in the research investigating the effects of employment during college and procrastination on the self-esteem of college students. This project is being undertaken by Caitlin Hennessy for my major research project as part of the BSc (Hons) in Applied Psychology, IADT.

Before you decide whether you wish to take part, it is important for you to understand why this research is being done and what it will involve. Please take time to read this information carefully and discuss it with someone you trust. If there is anything that is unclear or if you would like more information please ask, our contact details are at the end of this information sheet. Thank you for reading this.

What is the purpose of the project

There is a discerning lack of research directly investigating the effects of employment during college on domains of the college experience. As the cost-of-living increases and more students are needing to take on part time work or increase their hours in employment, as such research investigating the effects of this are critical. This research aims to understand how employment during college, alongside procrastination effect college students' self-esteem.

Who is being invited to take part?

This study is for people over the age of 18, currently enrolled in third level education of some degree (In an institute of further Education, undergraduate degree, post graduate degree). Your working status (whether you are unemployed or employed currently will not have an impact on your eligibility to participate).

What is involved?

If you chose to participate, first you will be asked demographic questions, followed by a few short demographic questions, then questions to determine your working status and how many hours you work weekly during the academic term. Followed by 2 questionnaires, the first will ask you a series of questions regarding your procrastination tendencies and the second will ask you questions regarding your self-esteem.

Do I have to take part?

You are free to decide whether you wish to take part or not. If you do decide to take part, you will be asked to sign a consent form that lets us know you have read this information sheet and understand what is involved in the research. You are free to withdraw from this study at any time and without giving reasons.

Your choice to participate or to not participate will not have any impact on any future grades, assessments or future studies

What are the disadvantages and risks (if any) of taking part?

The present study may cause some distress if the topics of self-esteem or procrastination make you uncomfortable. You may decide to not participate or not answer these questions

or have your answers withdrawn from the study at any stage.

What are the possible benefits of taking part?

We cannot guarantee that the results of this study will help you directly or in the near future, but the information from the study will help to increase the understanding of improving the college experience and work life balance of college students.

How will my information be used?

Your responses to the questionnaire will be combined with all other participants data and statistically analysed. No individual's data will be identifiable in the final report. The results of this analysis will be reported in the thesis for the BSc (Hons) in Applied Psychology in the Dun Laoghaire Institute of Art, Design & Technology. This can be requested through the library at IADT, or by emailing the researcher or supervisor at N00200358@iadt.ie and Liam.Challenor@iadt.ie This study may also be published in an academic journal article and may be written about for blog posts or media articles, and these can be requested from the researcher.

How will my data be protected?

Under the EU General Data Protection Regulation (GDPR) the legal basis for collecting data for scholarly research is that of public interest. The regulations regarding the protection of your data will be followed. Only data which is needed for analysis will be collected. By giving your consent to take part in the study you are consenting to the use of your data as detailed in this information sheet.

The data will be retained by the researcher for at least one year and may be retained for up to 7 years if the results of the study are published in certain capacities (e.g. in a journal article). There is also a possibility that the fully anonymised dataset may be submitted to a journal and made available to other researchers and academics worldwide for verification purposes, but if this occurs it will be ensured that you are not identifiable from the data.

As the supervisor on this project, I, Liam Challenor, am responsible for ensuring that all datasets will be stored in accordance with GDPR regulations and those which are not submitted to a journal will be fully deleted on or before date 5 years from data collection.

Data access and storage

The data collected in the study will only be accessible to the researcher (Caitlin Hennessy), the research supervisor (Dr Liam Challenor) and Dr Christine method. The

data will be secured securely on password protected computers. If there is any form of data breach the data protection officer in IADT will be informed immediately and the according amendments will be made. The data will be extremely unlikely to be identified back to the participant, due to the individual identifier code. The data will be stored for 5 years and disposed of thereafter.

You will find contact information for IADT's Data Protection Officer, Mr Bernard Mullarkey, and more information on your rights concerning your data at <https://iadt.ie/about/your-rights-entitlements/gdpr/>

Who has reviewed the study?

This study has been approved by the IADT Psychology Ethics Committee.

What if you have any questions or there is a problem?

If you have a concern about any aspect of this study, you may wish to speak to the researcher(s) who will do their best to answer your questions. You should contact Caitlin Hennessy at N00200358@iadt.ie or their supervisor Liam Challenor at Liam.Challenor@iadt.ie

Thank you for taking time to read this information sheet. If you chose to participate, your willingness to do so is wholeheartedly appreciated.

Date

14/12/23

What if you have any questions or there is a problem?

If you have a concern about any aspect of this study, you may wish to speak to the researcher(s) who will do their best to answer your questions. You should contact Caitlin Hennessy at N00200358@iadt.ie or their supervisor Liam Challenor at Liam.Challenor@iadt.ie

Thank you for taking time to read this information sheet. If you chose to participate, your willingness to do so is wholeheartedly appreciated.

Appendix E: Consent form

I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.

- Yes
- No

I understand that my participation is voluntary and that I am free to withdraw at any time.

- Yes
- No

I am over 18 years of age.

- Yes
- No

I agree to take part in this study.

- Yes
- No

I understand that data collected about me during this study will not be identifiable when the research is published.

- Yes
- No

Appendix: F: Demographic questionnaire

1. Please provide us with an anonymised code which we can use to identify your data if you later wish to have it removed from our dataset. Please do so by answering the following two questions:

What are the second letters of your first and last name? (For example, if your name is Jane Smith, these letters would be 'AM')

What are the last three digits of your telephone number?

For example, AM534

Please select the option that you identify as

- Male
- Female
- Prefer not to say.
- Other

Please enter your age

Please enter your stage of study

- PLC course
- First year of undergraduate degree
- Second year of undergraduate degree
- Third year of undergraduate degree
- Fourth year of undergraduate degree
- Post-graduate degree
- Other

Are you currently working alongside your studies? (if your answer is no, you will automatically be taken to the next section of the questionnaire)

- Yes
- No

Are you on a fixed-hours contract? If so, please select an option that best applies to your contract or specify the hours you are contracted to work. If you are on a 0-hour contract or are unaware if you are on a fixed-hours contract, please select 0-hour contract and proceed to the next question.

- 0-hour contract
- 10-hours contract
- 20-hours contract

- 30+ hours contract

If you are not on a fixed hours contract or work varying hours each week, please calculate your average weekly working hours (during the academic term).

Your weekly average hours worked during the academic term can be calculated by first taking the hours you have worked each week in the past four weeks during the college term. Please exclude any hours you may have worked during holiday seasons, breaks from college or exam periods. Only include hours that were worked during a normal week during the academic term.

Add all the hours together and divide by four to find your average working hours.

Appendix G: Procrastination assessment scale students

Procrastination Assessment Scale for Students (PASS)

Areas of Procrastination

For each of the following activities, please rate the degree to which you delay or procrastinate. Rate each item on an "a" to "e" scale according to how often you wait until the last minute to do the activity. Then indicate on an "a" to "e" scale the degree to which you feel procrastination on that task is a problem. Finally, indicate on an "a" to "e" scale the degree to which you would like to decrease your tendency to procrastinate on each task.

I. WRITING A TERM PAPER

1. To what degree do you procrastinate on this task?

Never	Almost Never	Sometimes	Nearly Always	Always
Procrastinate				Procrastinate
a	b	c	d	e

2. To what degree is procrastination on this task a problem for you?

Not At All	Almost Never	Sometimes	Nearly Always	Always
a Problem				a Problem
a	b	c	d	

3. To what extent do you want to decrease your tendency to procrastinate on this task?

Do Not Want		Definitely		
to Decrease				to Decrease
a	b	c	d	

II. STUDYING FOR EXAMS

4. To what degree do you procrastinate on this task?

Never	Almost Never	Sometimes	Nearly Always	Always
Procrastinate				Procrastinate
a	b	c	d	e

5. To what degree is procrastination on this task a problem for you?

Not At All	Almost Never	Sometimes	Nearly Always	Always
a Problem				a Problem
a	b	c	d	

6. To what extent do you want to decrease your tendency to procrastinate on this task?

Do Not Want		Somewhat		Definitely want.
to Decrease				to Decrease
a	b	c	d	

III. KEEPING UP WITH WEEKLY READING ASSIGNMENTS

7. To what degree do you procrastinate on this task?

Never	Almost Never	Sometimes	Nearly Always	Always
Procrastinate				Procrastinate
a	b	c	d	e

8. To what degree is procrastination on this task a problem for you?

Not At All	Almost Never	Sometimes	Nearly Always	Always
a Problem				a Problem
a	b	c	d	e

9. To what extent do you want to decrease your tendency to procrastinate on this task?

Do Not Want to Decrease		Somewhat		Definitely Want to Decrease
a	b	c	d	e

IV. ACADEMIC ADMINISTRATIVE TASKS: FILLING OUT FORMS, REGISTERING FOR CLASSES, GETTING ID CARD

10. To what degree do you procrastinate on this task?

Never Procrastinate	Almost Never	Sometimes	Nearly Always	Always Procrastinate
a	b	c	d	e

11. To what degree is procrastination on this task a problem for you?

Not At All a Problem	Almost Never	Sometimes	Nearly Always	Always a Problem
a	b	c	d	e

12. To what extent do you want to decrease your tendency to procrastinate on this task?

Do Not Want to Decrease		Somewhat		Definitely Want to Decrease
a	b	c	d	e

V. ATTENDANCE TASKS: MEETING WITH YOUR ADVISOR, MAKING AN APPOINTMENT WITH A PROFESSOR

13. To what degree do you procrastinate on this task?

Never Procrastinate	Almost Never	Sometimes	Nearly Always	Always Procrastinate
a	b	c	d	e

14. To what degree is procrastination on this task a problem for you?

Not At All a Problem	Almost Never	Sometimes	Nearly Always	Always a Problem
a	b	c	d	e

15. To what extent do you want to decrease your tendency to procrastinate on this task?

Do Not Want to Decrease		Somewhat		Definitely Want to Decrease
a	b	c	d	e

VI. SCHOOL ACTIVITIES IN GENERAL

16. To what degree do you procrastinate on this task?

Never Procrastinate	Almost Never	Sometimes	Nearly Always	Always Procrastinate
a	b	c	d	e

17. To what degree is procrastination on this task a problem for you?

Not At All a Problem	Almost Never	Sometimes	Nearly Always	Always a Problem
a	b	c	d	e

18. To what extent do you want to decrease your tendency to procrastinate on this task?

Do Not Want to Decrease		Somewhat		Definitely Want to Decrease
----------------------------	--	----------	--	--------------------------------

a b c
 Appendix H: Rosenberg self esteem

	Strongly agree	Agree	Disagree	Strongly disagree
I feel that I am a person of worth, at least on an equal plane with others				
I feel that I have a number of good qualities.				
All in all, I am inclined to feel that I am a failure.				
I am able to do things as well as most other people.				
I feel I do not have much to be proud of.				
I feel I do not have much to be proud of.				
I take a positive attitude toward myself.				
On the whole, I am satisfied with myself.				
I wish I could have more respect for myself.				
I certainly feel useless at times.				
At times I think I am no good at all				

Appendix I: Confirmation of consent

Having completed the questionnaire:

- I Consent to the researcher using my answers for their research.
- I wish to have my answers removed from the research.

Appendix J: Debrief.

DEBRIEFING INFORMATION FORM

Title of Project: The effects of employment during college and procrastination on self esteem of college students

Name of Researcher: Caitlin Hennessy

Thank you very much for taking part in this research study.

What is the purpose of the project?

There is a discerning lack of research directly investigating the effects of hours worked in employment during college on domains of the college experience. As the cost of living increases and more students need to take on part-time work or increase their hours in employment, research investigating the effects is critical. This research aims to understand how employment during college, alongside procrastination affects college students' self-esteem.

The effects of working during the college term and procrastination are crucial area of investigation. The surveys you and others completed will help understand how these two factors effect the self esteem of college students. This information will help in making suggestions of the optimal hours that should be worked during the college term that do not impede the over all college experience. It will also assist in suggesting further supports third level institutions can give students in decreasing procrastination tendencies, offering financial aid and more flexible college timetables.

Withdrawal information

If you have any questions about this study, or if you would like to withdraw your data from the study, please contact the researcher or supervisor at N00200358@iadt.ie or Liam.Challenor@iadt.ie In your email let them know your unique ID code (second letter of your first and last name and the last 3 digits of your phone number). If you submit a request for data removal, all data collected from you will be securely deleted. You will be able to remove your data from the study until <enter the date when data analysis will start> when the data will be combined and analyzed. Data removal will not be possible after that date. Please keep a copy of this information in case you wish to remove your data after leaving this screen.

Data protection

Your data will be treated according to GDPR regulations. You will find contact information for IADT's Data Protection Officer, Mr Bernard Mullarkey, and more information on your rights concerning your data at <https://iadt.ie/about/your-rights-entitlements/gdpr/>

Support resources

If you have been affected by the content of this study in anyway, the organisations below may be of assistance.

Within

IADT:

The student Councillor service is available free of charge to any student in IADT. They provide one to one counselling sessions covering a variety of issues. studentcounselling@iadt.ie.

The student learning center in IADT can offer a variety of supports for students, including

assistance with organisation and tools to reduce procrastination.
learningdevelopment@iadt.ie

Outside of IADT:
50808 provide support services through text 24/7. The can provide support through a variety of issues, including stress stemming from college or work.

Apps to help with procrastination:
There are a variety of mental health apps that have been curated to help reduce procrastination and assist with focusing and motivation. These include: Forest, Mindly, Habitica and Freedom.

Appendix K: Testing the assumptions of two-way ANOVA (levenes and normality).

Tests of Normality

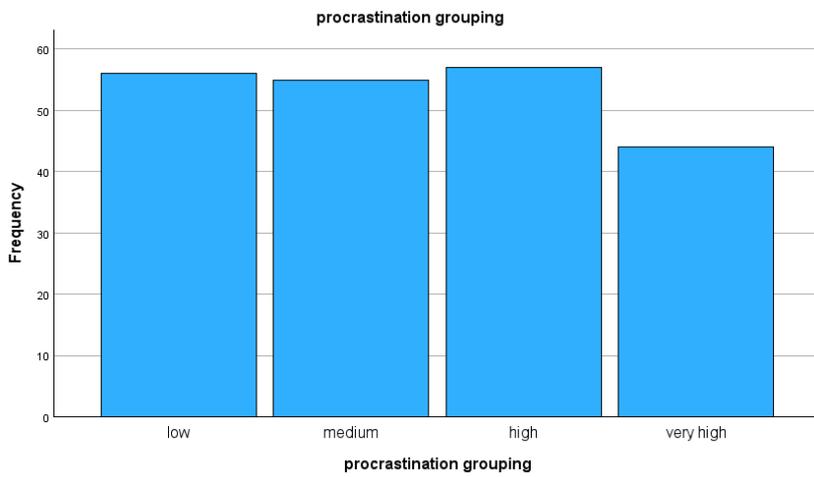
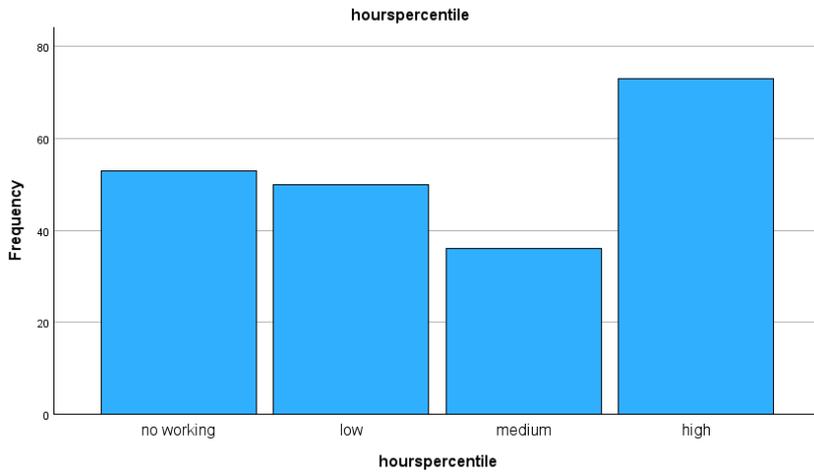
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
hourspercentile	.222	212	<.001	.824	212	<.001
procrastination grouping	.179	212	<.001	.862	212	<.001

a. Lilliefors Significance Correction

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
hourspercentile	Based on Mean	.946	26	185	.544
	Based on Median	.499	26	185	.981
	Based on Median and with adjusted df	.499	26	108.694	.978
	Based on trimmed mean	.898	26	185	.611
procrastination grouping	Based on Mean	1.671	26	185	.028
	Based on Median	.735	26	185	.822
	Based on Median and with adjusted df	.735	26	131.175	.818
	Based on trimmed mean	1.616	26	185	.037

Appendix L: assumptions of Kruskal-Wallis (variability of variables)



Appendix M: SPSS outputs for hypothesis 1
Kruskal- Wallis output tables

Ranks			
	hourspercen- tile	N	Mean Rank
SE-	no working	53	97.58
TOTAL	low	50	107.42
	medium	36	97.14
	high	73	116.97
	Total	212	

Test Statistics^{a,b}	
	SE- TOTAL
Kruskal-Wallis H	4.111
df	3
Asymp. Sig.	.250

a. Kruskal Wallis Test

b. Grouping Variable: hour-
percentile

Appendix N: SPSS outputs for hypothesis 2

Kruskal-wallis output tables

Ranks

procrastination grouping		N	Mean Rank
SE-	low	56	139.63
TOTAL	medium	55	106.35
	high	57	95.61
	very high	44	78.63
	Total	212	

Test Statistics^{a,b}

SE-TOTAL	
Kruskal-Wallis H	27.310
df	3
Asymp. Sig.	<.001

a. Kruskal Wallis Test

b. Grouping Variable:
procrastination grouping**Mann-Whitney U output tables**

Ranks

procrastination grouping		N	Mean Rank	Sum of Ranks
SE-	low	56	65.06	3643.50
TOTAL	medium	55	46.77	2572.50
	Total	111		

Test Statistics^a

	SE-TOTAL
Mann-Whitney U	1032.500
Wilcoxon W	2572.500
Z	-2.998
Asymp. Sig. (2-tailed)	.003

a. Grouping Variable: procrastination grouping

Ranks

procrastination grouping		N	Mean Rank	Sum of Ranks
SE-TOTAL	medium	55	59.65	3281.00
	high	57	53.46	3047.00
	Total	112		

Test Statistics^a

	SE-TOTAL
Mann-Whitney U	1394.000
Wilcoxon W	3047.000
Z	-1.012
Asymp. Sig. (2-tailed)	.312

a. Grouping Variable: procrastination grouping

Ranks

procrastination grouping		N	Mean Rank	Sum of Ranks
SE-TOTAL	high	57	54.91	3130.00
	very high	44	45.93	2021.00
	Total	101		

Test Statistics^a

	SE-TOTAL
Mann-Whitney U	1031.000
Wilcoxon W	2021.000
Z	-1.531
Asymp. Sig. (2-tailed)	.126

a. Grouping Variable: procrastination grouping

		Ranks		
procrastination grouping		N	Mean Rank	Sum of Ranks
SE-TOTAL	low	56	62.60	3505.50
	very high	44	35.10	1544.50
	Total	100		

Test Statistics^a

	SE-TOTAL
Mann-Whitney U	554.500
Wilcoxon W	1544.500
Z	-4.713
Asymp. Sig. (2-tailed)	<.001

a. Grouping Variable: procrastination grouping

Appendix O: SPSS output for hypothesis 3

Kruskal-Wallis output tables.

	Ranks		Mean Rank
	hoursper- centile	N	
TOTAL PROCRASTINATION	no working	53	98.62
	low	50	103.81
	medium	36	133.53
	high	73	100.73
	Total	212	

Test Statistics^{a,b}

TOTAL PRO- CRASTI- NATION	
Kruskal- Wallis H	8.616
df	3
Asymp. Sig.	.035

a. Kruskal Wallis
Test

b. Grouping Variable: hourspercentile

Mann-Whitney U output tables

	Ranks		Mean Rank	Sum of Ranks
	hoursper- centile	N		
TOTAL PROCRASTINATION	no working	53	50.51	2677.00
	low	50	53.58	2679.00
	Total	103		

Test Statistics^a

	TOTAL PRO- CRASTINA- TION
Mann-Whitney U	1246.000
Wilcoxon W	2677.000
Z	-.522
Asymp. Sig. (2- tailed)	.602

a. Grouping Variable: hourspercen-
tile

Ranks

	hourspercen- tile	N	Mean Rank	Sum of Ranks
TOTAL PROCRASTINA- TION	low	50	38.03	1901.50
	medium	36	51.10	1839.50
	Total	86		

Test Statistics^a

	TOTAL PRO- CRASTINA- TION
Mann-Whitney U	923.500
Wilcoxon W	3624.500
Z	-2.518
Asymp. Sig. (2- tailed)	.012

a. Grouping Variable: hourspercen-
tile

Ranks

	hourspercen- tile	N	Mean Rank	Sum of Ranks
TOTAL PROCRASTINA- TION	no working	53	62.94	3336.00
	high	73	63.90	4665.00
	Total	126		

Test Statistics^aTOTAL PRO-
CRASTINA-
TION

Mann-Whitney U	1905.000
Wilcoxon W	3336.000
Z	-.146
Asymp. Sig. (2-tailed)	.884

a. Grouping Variable: hourspercentile