Burnout rates among undergraduate students when compared to employed non-students

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Burnout Rates in Undergraduate Students

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Abstract

Burnout is caused from prolonged stress, which can result in physical and emotional exhaustion. This thesis set out to determine whether burnout levels considerably higher in third level students when compared to employed non-students. The aim of the research was to explore university student's level of academic burnout and to investigate whether it was significantly higher when compared to employed non-students. It hypothesised that (i) burnout levels are considerably higher in the student population when compared to working non-students and (ii) students that work while attending university will have higher burnout rates when compared to non-working students. The main objective of the research was to gain insight into the burnout levels of undergraduate students and compare them to employed non-students to determine if there was a statistically significant difference between both groups. Burnout was measured using the "Maslach Burnout Inventory Survey". A quantitative method was used in gathering and analysing the data. Questionnaires were distributed online via Survey Monkey to participants. A one-way between-groups multivariate analysis of variance was performed to investigate burnout differences in students and non students. The results demonstrated that burnout was higher in undergraduate students. Furthermore, limitations of the research and future implications are discussed.

Introduction

Burnout is caused from prolonged stress which can result in physical and emotional exhaustion (W. B. Schaufeli, Leiter, & Maslach, 2009). Burnout typically arises in response to chronic stress that has become unmanageable (Leiter & Maslach, 2003). Burnout influences an individual's performance on a personal and a professional level and arises in both employment and academic institutions (Borritz et al., 2006). The term "burnout" was first introduced to describe a state of mental exhaustion. This was particularly common among human service professionals due to their consistent and demanding communication with recipients which includes both patients and clients (Freudenberger, 1974; Hu & Schaufeli, 2009).

Burnout has been researched extensively over the past number of decades (Altaf & Awan, 2011). From this research, the conceptualisation of burnout as a psychological syndrome responding to chronic prolonged stress had emerged. The psychological term burnout consists of a sense of overwhelming exhaustion, cynicism and self efficacy (Duru, Duru, & Balkis, 2014). These are the three fundamental dimensions of burnout response. Consequently, burnout leaves individuals with a sense of dissatisfaction which may influence them to detach themselves from the world (Cherniss & Cherniss, 1980).

Maslach et al., (2001) explored the three dimensions of burnout. The component of exhaustion represents the individuals stress element of burnout. Specifically, this relates to an individual's feelings of being drained and overextended of one's physical and emotional resources. The self-efficacy component represents the

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self-assessment element of burnout. This component refers to the sense of lack of achievement and incompetence. The component of cynicism represents the interpersonal context element of burnout. It is concerned of callous, negative or excessively detached responses to varied components of work (Maslach, Schaufeli, & Leiter, 2001). Exhaustion is a significant factor of burnout and is one of the key predictors of this syndrome. When individuals describe themselves as experiencing burnout, they frequently refer to encountering exhaustion. This is the most thoroughly analysed and widely reported aspect of burnout. Some argue that due to the strong indication of exhaustion with burnout, that the other two factors are not necessary (Shirom, 1989). However, while exhaustion is a core principle of burnout, it is not a sufficient predictor on its own. Exhaustion captures the stressful aspect of burnout, but it fails to reflect on the critical element that individuals have with their work (W. B. Schaufeli et al., 2009).

Exhaustion can cause someone to distance themselves from their work both cognitively and emotionally, presumably as a way of trying to cope when it becomes overwhelming (Maslach, 2001). Cynicism is an attempt at distancing the individual and the recipients by using cognitive distancing. The individuals use this mechanism by developing a cynical indifference attitude when they are discouraged or exhausted. Distancing is a direct response to exhaustion and a strong relationship from exhaustion to cynicism is consistently found in existing burnout literature.

However, the third factor, self-efficacy is somewhat more complicated in comparison to the other two aspects of the burnout. In various situations, it appears that cynicism and exhaustion or combinations of both of these factors are the most

reoccurring predictors of burnout whereas self-efficacy is a more difficult factor to anticipate (Byrne, 1994; Lee & Ashforth, 1996).

Burnout typically arises when an individual feels emotionally drained, overwhelmed and when they are unable to keep up with their workloads (Maslach, 2001). Moreover, as this stress progresses on, the individual could lose interest and the motivation to fulfil a role that they took on. For example, university students are under a great deal of pressure, which may cause stress to become unmanageable. Student burnout occurs as a result of being exposed to a substantial amount of pressure (Brazeau, Schroeder, Rovi, & Boyd, 2010). Research has already established that the primary cause of burnout occurring in any individual, regardless of their profession is due to a build up of work overload and their lack of control over this, which ultimately leads to one experiencing burnout (Maslach et al., 2001). Moreover, burnout can cause a dramatic reduction in productivity levels for the completion of work, which is caused from lower commitment to their work from individuals that are experiencing these burnout symptoms (Cordes & Dougherty, 1993; Maslach, 1978; Maslach & Pines, 1977; Yang, 2004).

Furthermore, burnout is now considered a public health concern because in addition to the negative effects on mental and physical health, it also has social and economical costs on the state (Rössler, 2012). Of all psychological disorders, depression is the leading cause of work related disability worldwide (Friedrich, 2017). Furthermore, research suggests that approximately twenty percent of the working population suffer from a psychological disorder and are more likely to take sick leave

from work due to this throughout the working year (Co-operation & Development, 2012). The need for disability benefits because of mental illnesses is one of the highest costs on pension funds within Europe (Rössler, 2012). Moreover, there is a robust body of evidence linking depression and burnout levels to one another and it is due to this relationship that burnout has become a public health concern to the state (Bakker et al., 2000; Bianchi, Schonfeld, & Laurent, 2015; Kahill, 1988).

Burnout has already been researched extensively in the working environment (Galián-Muñoz, Ruiz-Hernández, Llor-Esteban, & López-García, 2016; Maslach & Leiter, 2016; Pavelková & Bužgová, 2015; Wagaman, Geiger, Shockley, & Segal, 2015). However, the interest in investigating burnout has extended to examining undergraduate students, nevertheless this has predominantly focused on those who are enrolled in health related entry to practice educational degrees such as nursing, medicine and pharmaceutical courses (Pérez-Mármol & Brown, 2018). Interestingly, Malakh-Pines, Aronson & Kafry (1981) compared burnout levels in counsellors, teachers, nurses and undergraduate medical students. Medical students were classified as having high levels of burnout using the MBI scale, indicating that burnout is prevalent among university students and is comparable to professionals (Malakh-Pines, Aronson, & Kafry, 1981).

Furthermore, most students have additional responsibilities to their academic work and therefore they may struggle to find balance in managing it all (Moreau & Leathwood, 2006). Existing research suggests that most students will have a job to support themselves while in education (Dundes & Marx, 2006; Moreau & Leathwood, 2006). There is a robust body of evidence supporting that work related burnout exists

(Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), however, although it has been suggested that academic burnout is prevalent in the student population, there are significantly fewer studies investigating it and whether working while enrolled in education contributes to burnout levels. Research suggests the core activities which undergraduate students engage in are the primary contributors to academic burnout (Aghajari et al., 2018). Students are engaged in coercive, goal related activities throughout the course of the semester which includes attending classes with the aim to complete various forms of assessments such as passing both examinations and assignments (Mizrachi & Bates, 2013). While university may be a pleasant experience for many students, research shows that a significant proportion of students do struggle to manage throughout the semester (Bataineh, 2013). Academic burnout has severe negative affects on students mental, physical and psychological well-being (Backović, Ilić Živojinović, Maksimović, & Maksimović, 2012).

Based on previous research of academic burnout, a broad range of complications and symptoms of poor academic performance occur (Cecil, McHale, Hart, & Laidlaw, 2014). These include lack of participation in class activities, lacking the enthusiasm to learn course material, and the inability to absorb lesson material due to a sense of meaningless in the academic subjects (Stoeber, Childs, Hayward, & Feast, 2011). Psychological and physical symptoms include sleep disorders, headaches, nutrition, depression; drug and alcohol abuse and burnout can impair the individual's performance (Cecil et al., 2014; Naami, 2009; Rudman & Gustavsson, 2012; Salmela-Aro, Tolvanen, & Nurmi, 2009; Zhang, Gan, & Cham, 2007). Student burnout consequently leads to lower motivation to complete the required work for

modules, higher absence to class and ultimately a high drop out from university (Gifford, 1985; Meier & Schmeck, 1985; Yang, 2004).

The individuals workload is a key factor in explaining the phenomenon of burnout (Maslach, Jackson, Leiter, Schaufeli, & Schwab, 1986; Yang, 2004). An individual's work load is their energy and time (Wright & Bonett, 1997). If an individual senses that their valued resources are vulnerable, their psychological and physical conditions will change to some degree. Workload suggests that if an individual, within a limited amount of time, experiences numerous problems and cannot resolve them, they will then feel an overload (Yang, 2004). When students perceive this course overload, they experience lower satisfaction, low academic performance, a sense of failure, and tension (Lin & Huang, 2014). Course load is defined as when a student in the process of learning, due to limited time is presented with many course problems that they cannot solve, thus they feel overloaded (Yang, 2004). In addition, existing findings has suggested that university students course load is one of the main contributions to student stress (Sarros, 1988). If a student perceives a course load to be unmanageable, they will have a lower academic achievement due to burnout (Macan, Shahani, Dipboye, & Phillips, 1990).

The number of university student that are employed either part time or full time while enrolled in higher education is increasing. According to Nonis & Hudson, (2006), 39% of students in their first year of college work 16 or more hours on a weekly basis (Nonis & Hudson, 2006). In comparison, a more recent study reported that over eighty percent of undergraduate students work while enrolled in third level education (Darolia, 2014). In 2002, the Higher Education Research Institute

discovered that 65.3% of students entering their first year of college are concerned about their income and whether it will amount to enough to support them throughout the course of the semester (Nonis & Hudson, 2006). Interestingly, women appeared to be more concerned regarding their income (70.9%) than men (58.3%), (Nonis & Hudson, 2006). In addition, the existing literature examining the relationship between gender and burnout has produced generally inconsistent findings (Purvanova & Muros, 2010). A meta-analysis study examining gender differences in burnout within the workforce found that male employees reported higher levels of cynicism than females. In comparison, they found that female employees were more emotionally exhausted than men (Purvanova & Muros, 2010). However, in a study carried out by Ali, Liaqat, Sethi, & Irfan (2018) that investigated the frequency of burnout in medical students found no difference between burnout scores across genders. In this study there were 253 female and 120 male participants. There was no statistically significant difference across genders in burnout scores (Ali, Liaqat, Sethi, & Irfan, 2018). In another study, the findings suggested that females have significantly higher levels of burnout when comparison to males (Backović et al., 2012). Moreover, it's fair to conclude that the literature on burnout across both genders has produced inconsistent results regarding the direction and the strength of the relationship.

The student's environment is an important factor that also influences their achievement and academic burnout rates (Midtgaard, Ekeberg, Vaglum, & Tyssen, 2008). A multicentre research trial that was conducted across the United States found that life events, shared learning environment and personal characteristics all directly correlated with burnout rates (Shanafelt et al., 2009). Previous research suggested that

female students often had more social support, therefore displayed more rational

decisions in regards to prioritising decisions regarding their studies (Dunn, Iglewicz,

& Moutier, 2008). This may be viewed as a potential protective factor against

burnout. However, managing social positions in addition to university takes up an

individual's time and energy too.

Interestingly, of the all demographic factors that have been examined, age

appears to be the most consistently related to burnout (Peisah, Latif, Wilhelm, &

Williams, 2009). A study that consisted of 771 participants that worked in the

construction industry ranged from age 17-74 demonstrated that that younger

employees from age 20 to late 30's reported higher levels of burnout than their co-

workers that were over 40 years old (Zacher, Jimmieson, & Bordia, 2014). According

to the Higher Education Authority of Ireland, 41,108 undergraduate students aged 29

and under were enrolled in a full time degree. The existing literature suggests that

burnout has been reported to decrease with ageing within the professional field

(Maslach et al., 2001; W. Schaufeli & Enzmann, 1998), however, it has yet to be

examined in undergraduate students. In two nationally representative Finnish samples

that were excluding young adults as participants found a positive association between

burnout rates and age (Ahola, Honkonen, Virtanen, Aromaa, & Lönnqvist, 2008).

However, the participant's type of employment, level of education, marital status, and

hours spent working did not correlate with their burnout levels (Ahola et al., 2008).

Research on the effects burnout has on university students is valuable for

many reasons. Previous research links burnout to mental illnesses such as depression,

sleep disorders, anxiety (Glass & McKnight, 1996; Soares, Grossi, & Sundin, 2007). Burnout has been examined extensively in both the professional and academic field (Laschinger & Fida, 2014). However, while the issue of burnout has been addressed in the student population, the majority of research in this area has concentrated on students in medical courses with patient responsibilities (i.e. medical students or nurses) (Dyrbye et al., 2008; Guthrie et al., 1998; IsHak et al., 2013; Santen, Holt, Kemp, & Hemphill, 2010). One study with a sample of 279 student nurses discovered that more than fifty percent of the participants reported high levels of burnout (Haack, 1988). In a study in the United States, researchers discovered that burnout appears to increase with each year that the students progressed in university (Dyrbye et al., 2006). This study consisted of 545 medical students and burnout appeared to be present in 239 of those participants. Employment concerns for the future also had a significant impact on medical students level of burnout (Erturgut & Soyşekerci, 2010). Burnout has not been addressed in the general undergraduate student population. It is evident from the existing literature that all undergraduate students are under a great deal of pressure due to the extensive academic course load and number of responsibilities that they are required to complete. Thus, this can result in academic stress becoming unmanageable.

Despite the belief that burnout is primarily linked to work and academic related stress, personal life also demonstrate a strong relationship to burnout (Hakanen & Schaufeli, 2012; Ray & Miller, 1994). However, there is little literature examining these effects on undergraduate students. Moreover, the literature suggests that burnout in non-students is generally caused from unmanaged work related stress. In comparison, existing research has found that over eighty percent of undergraduate

students work while enrolled in third level education (Darolia, 2014) and these students would therefore have the potential to be exposed to both work-related and academic burnout. This existing literature suggests that students under a great deal of academic pressure can lead to burnout (Stoliker & Lafreniere, 2015) and as substantial number of undergraduate students work while in enrolled in a university, working students may therefore be more susceptible to developing high rates of burnout. No study has yet to compare academic burnout to work burnout.

While taking into consideration the negative outcomes that high burnout levels can have on any individual, this research would be beneficial to all undergraduate university students and those concerned for student's welfare. This research sets out to facilitate student's psychological well being and aid academic performance by improving and adding to the understanding of burnout literature. It is evident both the value and contributions that all of this research has added to the scientific literature on student burnout. However, the current study proposes addressing the gap in the literature by examining burnout levels in any undergraduate student to investigate whether this amounts to a more significant level than non-students of the same age categories.

Moreover, no studies have attempted to look at the levels of academic burnout in all-undergraduate students and whether working while enrolled in education contributes to it. The purpose of this research is to investigate the effects of academic burnout among all undergraduate students and compare these levels to non-students that have jobs. Furthermore by doing so, it can then be determined whether

undergraduate students burnout levels amount to a statistically significant higher amount in comparison to non-students. It is envisaged that subgroup analysis (including gender and working students) will yield interesting findings to the research.

Research Question

The research question is: 'Are burnout levels considerably higher in third level students when compared to working non-students'.

Research Aims

The aims of the current study are (i) to explore university student's level of academic burnout and (ii) whether this amounts to significantly higher levels of burnout when compared to employed non-students and (iii) to explore burnout rates amongst working undergraduate students in comparison to non-working undergraduate students.

Hypotheses

It is hypothesised that (i) burnout levels are considerably higher in the student population when compared to working non-students and (ii) students that work while attending university will have higher burnout rates when compared to non-working students.

Objectives

The objectives of the current study are to gain insight into the burnout levels of undergraduate students and compare them to non-students to determine if there is a statistically significant difference between both groups. Another objective is to contribute to the scientific literature on student burnout.

Methods

Participants

A total of amount of 288 individuals entered this study. However, 39 individuals dropped out of the study. There was a 86.1% completion rate by participants that entered this study, leaving a drop out rate of 13.9%. There were a total of N=249 participants in this study, 58 males, 189 females and 2 participants that chose not to disclose their gender. Participant groups consisted of n=144 undergraduate student and n=105 non-student participants that were employed. However, the student sample of this study was further sub-divided into undergraduate students that worked while enrolled in university and non-working undergraduate students; Working students n=102 and non-working students n= 42.

By using this research sample, this will determine whether burnout is more prevalent in the student population in comparison to employed non-students. Participants were recruited through social media including sites such as Facebook, Twitter and Linked In. Surveys were also posted on relevant forums including both Boards.ie and Reddit.com.

Study Group

A purposeful sample of undergraduate students from social media were recruited. The inclusion criteria for this research were any undergraduate students aged between 18-40 years old were eligible to be included in this research.

Non-student group

A purposive sampling of employed non student individuals were recruited from social networking sites to participate in this research. The inclusion criteria included any individual's that were employed and aged between 18-40 years old were recruited for the non student-group for this study. The exclusion criteria for this research excluded any unemployed participants from this study. This study is aims to match workload responsibilities (i.e. academic or employment) between students and non-student's to compare burnout rates and therefore excluded any unemployed individual's that took part in this research, as they did not meet the criteria.

Design

This study is a quantatative research study. The research design is a case-control cohort observational study. Also known as observational design, case control cohort observational studies are implied when no intervention is necessary, only observation. This design will allow us to determine whether the rate of burnout is statistically significant between both of our participant groups. In this study, the independent variable is group identity and the dependents variable is emotional exhaustion, cynicism and self-efficacy.

Materials

In order to measure burnout, a validated quantatative meausre called 'The Maslach Burnout Inventory Student Survey'. In additon to this scale, there was a number of demographic questions regarding the participants characteristics that were also included (see appendix B).

Maslach Burnout Inventory

The Maslach Burnout Inventory (MBI) is a validated scale that is used to measure burnout rates. It is a 22-item instrument that is considered the gold standard for measuring burnout (Kahill, 1988; Manuel, Somohano, & Bowen, 2017; Maslach, Leiter, & Schaufeli, 2008). The MBI is the leading measure of burnout and since it's publication over 35 years ago, it has been validated extensively throughout literature (Leiter, 2017). The MBI Human Services Survey (MBI-HSS) was the original version of the Maslach Burnout Inventory and is the most widely used version. This was designed for professionals in the human services, it is acceptable for measuring burnout across a range of professions including social workers, police, physicians, nurses, counsellors and any other field that focuses on helping individuals improve their lives by offering guidance, improving cognitive, emotional or physical problems and also preventing harm (Laschinger & Leiter, 2006).

The Maslach Burnout Inventory General Survey (MBI-GS) was adapted for measuring burnout in professions other than in the field of education and human services. This includes individuals that are employed in the areas of customer service,

manufacturing, maintenance and many other occupations(W. B. Schaufeli, Salanova, González-Romá, & Bakker, 2002).

Furthermore, the Maslach Burnout Inventory Student Survey (MBI-SS) is an adaptation of the MBI-GS. This adaptation was designed for assessing burnout among university and college students. The MBI-SS addresses three scales, including exhaustion, self-efficacy and cynicism. Cynicism measures feelings of distant attitude or indifference toward your studies. Exhaustion measures feelings of being exhausted and over extended by one's studies. Self-efficacy measures feelings of satisfaction with past and present achievements, and it particularly relates to an individual's sense of achievements. The Maslach Burnout Inventory Student Survey was used to address burnout in undergraduate students in this study. This questionnaire has three subscales. Exhaustion was measured with five items (e.g. "I feel burned out from my studies"), Cynicism was measured with four items (e.g. I have become less interested in my studies since my enrolment at the university) and academic efficacy was measured with six items (e.g. I feel stimulated when I achieve my study). All items were scored on a seven point frequency rating scale which ranges from 0: never to 6: always. Individuals that score high on cynicism and emotional exhaustion, and score low on academic efficacy indicate burnout. Moreover, the item of self-efficacy items is reversed scored.

Existing literature demonstrates that burnout is associated with students and the MBI-SS has been validated extensively since this link has been established and has been deemed both reliable and valid (Galán, Sanmartín, Polo, & Giner, 2011; Hu & Schaufeli, 2009; Yavuz & Dogan, 2014).

Maslach Burnout Inventory Student Survey Adaptation

The MBI-SS was adapted for the purpose of running the data analysis on this research. In order to compare undergraduate student's level of burnout to employed non-students, all participants must enter into one survey to perform statistical analysis on the data that is collected. As the MBI-SS specifically addresses burnout in students, the questions were therefore adapted to suit the employed non-student participants too. For example, one of the questions on the original MBI-SS is "I feel burned out from my studies". However, for the purpose of this research it was altered to "I feel burned out from my studies/work" (see appendix B). There were a number of adaptations made to tailor the questions within this survey to cater to both of the groups of participant's occupations that took part in our study. Furthermore, while the wording of the questions themselves were not altered, when the MBI-SS questionnaire specified the nature of a question to students by using terms including 'university' or 'studies', words such as 'employment' and 'work' were added in to these questions to ensure that it was suitable for all participants.

Scoring the Maslach Burnout Inventory Student-Survey

According to the MBI-SS, high scores in the subscale of exhaustion and cynicism indicate burnout, whereas low scores in self-efficacy indicate burnout. Emotional exhaustion is considered high if the burnout score is > 27, moderate emotional exhaustion burnout scores are from 17 to 26 and low emotional exhaustion burnout scores are from 0 to 16. Cynicism is considered high when one scores >12, moderate cynicism burnout score are from 7 to 11, and low cynicism burnout score are from 0 to 6. Burnout was defined in this study as a high when scoring high in the items of emotional exhaustion or cynicism. It must be noted that conversely low

scores mean a high burnout score on the self-efficacy scale. Self-efficacy is considered as a high burnout score when one scores between 0 to 31, its considered moderate burnout between 32 to 38, and its considered a low burnout score when its > 39. The mean scores for the intensity and frequency of burnout rates are calculated. The participants are then characterised as having high, moderate or low rates of burnout according to the Maslach Burnout Inventory. Scoring high mean scores on the item of emotional exhaustion and cynicism are classified as high burnout. However, low mean scores on the item of self-efficacy indicate high burnout (da Silva et al., 2014; Hayter, 2000; Maslach et al., 2001).

Procedure

Ethical approval was obtained from National College of Ireland's Ethical Committee. The survey was then created and administrated online via Survey Monkey. At the beginning of the survey, there was a participant information sheet which outlined what the purpose of this research was, the general aims and nature of the study (see appendix B). This information sheet emphasised the anonyminity of the participants and explained to that they have the right to withdraw from the study up until they submit the survey by exiting the window of their computer at any time. Participants completed the surveys electronically via Survey Monkey. No personal data was collected during this survey that could identify the participants that took part as preserving the participants confidentiality was a key feature to this research.

After the information regarding the participation information was presented, there was a consent statement. The consent statement outlined the data transfer practices, which then asked the participants to agree or disagree. This consent

statement was a multiple choice question which presented individuals with a choice to to agree or disagree to participating in this research. If an individual selected the option disagree to the consent statement, they were automatically disqualified as a participant for this study.

After participants agreed to the consent statement, there was five demographic questions and then the MBI-SS questionnaire. The survey was filled out online by participants. The total completion took approximately 5 minutes. At the end of the MBI-SS questionnaire, there was a debriefing form. This debriefing form thanked the participants for taking part in the study and gave them some more background information about the study and why they participated in it (see appendix B).

Data Analysis

The data for this study was collected and collated in Survey Monkey. This data was then transferred and analysed using SPSS statistics software. The data that was collected from the Maslach Burnout Inventory Student Survey was analysed on Microsoft Excel. First, the data was recoded. This Excel file was then transferred into the SPSS software to begin running the data analysis. The scores for the three subscales of the MBI-SS were computed into three separate total scores according to the instructions of the MBI manual. Descriptive statistics were run. Prelimminary assumption was run to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance- covariance matrices, and multicollinearity. Next, a Multivariate analysis (MANOVA) test was used to determine whether burnout was higher in undergraduate students or non-student participants.

Results

Descriptive Statistics

Participants were 58 male (23.0%, M= 1.44, SD = .72), and 189 females (76.0%, M = 1.20, SD = .72) and 2 participants chose not to disclose their gender (1.0%, M= 2.33, SD =.58). The majority of the participants who took part in the study were aged between 18-25 years old (73%, n= 182), 18% were aged between 25-34 (n= 45), and 9% was aged between 35-40 years old (n= 22). The majority of participants that took part in this research were employed; Students that worked while enrolled in university (n=102) and employed non-students (n=105). However, one sixth of participants were made up of non-working undergraduate students, n= 42.

Descriptive statistics for the current sample on gender and age on each demographic variable is displayed in table 1. The current table displays frequencies for all participants that completed the online survey (n = 249). Non completers of the survey (n= 39) were excluded for particular completions.

Table 1

Frequencies for the current sample of gender and age on each demographic variable (N = 249)

Variable	Frequency	Valid Percentage
Gender		
Male	58	23.3
Female	189	75.9
Not Disclosed	2	0.8
Age		
18-24	182	73.1
25-35	45	18.1
35-40	22	8.8

The MBI-SS recommends reporting means and SD of each of the subscales. The scores of exhaustion subscale, which is inversely associated with burnout showed a higher mean item score (18.35, SD = 7.4) when compared to the other two subscales. Descriptive statistics of the MBI-SS subscales are given in Table 2.

Table 2

Descriptive statistics of all continuous variables

	Mean (95% Confidence Intervals)	Std. Error Mean	Median	SD	Range
Exhaustion	18.35 (17.44-19.27)	.465	19	7.4	0-30
Cynisism	10.91 (9.99-11.83)	.466	11	7.4	0-24
Self Efficacy	7.65 (6.93-8.38)	.368	7	6.0	0-28

Inferential Statistics

A one-way between-groups multivariate analysis of variance was performed to investigate burnout differences in students and non students. Three dependent variables were used: exhaustion, cynicism and self efficacy. The independent variable was group identity. Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity. No serious violations were noted. Participants were divided into three subcatagories: working undergraduate students, non-working undergraduate students and employed non-students. There was a statistically significant difference between participants on the combined dependent variables, $F(6, 4.88)$ 7.5, $p = .000$; Wilks' Lambda .83; partial eta squared .08. When the results of for the dependent variables were considered separately, two factors difference to reach statistical significance, using a Bonferroni adjusted alpha level of .017, was exhaustion, $F (2, 246)$ 15.27, $p = .000$, partial eta squared .11 and self-efficacy $F (2, 246)$ 5.66, $p = .004$, partial eta squared .04.

Working undergraduate students scored higher in exhaustion ($M = 21, SD = 5.7$) than cynicism ($M = 11.7, SD = 7.0$) and self-efficacy ($M = 8.2, SD = 5.3$). Non-working undergraduate students also scored higher in exhaustion ($M = 20, SD = 6$) than cynicism ($M = 12, SD = 7$) and self-efficacy ($M = 10, SD = 7$). Employed non-students scored highest in exhaustion ($M = 16, SD = 8$) and cynicism ($M = 10, SD = 8$) and self-efficacy ($M = 6.3, SD = 6$).

Upon inspection of the multiple comparisons across groups, total exhaustion scores for non-working students compared to working students was non-significant $p = .67$. Total exhaustion scores for non-working students compared to employed individual was significant $p = .04$. Total exhaustion scores for working students compared to employed individuals was highly significant $p = 0.00$.

Total cynicism scores for non-working students compared to working students was non-significant $p = .97$. Total cynicism scores for non-working students compared to employed individuals was non significant, $p = .23$. Total exhaustion scores for working students and employed individuals was non-significant $p = .15$.

Total self-efficacy for non-working students compared was non-significant $p = .33$. Total self-efficacy scores for non working students compared to employed individuals was significant $p = .05$. Total self-efficacy scores for working students compared to employed individuals was non-significant $p = 0.6$.

Global exhaustion scores across groups (n = 249) was non-significant $p = .62$. Global cynicism scores across groups (n = 249) was non-significant $p = .18$. Global self-efficacy scores across groups (n = 249) was non-significant $p = .27$.

Discussion

This study examined the level of burnout rates among undergraduate students and employed non-students to determine whether there was a statistically significant difference between both groups. The primary aims from this research that included exploring university student's level of academic burnout and to then investigate whether this was significantly higher when compared to employed non-students. Finally, the last aim was to explore burnout rates amongst undergraduate working students and compare them to non-working students to investigate whether there was a difference among these groups.

Concerning burnout, our results highlighted that emotional exhaustion, which is an important indicator of burnout was significant across our entire participant groups that were non-working students, working students and non-students. However, on inspection of the mean scores of emotional exhaustion levels, working undergraduate students scored the highest (M = 21), and then non-working students (M= 20) and lastly non-students scored the lowest (M= 15.4). Emotional exhaustion was highest among undergraduate students. According to the MBI-SS, emotional exhaustion is considered high if the burnout score is 27 or above, it is considered as moderate emotional exhaustion burnout scores between 17 and 26, and low emotional exhaustion burnout scores are from 0 to 16 (Hakanen, Bakker, & Schaufeli, 2006). Based on the standardised score for this item, undergraduate students are considered moderately burned out, whereas non-students are considered to have low burnout levels.

On the item of cynicism, both non-working undergraduate students and working undergraduate students reported non-significant scores of burnout. However, the employed non-students reported statistically significant scores on the item of cynicism. Interestingly, on an inspection of the mean scores the two subgroups of undergraduate students presented the same levels of cynicism, non-working undergraduate students (M= 12) in comparison to working undergraduate students (M= 12). Employed non-students indicated the lowest levels of cynicism (M= 10). According to the MBI-SS, cynicism is considered high when one scores 12 or above, cynicism is classified as moderate burnout when scores range from 7 to 11, and low cynicism burnout scores are classified ranging between 0 to 6. Furthermore, this indicates that both groups of undergraduate students have high levels of cynicism. However, non-students are considered to have moderate levels of burnout on this subscale. Existing research has suggested cynicism and emotional exhaustion or a combination of both these factors is the most reoccurring and dominant predictors of burnout (Byrne, 1994; Lee & Ashforth, 1996; Maslach & Leiter, 2016; Maslach et al., 2001). Moreover, these items were both prevalent within our sample, which is consistent with existent findings on burnout research.

On the item of self-efficacy, non-working undergraduate students reported no significant difference in self-efficacy scores. Similarly, working undergraduate students reported no significant difference in self-efficacy scores. However, non-students reported significant scores on this item. Cynicism is considered high when an individual scores from 10.0 or higher. Moreover, upon inspection of the mean scores, both undergraduate student groups suffer experience this symptom of burnout.

Working students reported (M= 11.7), and non-working students (M = 12) indicating that both groups are experiencing this element of the subscale and have negative levels of self-efficacy. However, non-students reported (M= 10), indicating that non-students also scored high on this element and have therefore have negative levels of self-efficacy. According to the MBI-SS, it must be noted that low scores mean a high burnout score on the self-efficacy scale. Self-efficacy is classified as a high burnout when scores are ranging between 0 to 31, it is considered as moderate burnout when scores are ranging between 32 to 38, and its considered as a low burnout score when its greater than 39 as this item is reversed scored. All groups within this sample report high burnout rates on the item of self-efficacy.

When examining previous studies on burnout, Leiter and Maslach (2016) identified five burnout profiles from burnout research, which are called burnout, disengaged, overextended, and ineffective and engagement. The profiles are identified through the scores per subscale in the MBI. Burnout is classified as scoring moderate to high in the items of exhaustion and cynicism and scoring low in self-efficacy. Disengaged is scoring high in cynicism, moderate in exhaustion and moderate in self-efficacy. Overextended is scoring high in exhaustion, moderate in cynicism and moderate in self-efficacy. Ineffective is scoring low in self-efficacy, moderate in exhaustion and moderate in cynicism. Lastly, the engagement profile is scoring low in exhaustion, low in cynicism and high in self-efficacy (Maslach & Leiter, 2016).

The findings from this research suggest that all of the participants within this study are experiencing burnout symptoms. However, undergraduate students report

experiencing higher levels of burnout than employed non-students. The undergraduate student participants in this study are categorised as experiencing high levels of burnout (Maslach & Leiter, 2016).

An examination of the literature in relation to Maslach and Leiter (2016) in relation to the current study, undergraduate students are categorised as burned out due to their high levels of emotional exhaustion, cynicism and low levels of self-efficacy. Both students and non-students were considered as highly burned out on the item of self-efficacy. Existing research demonstrates that once beginning university, numerous undergraduate students regret the degree that they chose (Kucel & Vilalta-Bufí, 2013; Mora, 2010). Low self-efficacy refers to a sense of lack of accomplishment in one's work, less successful achievements and diminished feelings of competence (Schwarzer & Hallum, 2008) and if a student is not passionate about their field of research, this may contribute to these low levels of self-efficacy. The results from this research indicated that university students scored extremely low on the item of self-efficacy. Furthermore, employees that are experiencing burnout is linked to their career satisfaction (Griffin, Hogan, Lambert, Tucker-Gail, & Baker, 2010). Other findings suggest that demographic factors including an individuals education and age relates to their level of stress and their job satisfaction (Koc & Bozkurt, 2017). For example, one study that examined teachers found that their job satisfaction correlated with their level of burnout (Nagar, 2012). Teachers that experienced high levels of stress due to inordinate time demands, lack of available resources and lack of sufficient support scored extremely high levels of burnout and were unhappy with their current employment situation (Nagar, 2012). (Pagnin et al., 2013)

It has already been established that an individuals workload is a key factor in explaining the phenomenon of burnout (Maslach et al., 1986; Yang, 2004). It is suggested that when individual experiences an overwhelming amount of work to complete with a limited time frame, over a repetitive cycle it can lead to burnout (Yang, 2004). Undergraduate students are under a great deal of pressure to meet deadlines and research has suggested that when they perceive academic course overload, they experience low satisfaction, low academic performance, a sense of failure, and tension (Lin & Huang, 2014). Additionally, existing research has found that university students work load is one of the main contributions to student stress and burnout (Sarros, 1988) which would have an impact on the self-efficacy item within the MBI-SS scale.

Two hypotheses were tested; Hypothesis (1) if burnout levels are considerably higher in the student population when compared to working non-students and (2) students that work while attending university will have higher burnout rates when compared to non-working students. Furthermore, we can accept the null hypothesis one as burnout was considered high in undergraduate students whereas it was considered moderate in employed non-students. However, we reject the null hypothesis two, as burnout was not significantly higher in working undergraduate students when compared to non-working undergraduate students.

Interestingly, the results of our study found burnout to be highest within participants aged between 18-24 years old on the three subscales, emotional exhaustion (M= 20), cynicism (M=11) and self-efficacy (M= 8). This is consistent

with existing research, as burnout has been reported to decrease with age (Ahola et al., 2008; Maslach et al., 2001; W. Schaufeli & Enzmann, 1998). In comparison, burnout rates amongst the other two groups of participants are significantly lower, 25-35 exhaustion (M= 16), cynicism (M= 11) and self-efficacy (M= 8). The participants' age between 35-40 years old scored the lowest of all groups, exhaustion (M= 13), cynicism (M= 7) and self-efficacy (M= 8). Of all the demographic factors that have been examined with burnout, it appears that age continuously produces the most consistent results (Peisah et al., 2009). One study which examined employees aged from seventeen ranging to seventy found that the younger employees reported significantly higher levels of burnout than their co-workers that were over forty years old (Zacher et al., 2014). Results from the current study are consistent with existing literature.

However, there was a difference between burnout scores across examining the male and female participants separately. The results from this study highlighted that gender appeared to have an influence on the participant's levels of burnout. More specifically, females had significantly higher levels of exhaustion and cynicism, both of which are key factors in predicting of burnout (Maslach & Leiter, 2016). Existing literature has demonstrated a conflicting relationship between gender and burnout (Greenglass, Burke, & Ondrack, 1990; Purvanova & Muros, 2010). However, within our study female working students demonstrated the highest level of burnout rates among all three dimensions of the MBI scale across all three groups of participants. Consistent with our findings, Dyrbye (2006) examined whether gender differences affected burnout and found that female students also presented higher burnout rates

than males (Dyrbye et al. 2006). Similarly, in another study the results also found that females had significantly higher burnout rates in comparison to males (Backović et al., 2012). However, contradicting these findings, a more recent study that examined the frequency of burnout between male and female students found that there was no significant difference across genders in burnout scores (Ali et al., 2018).

Implications

Existing research has demonstrated that in addition to work related stress, burnout is also strongly linked to personal life demonstrating a significant relationship (Hakanen & Schaufeli, 2012; Pagnin et al., 2013; Ray & Miller, 1994). However, there is little research that examines such influences on undergraduate students. Future research should focus on trying to identify the factors that contribute to high burnout in undergraduate students. It would be interesting to examine the environmental factors on undergraduate students burnout such as their academic support system. Furthermore, it has been established that being a parent can influence individual's levels of burnout within the professional field (Salmela-Aro, Tynkkynen, & Vuori, 2011). More specifically, it would be interesting to examine undergraduate student's that have children or another dependent to care for and determine whether these factors influences burnout rates as no study to date has investigated this.

Moreover, it is fair to conclude that workload does contribute to individual's burnout rates. However, many people, both in academic and professional fields appear to cope more successfully than others with heavy workloads. Perhaps it is how one responds to workload rather than the amount of work itself that contributes to their level of burnout. Future research should consider developing distinct measures of subjective workload and objective workload and exploring them separately as predictors of burnout. Some findings have found that the number of semesters that medical students attended university for correlated with their burnout rates finding that the longer a student is attending university, the higher their burnout levels are (Backović et al., 2012; Pagnin et al., 2013; Sohail, 2013). Future research should consider examining this in the general undergraduate population.

Strengths

The current study presents an opportunity for universities to support their students. Universities could put a system in place to identify students that are currently experiencing burnout symptoms. Universities should also work toward identifying students that may potentially be at risk of developing burnout symptoms. Existing research has found that predictors of burnout such as high scores in cynicism and exhaustion and low scores of self-efficacy were significant predictors in a longitudinal study investigating suicidal thoughts in undergraduate students (Dyrbye et al., 2008). The current study adds to the dearth of literature examining undergraduate student burnout. Burnout is a well-known concept that has been extensively investigated among individuals in the professional field. While the concept of burnout has been addressed within selected student populations, this

research investigated the differences between academic burnout compared to work burnout. This research offers in insight into an otherwise under-researched question with this specific population. Lastly, the completion rate is high and attrition was really low.

Limitations

Our study has several limitations. Firstly, our response rate is comprised of undergraduate students (144) and employed non-students (105), and response bias is a possibility that should be considered. The effect of academic, personal and professional stress on our response rate is unknown. One could hypothesise that burned out individuals may be less motivated to fill out a survey or that they would be more likely to participate because the topic is relevant to them. Second, our sample was slightly biased toward within the age category, as 72% of the participants were of age ranging between 18-25 years old. However, according to the Higher Education Authority, a significant proportion of undergraduate students are below the age of 29 so this may accurately represent the student proportion of our sample. This study was also populated by a largely female sample. Future research should aim for sampling that more accurately reflects gender proportions in universities. Whether the level of burnout or experience of burnout symptoms among non-responders differs by these demographic characteristics is unknown. Lastly, the distribution between the samples was not equal. Working undergraduate students consisted of n =102 participants, employed non-students consisted of n =105 participants, whereas non-working undergraduate students consisted of a sixth of participants with only n = 42 within this

subgroup. Studies that use groups with equal sample sizes maximise statistical power of their findings.

Conclusion

Burnout is a well-known concept that has been extensively investigated among individuals in the professional field. While the concept of burnout has been addressed within selected student populations, this research investigated the differences between academic burnout compared to work burnout. Results from this research found that burnout was considered to be high in undergraduate students, whereas it was considered to be moderate within the employed non-students participants. Undergraduate students scored higher on the items of cynicism and emotional exhaustion, which are two very important predictors of burnout. In summary, our results indicated that there is a high prevalence of burnout among the undergraduate student participants. Moreover, they also suggest that there is an increased risk for developing burnout among female students that work while enrolled in university. Future research is needed to develop practical ways for identifying university students that could be a potential risk of developing high burnout rates. Moreover, burnout can have severe negative effects on students academic performance and psychological well-being and by carrying out future research, investigating successful coping strategies to implement for individuals with the intent of reducing student distress to improve the overall psychological well being of all undergraduate students would be beneficial. Interventions regarding coping strategies for managing academic workloads are also interesting possibilities to explore in the future.

Ethics statement

This study has been conducted in accordance with the recommendations of the National College of Irelands ethics committee guidelines. Ethical approval was obtained prior to commenement of this research.

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Appendix A

The original Maslach Burnout Inventory Student Survey

Exhaustion

1. I feel emotionally drained by my studies.

2. I feel used up at the end of a day at university.

3. I feel tired when I get up in the morning and I have to face another day at the

university.

4. Studying or attending a class is really a strain for me.

5. I feel burned out from my studies.

Cynicism

1. I have become less interested in my studies since my enrollment at the university.

2. I have become less enthusiastic about my studies.

3. I have become more cynical about the potential usefulness of my studies.

4. I doubt the significance of my studies.

Self-Efficacy

1. I can effectively solve the problems that arise in my studies.

2. I believe that I make an effective contribution to the classes that I attend.

3. In my opinion, I am a good student.

4. I feel stimulated when I achieve my study goals.

5. I have learned many interesting things during the course of my studies.

6. During class I feel confident that I am effective in getting things done

Appendix B   55

The online MBI-SS survey that includes demographic questions, participant

information sheet and debriefing forms.

National College of Ireland

Maslach Burnout Inventory

Welcome to My Survey

Participant Information Sheet Service User

What is the purpose of this research? You are being asked to participate in a research study. We want to ask you about your experience of college/employment workload

What procedures will be performed for research purposes? If you agree to take part in the study you will be asked to complete an online survey. If you agree to be a part of the study we will anonymise your information, this means that your information will not have your name on it. The researcher from NCI will store your anonymised information.

What are the potential risks of taking part in this study? There are no risks attached to your participation in this study. If you feel like the survey has caused you any discomfort or distress, there will be contact details of relevant helplines which provide emotional support.

What are the potential benefits of taking part in this study? There are no immediate benefits to participants. The main benefit is to help improve the literature on student/work burnout in people aged 18-24.

1

Do I have to take part? It is up to you whether you decide to take part or not. If you decide not to take part, we will entirely respect your decision. If you do decide to take part you will need to tick the consent box at the beginning of the survey. You are still free to withdraw from this research at any time.

What will happen to the study results? The results of this research will be presented in National College of Ireland to students and faculty members. Your data will not be traceable back to you in any way.

Further information: You can get more information or answers to your questions about the study, your participation in the study, and your rights, from the researcher Sophie McGuinness Ivers. Sophie can be contacted via email at Smcguinness@gmail.com

Thank you for considering contributing to our study.

* 1. I am happy for the information gathered about me to be passed on to the researcher without my name or any identifying information.

I, hereby consent to participate in the described study as outlined in the information sheet.

◯ Yes

◯ No

National College of Ireland

Maslach Burnout Inventory

Demographic Questionnaire

National College of Ireland

Maslach Burnout Inventory

Maslach Burnout Inventory Student Survey

* 7. I feel emotionally drained from my studies/work

◯ Never   ◯ Once a week

◯ A few times a year   ◯ A few times a week

◯ Once a month or less   ◯ Everyday

◯ A few times a month

* 8. I feel used up at the end of the day at university/work

◯ Never   ◯ Once a week

◯ A few times a year   ◯ A few times a week

◯ Once a month or less   ◯ Everyday

◯ A few times a month

* 9. I feel tired when I get up in the morning and I have to face another day at the university/at work

◯ Never   ◯ Once a week

◯ A few times a year   ◯ A few times a week

◯ Once a month or less   ◯ Everyday

◯ A few times a month

4

* 10. Studying or attending a class/work is really a strain for me

○ Never   ○ Once a week

○ A few times a year   ○ A few times a week

○ Once a month or less ○ Everyday

○ A few times a month

* 11. I feel burned out from my studies/from work

○ Never   ○ Once a week

○ A few times a year   ○ A few times a week

○ Once a month or less ○ Everyday

○ A few times a month

* 12. I have become less interested in my studies/job since starting at university/work

○ Never   ○ Once a week

○ A few times a year   ○ A few times a week

○ Once a month or less ○ Everyday

○ A few times a month

* 13. I have become less enthusiastic about my studies/work

○ Never   ○ Once a week

○ A few times a year   ○ A few times a week

○ Once a month or less ○ Everyday

○ A few times a month

* 14. I have become more cynical about the potential usefulness of my studies/job

○ Never   ○ Once a week

○ A few times a year   ○ A few times a week

○ Once a month or less ○ Everyday

○ A few times a month

* [illegible]

National
College of
Ireland

[illegible]

Thank you for participating in this research. This debriefing form will provide you with some background about our study to help you understand why you are participating in it. Please feel free to ask questions or comment on any aspect of the study. The purpose of this study is to gain insight into the levels of burnout in undergraduate students when compared to non-students of the same age.

This research study is being conducted by Sophie McGuinness Ivers. Sophie is an undergraduate Psychology student in National College of Ireland.

Participation in this research is strictly confidential. However, the results of this research will be presented in National College of Ireland to students and fauclty members. You can contact Sophie via email for any questions about this study: **Smcguinness@gmail.com.**

8

Appendix C

Descriptive Statistics

Descriptives

			Statistic	Std. Error
TotalScoreExhaustion	Mean		18.35	.465
	95% Confidence Interval for Mean	Lower Bound	17.44	
		Upper Bound	19.27	
	5% Trimmed Mean		18.55	
	Median		19.00	
	Variance		54.413	
	Std. Deviation		7.376	
	Minimum		0	
	Maximum		30	
	Range		30	
	Interquartile Range		12	
	Skewness		-.359	.153
	Kurtosis		-.775	.306
TotalScoreCynicism	Mean		10.91	.466
	95% Confidence Interval for Mean	Lower Bound	9.99	
		Upper Bound	11.83	
	5% Trimmed Mean		10.80	
	Median		11.00	
	Variance		54.713	
	Std. Deviation		7.397	

	Minimum		0	
	Maximum		24	
	Range		24	
	Interquartile Range		13	
	Skewness		.118	.153
	Kurtosis		-1.190	.306
TotalScoreSelfEfficacy	Mean		7.65	.368
	95% Confidence Interval for Mean	Lower Bound	6.93	
		Upper Bound	8.38	
	5% Trimmed Mean		7.25	
	Median		7.00	
	Variance		34.068	
	Std. Deviation		5.837	
	Minimum		0	
	Maximum		28	
	Range		28	
	Interquartile Range		8	
	Skewness		.850	.153
	Kurtosis		.444	.306

Descriptive Statistics

	Gender	Which group do you most identify with?	Mean	Std. Deviation	N
Total Score Exhaustion	0 Male	0 non working students	19.13	5.817	8
		1 working students	18.35	6.642	17
		2 employed individuals	12.82	8.338	33
		Total	15.31	7.998	58
	1 female	0 non working students	19.71	5.823	34
		1 working students	21.15	5.528	85
		2 employed individuals	16.44	7.972	70
		Total	19.15	6.894	189
	2 prefer not to say	2 employed individuals	26.50	2.121	2
		Total	26.50	2.121	2
	Total	0 non working students	19.60	5.755	42
		1 working students	20.69	5.788	102
		2 employed individuals	15.50	8.295	105
		Total	18.31	7.344	249
Total Score Cynicism	0 Male	0 non working students	10.50	8.864	8
		1 working students	12.00	8.062	17
		2 employed individuals	8.09	8.040	33
		Total	9.57	8.206	58
	1 female	0 non working students	12.26	6.757	34
		1 working students	11.58	6.707	85

			Mean	Std. Deviation	N
		2 employed individuals	10.14	7.698	70
		Total	11.17	7.110	189
	2 prefernottosay	2 employed individuals	22.00	1.414	2
		Total	22.00	1.414	2
	Total	0 non working students	11.93	7.117	42
		1 working students	11.65	6.909	102
		2 employed individuals	9.72	7.943	105
		Total	10.88	7.434	249
Total Score Self-Efficacy	0 Male	0 non working students	8.00	6.211	8
		1 working students	6.00	4.373	17
		2 employed individuals	6.58	5.783	33
		Total	6.60	5.409	58
	1 female	0 non working students	10.09	6.947	34
		1 working students	8.64	5.407	85
		2 employed individuals	6.29	5.769	70
		Total	8.03	5.984	189
	2 prefernottosay	2 employed individuals	6.50	.707	2
		Total	6.50	.707	2
	Total	0 non working students	9.69	6.791	42
		1 working students	8.20	5.321	102
		2 employed individuals	6.38	5.691	105
		Total	7.68	5.852	249

Statistics

		Participants who completed or did not	Gender
N	Valid	249	249
	Missing	0	0
Std. Deviation		.000	.437
Minimum		1	0
Maximum		1	2

Participants who completed or did not

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Completers	249	100.0	100.0	100.0

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 Male	58	23.3	23.3	23.3
	1 female	189	75.9	75.9	99.2
	2 prefernottosay	2	.8	.8	100.0
	Total	249	100.0	100.0	

Between-Subjects Factors

		Value Label	N
Age	0	18-24	182
	1	25-35	45
	2	35-40	22
Gender	0	Male	58
	1	Female	189
	2	Prefer not to say	2

Statistics

		Participants who completed or did not	Age
N	Valid	249	249
	Missing	0	0
Std. Deviation		.000	.639
Minimum		1	0
Maximum		1	2

Participants who completed or did not

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Completers	249	100.0	100.0	100.0

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 18-24	182	73.1	73.1	73.1
	1 25-35	45	18.1	18.1	91.2
	2 35-40	22	8.8	8.8	100.0
	Total	249	100.0	100.0	

Which group do you most identify with?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 non working students	48	16.7	17.0	17.0
	1 working students	113	39.2	39.9	56.9
	2 employed individuals	122	42.4	43.1	100.0
	Total	283	98.3	100.0	
Missing	System	5	1.7		

Total		288	100.0	

Statistics

		Participants who completed or did not	Which group do you most identify with?
N	Valid	249	249
	Missing	0	0
Std. Deviation		.000	.727
Minimum		1	0
Maximum		1	2

Participants who completed or did not

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Completers	249	100.0	100.0	100.0

Which group do you most identify with?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 non working students	42	16.9	16.9	16.9
	1 working students	102	41.0	41.0	57.8
	2 employed individuals	105	42.2	42.2	100.0
	Total	249	100.0	100.0	

Descriptives[a]

	Gender			Statistic	Std. Error
Which group do you most identify with?	0 Male	Mean		1.44	.089
		95% Confidence Interval for Mean	Lower Bound	1.26	
			Upper Bound	1.62	
		5% Trimmed Mean		1.49	
		Median		2.00	
		Variance		.527	
		Std. Deviation		.726	
		Minimum		0	
		Maximum		2	
		Range		2	
		Interquartile Range		1	
		Skewness		-.902	.295
		Kurtosis		-.526	.582
	1 female	Mean		1.20	.049
		95% Confidence Interval for Mean	Lower Bound	1.10	
			Upper Bound	1.30	
		5% Trimmed Mean		1.22	
		Median		1.00	
		Variance		.525	
		Std. Deviation		.725	
		Minimum		0	
		Maximum		2	

	Range	2	
	Interquartile Range	1	
	Skewness	-.324	.166
	Kurtosis	-1.046	.330

Appendix D

A multivariate analysis of variance on group identity and exhaustion, cynicism and self-efficacy.

Between-Subjects Factors

		Value Label	N
Which group do you most identify with?	0	Non-working students	42
	1	Working students	102
	2	Employed individuals	105

Descriptive Statistics

	Which group do you most identify with?	Mean	Std. Deviation	N
TotalScoreExhaustion	0 non working students	19.60	5.755	42
	1 working students	20.69	5.788	102
	2 employed individuals	15.50	8.295	105
	Total	18.31	7.344	249
TotalScoreCynicism	0 non working students	11.93	7.117	42
	1 working students	11.65	6.909	102
	2 employed individuals	9.72	7.943	105
	Total	10.88	7.434	249
TotalScoreSelfEfficacy	0 non working students	9.69	6.791	42
	1 working students	8.20	5.321	102
	2 employed individuals	6.38	5.691	105
	Total	7.68	5.852	249

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[d]
Intercept	Pillai's Trace	.883	615.446[b]	3.000	244.000	.000	.883	1846.338	1.000
	Wilks' Lambda	.117	615.446[b]	3.000	244.000	.000	.883	1846.338	1.000
	Hotelling's Trace	7.567	615.446[b]	3.000	244.000	.000	.883	1846.338	1.000
	Roy's Largest Root	7.567	615.446[b]	3.000	244.000	.000	.883	1846.338	1.000
Whichgroupdoyoumostidentifywith	Pillai's Trace	.163	7.242	6.000	490.000	.000	.081	43.452	1.000
	Wilks' Lambda	.839	7.457[b]	6.000	488.000	.000	.084	44.740	1.000
	Hotelling's Trace	.189	7.670	6.000	486.000	.000	.086	46.020	1.000
	Roy's Largest Root	.176	14.358[c]	3.000	245.000	.000	.150	43.075	1.000

a. Design: Intercept + Whichgroupdoyoumostidentifywith

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

d. Computed using alpha = .05

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power [d]
Corrected Model	TotalScoreExhaustion	1477.239[a]	2	738.619	15.271	.000	.110	30.542	.999
	TotalScoreCynicism	246.552[b]	2	123.276	2.253	.107	.018	4.506	.456
	TotalScoreSelfEfficacy	374.119[c]	2	187.060	5.667	.004	.044	11.334	.859
Intercept	TotalScoreExhaustion	72119.701	1	72119.701	1491.087	.000	.858	1491.087	1.000
	TotalScoreCynicism	25705.221	1	25705.221	469.831	.000	.656	469.831	1.000
	TotalScoreSelfEfficacy	13652.049	1	13652.049	413.606	.000	.627	413.606	1.000
Whichgroupdoyoumostidentifywith	TotalScoreExhaustion	1477.239	2	738.619	15.271	.000	.110	30.542	.999
	TotalScoreCynicism	246.552	2	123.276	2.253	.107	.018	4.506	.456
	TotalScoreSelfEfficacy	374.119	2	187.060	5.667	.004	.044	11.334	.859
Error	TotalScoreExhaustion	11898.327	246	48.367					
	TotalScoreCynicism	13459.070	246	54.712					
	TotalScoreSelfEfficacy	8119.817	246	33.007					
Total	TotalScoreExhaustion	96884.000	249						
	TotalScoreCynicism	43200.000	249						

	TotalScoreSelf Efficacy	23191. 000	2 4 9						
Corrected Total	TotalScoreExha ustion	13375. 566	2 4 8						
	TotalScoreCyni cism	13705. 622	2 4 8						
	TotalScoreSelf Efficacy	8493.9 36	2 4 8						

a. R Squared = .110 (Adjusted R Squared = .103)

b. R Squared = .018 (Adjusted R Squared = .010)

c. R Squared = .044 (Adjusted R Squared = .036)

d. Computed using alpha = .05

Which group do you most identify with?

Dependent Variable	Which group do you most identify with?	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
TotalScoreExhaustion	0 non working students	19.595	1.073	17.482	21.709
	1 working students	20.686	.689	19.330	22.043
	2 employed individuals	15.495	.679	14.158	16.832
TotalScoreCynicism	0 non working students	11.929	1.141	9.681	14.177
	1 working students	11.647	.732	10.205	13.090
	2 employed individuals	9.724	.722	8.302	11.146
TotalScoreSelfEfficacy	0 non working students	9.690	.887	7.944	11.437
	1 working students	8.196	.569	7.076	9.317
	2 employed individuals	6.381	.561	5.277	7.485

Post Hoc Tests

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Which group do you most identify with?	(J) Which group do you most identify with?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
TotalScoreExhaustion	0 non working students	1 working students	-1.09	1.275	.669	-4.10	1.92
		2 employed individuals	4.10*	1.270	.004	1.11	7.09
	1 working students	0 non working students	1.09	1.275	.669	-1.92	4.10
		2 employed individuals	5.19*	.967	.000	2.91	7.47
	2 employed individuals	0 non working students	-4.10*	1.270	.004	-7.09	-1.11
		1 working students	-5.19*	.967	.000	-7.47	-2.91
TotalScoreCynicism	0 non working students	1 working students	.28	1.356	.977	-2.92	3.48
		2 employed individuals	2.20	1.350	.234	-.98	5.39
	1 working students	0 non working students	-.28	1.356	.977	-3.48	2.92
		2 employed individuals	1.92	1.028	.150	-.50	4.35
	2 employed individuals	0 non working students	-2.20	1.350	.234	-5.39	.98
		1 working students	-1.92	1.028	.150	-4.35	.50
TotalScoreSelfEfficacy	0 non working	1 working students	1.49	1.053	.333	-.99	3.98

students	2 employed individuals	3.31[*]	1.049	.005	.84	5.78
1 working students	0 non working students	-1.49	1.053	.333	-3.98	.99
	2 employed individuals	1.82	.799	.062	-.07	3.70
2 employed individuals	0 non working students	-3.31[*]	1.049	.005	-5.78	-.84
	1 working students	-1.82	.799	.062	-3.70	.07

Based on observed means.
The error term is Mean Square(Error) = 33.007.
*. The mean difference is significant at the .05 level.
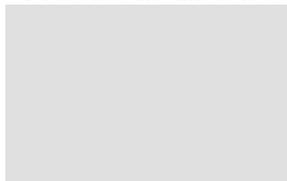
TotalScoreExhaustion

Tukey HSD[a,b,c]

Which group do you most identify with?	N	Subset	
		1	2
2 employed individuals	105	15.50	
0 non working students	42		19.60
1 working students	102		20.69
Sig.		1.000	.625

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 48.367.
a. Uses Harmonic Mean Sample Size = 69.545.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

TotalScoreCynicism

Tukey HSD[a,b,c]

Which group do you most identify with?	N	Subset 1
2 employed individuals	105	9.72
1 working students	102	11.65
0 non working students	42	11.93
Sig.		.186

Means for groups in homogeneous subsets are displayed.
 Based on observed means.
 The error term is Mean Square (Error) = 54.712.
a. Uses Harmonic Mean Sample Size = 69.545.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

TotalScoreSelfEfficacy

Tukey HSD[a,b,c]

Which group do you most identify with?	N	Subset 1	Subset 2
2 employed individuals	105	6.38	
1 working students	102	8.20	8.20
0 non working students	42		9.69
Sig.		.152	.277

Means for groups in homogeneous subsets are displayed.
 Based on observed means.
 The error term is Mean Square(Error) = 33.007.
a. Uses Harmonic Mean Sample Size = 69.545.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Estimated Marginal Means of TotalScoreExhaustion
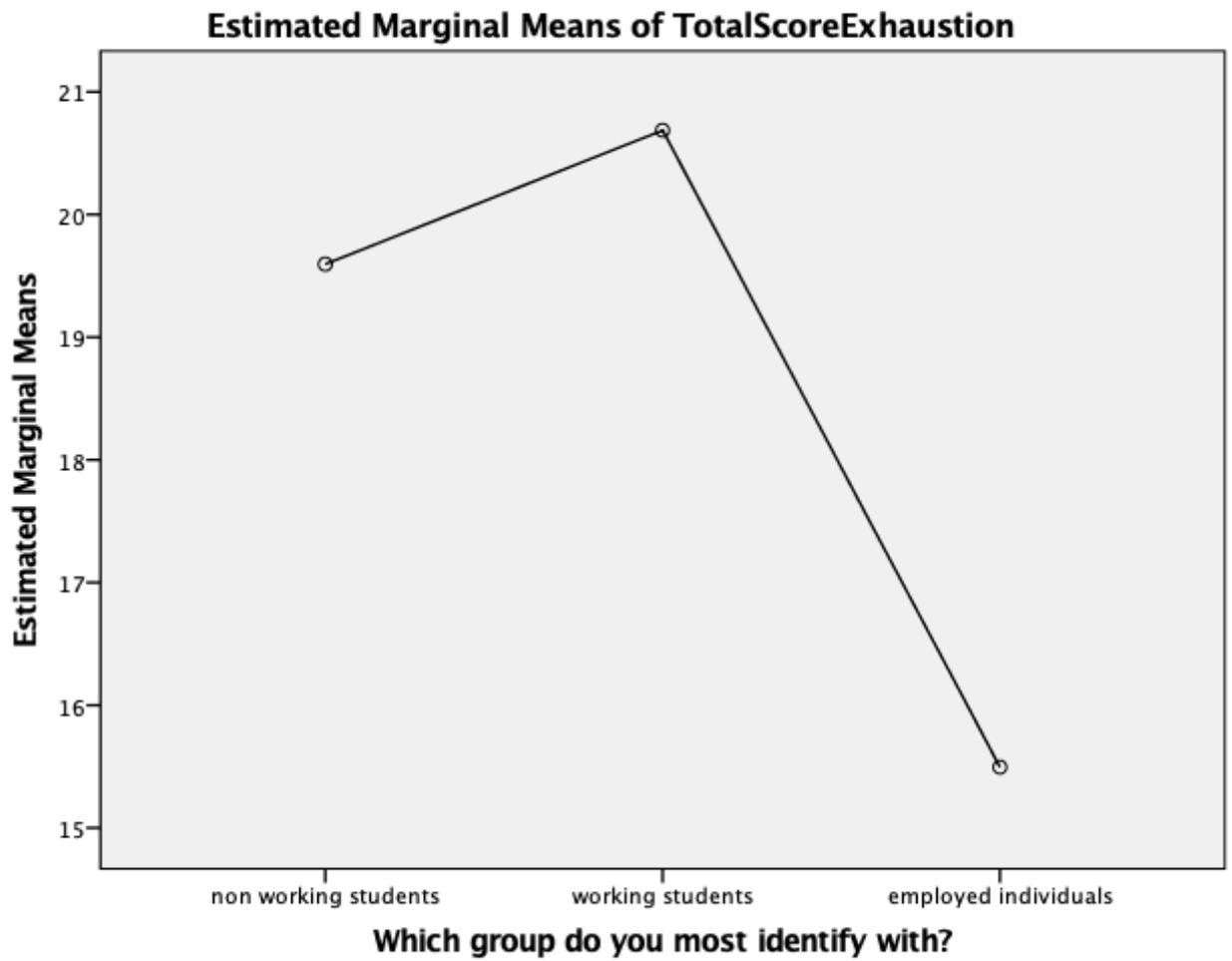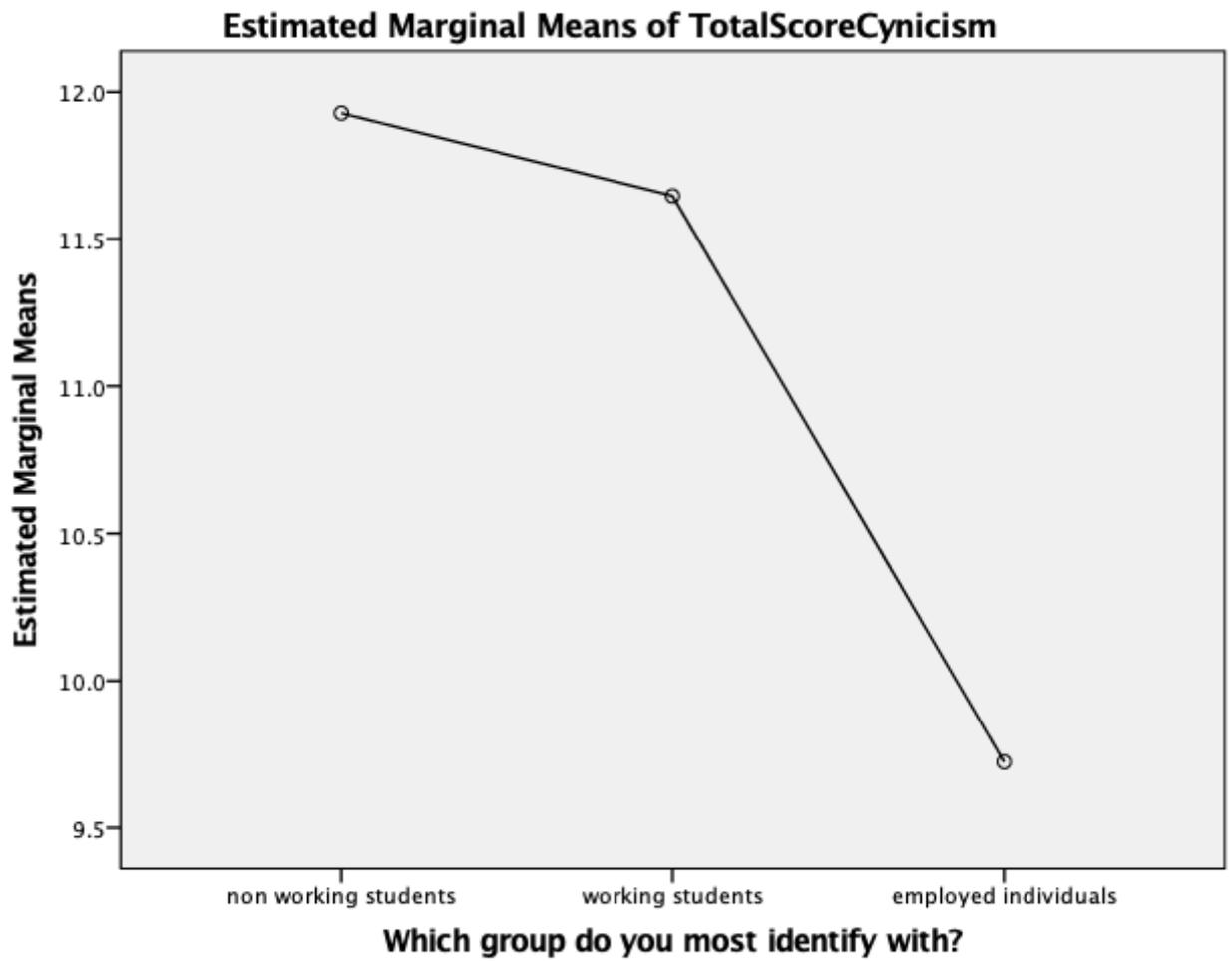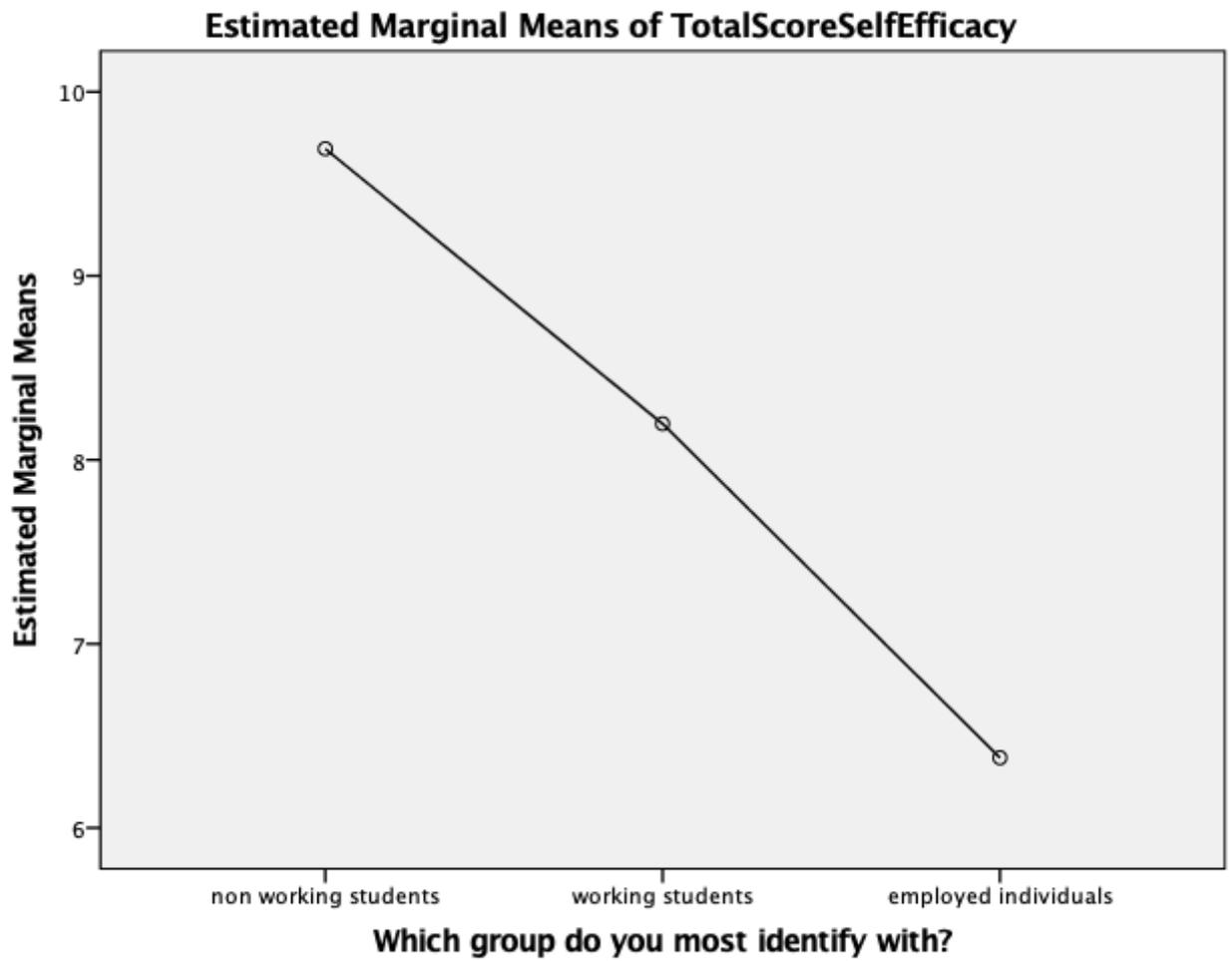
Appendix E

An extra multivariate analysis of variance on gender with emotional

exhaustion, cynicism and self-efficacy.

Between-Subjects Factors

		Value Label	N
Gender	0	Male	58
	1	Female	189
	2	Prefer not to say	2

Descriptive Statistics

	Gender	Which group do you most identify with?	Mean	Std. Deviation	N
TotalScoreExhaustion	0 Male	0 non working students	19.13	5.817	8
		1 working students	18.35	6.642	17
		2 employed individuals	12.82	8.338	33
		Total	15.31	7.998	58
	1 female	0 non working students	19.71	5.823	34
		1 working students	21.15	5.528	85

			Mean	Std. Dev	N
		2 employed individuals	16.44	7.972	70
		Total	19.15	6.894	189
	2 prefernottosay	2 employed individuals	26.50	2.121	2
		Total	26.50	2.121	2
	Total	0 non working students	19.60	5.755	42
		1 working students	20.69	5.788	102
		2 employed individuals	15.50	8.295	105
		Total	18.31	7.344	249
TotalScoreCynicism	0 Male	0 non working students	10.50	8.864	8
		1 working students	12.00	8.062	17
		2 employed individuals	8.09	8.040	33
		Total	9.57	8.206	58
	1 female	0 non working students	12.26	6.757	34
		1 working students	11.58	6.707	85

		2 employed individuals	10.14	7.698	70
		Total	11.17	7.110	189
	2 prefernottosay	2 employed individuals	22.00	1.414	2
		Total	22.00	1.414	2
	Total	0 non working students	11.93	7.117	42
		1 working students	11.65	6.909	102
		2 employed individuals	9.72	7.943	105
		Total	10.88	7.434	249
TotalScoreSelfEfficacy	0 Male	0 non working students	8.00	6.211	8
		1 working students	6.00	4.373	17
		2 employed individuals	6.58	5.783	33
		Total	6.60	5.409	58
	1 female	0 non working students	10.09	6.947	34
		1 working students	8.64	5.407	85

		2 employed individuals	6.29	5.769	70
		Total	8.03	5.984	189
	2 prefernottosay	2 employed individuals	6.50	.707	2
		Total	6.50	.707	2
	Total	0 non working students	9.69	6.791	42
		1 working students	8.20	5.321	102
		2 employed individuals	6.38	5.691	105
		Total	7.68	5.852	249

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.383	50.393[b]	3.000	244.000	.000
	Wilks' Lambda	.617	50.393[b]	3.000	244.000	.000
	Hotelling's Trace	.620	50.393[b]	3.000	244.000	.000
	Roy's Largest Root	.620	50.393[b]	3.000	244.000	.000
Gender	Pillai's Trace	.083	3.527	6.000	490.000	.002
	Wilks' Lambda	.918	3.538[b]	6.000	488.000	.002
	Hotelling's Trace	.088	3.549	6.000	486.000	.002

		.069	5.662[c]		3.000	245.000	.001
	Roy's Largest Root						

a. Design: Intercept + Gender

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	TotalScoreExhaustion	788.801[a]	2	394.400	7.708	.001
	TotalScoreCynicism	362.816[b]	2	181.408	3.345	.037
	TotalScoreSelfEfficacy	92.689[c]	2	46.344	1.357	.259
Intercept	TotalScoreExhaustion	7111.402	1	7111.402	138.988	.000
	TotalScoreCynicism	3495.593	1	3495.593	64.448	.000
	TotalScoreSelfEfficacy	854.440	1	854.440	25.019	.000
Gender	TotalScoreExhaustion	788.801	2	394.400	7.708	.001
	TotalScoreCynicism	362.816	2	181.408	3.345	.037
	TotalScoreSelfEfficacy	92.689	2	46.344	1.357	.259
Error	TotalScoreExhaustion	12586.766	246	51.166		
	TotalScoreCynicism	13342.806	246	54.239		
	TotalScoreSelfEfficacy	8401.247	246	34.151		
Total	TotalScoreExhaustion	96884.000	249			
	TotalScoreCynicism	43200.000	249			

	TotalScoreSelfEfficacy	23191.000	249			
Corrected Total	TotalScoreExhaustion	13375.566	248			
	TotalScoreCynicism	13705.622	248			
	TotalScoreSelfEfficacy	8493.936	248			

a. R Squared = .059 (Adjusted R Squared = .051)

b. R Squared = .026 (Adjusted R Squared = .019)

c. R Squared = .011 (Adjusted R Squared = .003)

An extra multivariate analysis of variance on age with emotional exhaustion, cynicism and self-efficacy.

General Linear Model

Between-Subjects Factors

		Value Label	N
Age	0	18-24	182
	1	25-35	45
	2	35-40	22

Descriptive Statistics

	Age	Mean	Std. Deviation	N
TotalScoreExhaustion	0 18-24	19.51	6.803	182
	1 25-35	16.09	7.818	45
	2 35-40	12.95	7.537	22
	Total	18.31	7.344	249
TotalScoreCynicism	0 18-24	11.37	7.323	182
	1 25-35	10.78	8.166	45
	2 35-40	7.05	5.761	22
	Total	10.88	7.434	249
TotalScoreSelfEfficacy	0 18-24	7.85	5.837	182
	1 25-35	7.11	5.749	45
	2 35-40	7.50	6.368	22
	Total	7.68	5.852	249

Post Hoc Tests

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.762	260.784[b]	3.000	244.000	.000
	Wilks' Lambda	.238	260.784[b]	3.000	244.000	.000
	Hotelling's Trace	3.206	260.784[b]	3.000	244.000	.000
	Roy's Largest Root	3.206	260.784[b]	3.000	244.000	.000

Age						
	Pillai's Trace	.099	4.274	6.000	490.000	.000
	Wilks' Lambda	.902	4.324[b]	6.000	488.000	.000
	Hotelling's Trace	.108	4.374	6.000	486.000	.000
	Roy's Largest Root	.096	7.829[c]	3.000	245.000	.000

a. Design: Intercept + Age

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	TotalScoreExhaustion	1115.489[a]	2	557.745	11.191	.000
	TotalScoreCynicism	368.297[b]	2	184.148	3.397	.035
	TotalScoreSelfEfficacy	20.299[c]	2	10.149	.295	.745
Intercept	TotalScoreExhaustion	32219.366	1	32219.366	646.486	.000
	TotalScoreCynicism	11650.153	1	11650.153	214.881	.000
	TotalScoreSelfEfficacy	6892.442	1	6892.442	200.096	.000
Age	TotalScoreExhaustion	1115.489	2	557.745	11.191	.000
	TotalScoreCynicism	368.297	2	184.148	3.397	.035
	TotalScoreSelfEfficacy	20.299	2	10.149	.295	.745
Error	TotalScoreExhaustion	12260.077	246	49.838		
	TotalScoreCynicism	13337.326	246	54.217		
	TotalScoreSelfEfficacy	8473.637	246	34.446		

Total	TotalScoreExhaustion	96884.000	249			
	TotalScoreCynicism	43200.000	249			
	TotalScoreSelfEfficacy	23191.000	249			
Corrected Total	TotalScoreExhaustion	13375.566	248			
	TotalScoreCynicism	13705.622	248			
	TotalScoreSelfEfficacy	8493.936	248			

a. R Squared = .083 (Adjusted R Squared = .076)
b. R Squared = .027 (Adjusted R Squared = .019)
c. R Squared = .002 (Adjusted R Squared = -.006)

Age

Dependent Variable	Age	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
TotalScoreExhaustion	0 18-24	19.511	.523	18.480	20.542
	1 25-35	16.089	1.052	14.016	18.162
	2 35-40	12.955	1.505	9.990	15.919
TotalScoreCynicism	0 18-24	11.374	.546	10.299	12.449
	1 25-35	10.778	1.098	8.616	12.940
	2 35-40	7.045	1.570	3.953	10.137
TotalScoreSelfEfficacy	0 18-24	7.846	.435	6.989	8.703
	1 25-35	7.111	.875	5.388	8.834
	2 35-40	7.500	1.251	5.035	9.965

Post Hoc Tests

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
TotalScoreExhaustion	0 18-24	1 25-35	3.42*	1.175	.011	.65	6.19
		2 35-40	6.56*	1.593	.000	2.80	10.31
	1 25-35	0 18-24	-3.42*	1.175	.011	-6.19	-.65
		2 35-40	3.13	1.837	.205	-1.20	7.46
	2 35-40	0 18-24	-6.56*	1.593	.000	-10.31	-2.80
		1 25-35	-3.13	1.837	.205	-7.46	1.20
TotalScoreCynicism	0 18-24	1 25-35	.60	1.226	.878	-2.29	3.49
		2 35-40	4.33*	1.662	.026	.41	8.25
	1 25-35	0 18-24	-.60	1.226	.878	-3.49	2.29
		2 35-40	3.73	1.916	.127	-.78	8.25

	(I)	(J)	Mean Diff.	Std. Error	Sig.	Lower Bound	Upper Bound
	2 35-40	0 18-24	-4.33*	1.662	.026	-8.25	-.41
		1 25-35	-3.73	1.916	.127	-8.25	.78
TotalScoreSelfEfficacy	0 18-24	1 25-35	.74	.977	.733	-1.57	3.04
		2 35-40	.35	1.325	.963	-2.78	3.47
	1 25-35	0 18-24	-.74	.977	.733	-3.04	1.57
		2 35-40	-.39	1.527	.965	-3.99	3.21
	2 35-40	0 18-24	-.35	1.325	.963	-3.47	2.78
		1 25-35	.39	1.527	.965	-3.21	3.99

Based on observed means.
 The error term is Mean Square(Error) = 34.446.
*. The mean difference is significant at the .05 level.

TotalScoreExhaustion

Tukey HSD[a,b,c]

Age	N	Subset 1	Subset 2
2 35-40	22	12.95	
1 25-35	45	16.09	16.09
0 18-24	182		19.51
Sig.		.112	.074

Means for groups in homogeneous subsets are displayed.
 Based on observed means.
 The error term is Mean Square(Error) = 49.838.
a. Uses Harmonic Mean Sample Size = 41.000.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

TotalScoreCynicism

Tukey HSD[a,b,c]

Age	N	Subset 1	Subset 2
2 35-40	22	7.05	
1 25-35	45	10.78	10.78
0 18-24	182		11.37
Sig.		.058	.929

Means for groups in homogeneous subsets are displayed.
 Based on observed means.
 The error term is Mean Square(Error) = 54.217.
a. Uses Harmonic Mean Sample Size = 41.000.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

TotalScoreSelfEfficacy

Tukey HSD[a,b,c]

Age	N	Subset 1
1 25-35	45	7.11
2 35-40	22	7.50
0 18-24	182	7.85
Sig.		.838

Means for groups in homogeneous subsets are displayed.
 Based on observed means.
 The error term is Mean Square(Error) = 34.446.
a. Uses Harmonic Mean Sample Size = 41.000.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Estimated Marginal Means of TotalScoreExhaustion

Estimated Marginal Means of TotalScoreExhaustion

Estimated Marginal Means of TotalScoreSelfEfficacy