Investigating Stress Levels and Coping Abilities Amongst Employed College Students

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Abstract:

Stress and coping are factors related to emotional strain which can have an impact on both mental and physical well-being. The current study aimed to identify whether any relationship or difference between stress and coping levels existed when comparing employed and unemployed college students. As expected, students who were employed scored higher on measures of perceived stress, with women reporting significantly higher stress levels than their male counterparts. This study aimed to strengthen the research already conducted in this field, with a sample of students recruited from colleges around the Republic of Ireland (N=79). Final year college students did not display higher levels of stress or lower levels of coping than individuals in other years. This model used within this study explained the variance pertaining to levels of stress and coping abilities. These findings have important implications for the development of increased understanding towards student pressures and contributing stress factors. Throughout this study, effective coping skills and stress reduction methods as well as the important factors which contribute to the perceived stress of participants are discussed and further implications are suggested.

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Introduction:

Stress, coping and employment in students

College life is associated with many stress related demands, some of which include: deadlines, time management and maintaining an overall goal of success. Often when students begin a new phase of their lives in college they are met with many changes and challenges, including their desire to seek out independence and acceptance which can often be hard to balance with their new-found freedom, whilst adjusting to their newfound freedom. These changes are significant experiences which can have the ability to impact negatively on emotions and result in an increased level of stress (Baqutayan, 2011). Daily struggles can contribute to stress in students' lives; two of the most frequently identified struggles are increased workload and multiple responsibilities (Patton, Renn, Guido, Quaye, & Forney, 2016). Presumably, these struggles will have a negative effect on performance on both college and the workplace. Stress can be defined as a mental strain caused by the inability to cope with some environmental factors which in turn have a negative impact or effect on mood, behaviour and overall mental health (Schneiderman, Ironson, & Siegel, 2008). Stress is often described by psychologists as a psychological and emotional state, perceived by a person in an unpleasant way in response to a threatening life event (Baquatayen, 2011). Stress levels may vary amongst individuals, consequently leading to changes in their environment. The severity of these stress levels is determined by an individual's ability to regulate their emotions.

There are two basic types of stress: acute or chronic. Acute and episodic acute stress is concerned with the struggles and pressures of the more present, past and the near future. Acute and episodic acute stress are short term occurrences of stress which can still result in side effects such as psychological disturbances, short temperedness, and irritability. However, these symptoms are treatable. Minor incidents of acute stress can be occasionally beneficial in healthy individuals for motivational purposes and stand to pose no serious health risks (Schneiderman, Ironson & Siegel, 2005). Episodic acute stress, however, is more sustained, and, if not dealt with correctly, has the potential to cause serious health issues such as high blood pressure or heart disease. Chronic stress is a long-term emotional disorder stemming from events which have caused a significant impact or trauma in an individual's life (Miller & Smith, 1994). Whilst chronic stress is not being investigated in the current study, findings have shown that if stress is not controlled effectively, it has the potential to develop into a more serious and threatening disorder. Chronic stress can have serious implications on mental health and lead to a major depressive disorder. It can be a side effect which has been developed by of the inability to effectively cope with undesirable psychological outcomes (Anshel, 2000). As high as 61% of college students overall experience stress to a certain degree during their studies (Saipanish, 2003). Sources of stress in college students are often centered around academic results, financial strain and familial and social struggles (Brougham et al., 2009). They can be categorized in the following order: from the most prominent causes being academic, financial, time management, personal health and finally, self-inflicted stress (Goodman, 1993; Abouserie, 1994; Le Roy, 1988). Further investigation into the contributing factors of stress in college students described examinations and academic results as two of the most common sources of stress, with work load and time management ranking as second highest corresponding circumstances. Predictors of stress in students could also be related to social aspects

such as roommate conflict, poor relationships, conflict with the college faculty, and even alcohol abuse. Alcohol and drug use has the tendency to become more prominent in individuals' lives during their college years, and can be harmful to a student's physical and mental health. However, drug use has been demonstrated as a negative predictor of stress (Dusselier, et al., 2005).

Chang and colleagues (2002) investigated working college students, and demonstrated that stress levels were directly linked to the risk of overworking and the inability to perform effectively with job related tasks. They found that low levels of optimism amongst students subsequently leads to decreased levels of job satisfaction, resulting in a burn out. More recent findings are consistent with the aforementioned studies in regards to job burnout due to its significant correlation with stress and its ability to negatively impact on drive and motivation (Hayes & Weathington, 2007, Chen, 2009). When faced with stress, people use coping strategies to ensure their responsibilities are still fulfilled. Coping strategies can be seen as a way of 'defense' from unwelcome situations or thoughts in one's life. Coping strategies are employed by individuals as a way of managing and eliminating stress levels; some are able to cope more effectively with these stressors than others, and gender differences between students have continuously been demonstrated (Zeidner & Endler, 1996; Weiten & Lloyd, 2008; Booth-Butterfield et al., 2014). Coping strategies, whilst most commonly adaptive, can also be maladaptive. Adaptive or constructive coping is a strategy which is beneficial in reducing stress whilst the use of maladaptive or negative coping is a strategy which increases stress levels (Albertus & Sargent, 2015). In employed individuals', studies have found that the most frequent adaptive strategies used are communication, building healthy relationships, and exercise, whilst the most prominent maladaptive strategies,

are overeating, and alcohol abuse. As mentioned previously, findings have shown that alcohol is one of the highest positive predictors in increased stress levels (Dusselier et al., 2005), therefore, those individuals relying on alcohol are subsequently utilizing maladaptive coping strategies. Adaptive and maladaptive strategies have the ability to either positively or negatively impact on stress levels. The use of adaptive coping strategies will often result in a decrease in perceived stress levels; this supports the consensus that decreased stress leads to a more efficient work ethic (Holton, Barry, & Chaney, 2016).

Severe and excessive amount of stress can result in impairments both physically and psychologically, negatively influencing our behaviour and sense of well-being (Schneiderman, Ironson & Siegel, 2005). Both coping mechanisms and stress levels contribute to the study of mental health and resilience. The inability to effectively make use of coping strategies when faced with stressful experiences can lead to harmful physical and psychological outcomes. These experiences can become prolonged and develop more seriously in the form of chronic stress (Anshel, 2000). Coping behaviours play an important role in maintaining emotional composure, especially when involved in strenuous work. Determination to succeed and an innate sense of accomplishment have been found to increase drive and perseverance in students and enforce their willingness to achieve goals (Evans & Kelly, 2004). Students usually display signs of short term emotion focused coping strategies which allows them to more effectively deal with stress. Methods of reducing, stress such as managing time more efficiently, support from peers, and engaging in leisure activities, have proven to demonstrate effective ways of coping (Weiten & Lloyd, 2008). Where an individual engages in

regular time management, they are reportedly at a lower risk of developing any serious physical or psychological symptoms. Research conducted to examine levels of perceived stress in college students identified that high levels of stress can cause students to develop night-eating syndrome (NES). This can be described as a form of maladaptive coping. Poor use of adaptive coping can also be linked to overeating which can be harmful to young people's health and result in excessive weight gain during college years (Wichianson, 2009). Where students have adopted problem focused coping strategies they have subsequently demonstrated a lower level of academic stress and an improved work ethic and success rate whilst in college (Struthers et al., 2000). This finding suggests that students should make use of more adaptive coping styles which encourage positivity. This can be achieved by taking steps to form healthy social bonds and relationships. Empirical evidence has shown that when individuals receive social support they are better able to cope with academic stress and become more satisfied with their own performance and their overall academic results. It is important, however, to realise that stress and coping are diverse and both can have positive and negative effects (Baqutayan, 2011). Empirical evidence mentioned in the current study lends credibility to the focus on relationships between stress and coping in employed students, and therefore work related stress.

Gender

Stress differs when concerned with variables such as gender, cognition and social aspects such as social support and socio-economic class (Berry, Kim, Minde, & Mok, 1987). Substantial empirical attention has been attributed to stress and coping. Researchers such as Brougham and colleagues (2009) and Kumar and Bhukar (2013)

have supported gender based stigmas concerning stress and coping strategies by further investigating this field. They found that males reportedly experience fewer stress symptoms than females overall by making use of adaptive coping strategies when consequently suffering from a negative emotional state. Findings exist of females more effectively engaging in time-management and goal orientated behaviour (Trueman & Hartley, 1996; Misra & McKean, 2000), which would lead one to speculate that they would subsequently score lower in levels of stress and anxiety; however, prevalent research supports the findings that females reportedly display consistently higher scores on stress levels than males overall; both academically and in everyday life (Abouserie, 1994). Findings from National Surveys assessing psychological stress were combined and assessed. Researchers examined the results of 3 different surveys, from 1983 to 2009 in order to compare whether there was any evidence of change in stress levels found between the 3 surveys. The National Surveys included demographic information from participant's such as gender, age, education and income, and their scores pertaining to a stress assessment. Results from this longitudinal design study displayed no significant changes in stress levels over a 26-year time frame. Consistent findings amongst each survey found that stress levels were reportedly higher amongst female respondents. (Cohen, 2012; Brougham, Zail, Mendoza, & Miller, 2009). The aforementioned findings would suggest that it would be accurate to assume the same results, displaying significant differences between the results of male and female respondents will exist in this study.

Scientific findings

Evidence related to uncontrolled stress and the inability to cope has reportedly

demonstrated a decrease in noradrenergic activity and an abnormal increase in activity of the adrenal gland. This involves the effect of the de-regulation and inefficient functioning of an individual's' metabolism and immune system; whilst increasing the brain's arousal activity, reaching higher levels of awareness during stressful situations; the 'fight or flight' response in individuals, rising their heart rate and blood pressure. These responses have the ability to seriously affect the wellbeing of individuals and result in physical harm (Lechin et al., 1996). Serotonin is produced in our blood and is regarded by some researchers as a chemical which assists in contributing to the balancing of our emotions. When serotonin levels in humans are low it can create a number of behavioural and emotional disorders such as depression or anxiety. Serotonin is often increased when individuals are struggling to cope under the pressure of stress (Lechin et al., 1996).

Mental health

Mental health is a serious, and more prevalent problem in college students worldwide (Beiter, et. al. 2015), with 41.9% of students in Ireland having reported high levels of stress during their studies. Therefore, identifying stress levels and the types of coping strategies used by students is important in promoting better mental health. (Deasy, Coughlan, Pironom, Jourdan, & Mcnamara, 2015). Stress reduction techniques can be effective ways of reducing or eliminating acute stress and are slightly different to coping skills as coping is more concerned with the management of stress. Evidence that the majority of individuals would be less inclined to practice stress reduction techniques comes as no surprise, however it is an important aspect which can calm individuals and improve their thinking patterns and self-acceptance. It is important that people who

suffer from stress on a regular basis familiarize themselves with knowledge on stress as a disorder (Avey, Matheny, Robbins, & Jacobson, 2003). Coping with many external factors can be a challenge, studies have also found that increasing stressors in the workplace and in college and social settings are associated with increased levels of depression and a higher likelihood to develop depression (Chen, Siu, Lu, Cooper, & Phillips, 2009).

Stress reduction techniques

Stress reduction techniques are practiced with the objective of effectively reducing stress symptoms by activating the body's natural relaxation. Stress and anxiety rates continue to increase amongst college students, with only a minority choosing to seek help or engaging in stress management (Regehr et al., 2013). A meta-analytical study examining interventions in stress reduction was conducted amongst 1431 students drawn from twenty-four different studies. Results indicated that useful stress reduction techniques involved the employment of cognitive behavioural therapy (CBT) and mindfulness based practices. Mindfulness in concerned with an individual's awareness of their current internal and external experiences, and is a naturally occurring approach to therapy in alleviating negative emotional responses (Germier, 2004). Whilst CBT is a clinical approach used to treat stress, anxiety and depression in an attempt to counteract or alter an individual's irrational thought processes (Leahy, 2004). Mindfulness meditation increases an individual's sense of control, which subsequently can decrease levels of stress (Astin, 1997). A six-week intervention on mindfulness was conducted to examine its effects on psychological distress and perceived stress amongst college students (Deckro et al., 2002). 128 participants took part in the study, however only 64

participated in the experimental group investigating relaxation and cognitive behaviour. When the experimental group were compared with the remaining participants, they displayed a higher reduction in perceived stress as well as reductions in psychological distress and anxiety. Intervention types displayed in these studies which are concerned with the training of both body and mind, are simple and efficient ways for college students to make use of preventive interventions and stress reduction methods. These types of interventions should therefore be made more available across colleges around Ireland to assist all student's performance and promote a positive outlook on mental health.

Rationale

The rationale for conducting this study is in correlation with findings that throughout their college experience, students report some level of stress and inability to cope with the pressures and expectations around them; whether they be severe or to varying degrees. Along with the stressors of college, external factors can amount to a buildup of emotional weights. Taking on an occupation (job) whilst juggling with the pressures of a 3rd level education can often overwhelm and overwork an individual to the extent of experiencing a burnout. Taking on too many responsibilities and having little to no free time is a reality for many college students. Stress is a widely-identified problem which can lead an individual to engage in both mental and physical harm if not treated correctly. It is one of the leading forms of developing depression amongst adolescents and young adults. Investigative research has firmly established a strong relationship between reactivity to naturally occurring stress or stressful life events and depressive outcomes (Hammen, 2005). A vast amount of literature pertaining to stress and coping

has been investigated respectively amongst working individuals and students; however, limited research exists exploring the effects of the aforementioned groups and how they are related to stress and coping, however, it also aims to support previous research. The current study is unique as it aims to specifically examine whether there is any association between employment of a student combined with college itself and whether they are directly related to stress levels and coping abilities. It is imperative that the growing propensity of stress is greater recognized, and its relation to mental health, as it is a vast growing area, especially amongst young people (Avey, Matheny, Robbins, & Jacobson, 2003). Whilst the empirical literature on stress levels and coping abilities is abundant, there is little contemporary evidence on the issues of stress and coping in relation to employed and unemployed students and how their year of study might play a role in the increase or decrease of stress and coping levels.

Aims

The primary aim of this study is to ascertain whether employment becomes an added pressure for college students, contributing to increased levels of stress. This study surveyed a sample group of college students in Ireland and recorded the findings collected in this process in order to evaluate whether the hypotheses were supported or unsupported. Understanding more about stress is useful in improving performance, especially where college achievement is concerned. Since stress is a contributor to mental health issues, the propensity of mental health can negatively affect work-ethic and academic results in college students, making the monitoring of the mental wellbeing in students an important aspect, between both college faculty, parents, and peers (Beiter, Nash, McCrady, Rhoades, Linscomb, Clarahan, & Sammut, 2015). The

students who took part in the current study were only being examined on basic levels of stress; the Perceived Stress Scale cannot be used to test chronic stress; therefore, the experiment did not account for those individuals who may have a severe stress or depressive disorder. Scholars in college already experience stress pertaining to their responsibilities as a student and in turn might already be struggling to cope with their responsibilities; therefore, this study sets out to investigate whether having a job is a contributing factor above the already present pressures. This investigation is performed whilst also examining for evidence of any variation in results associated with gender and a student's academic year, speculating whether any significant differences might exist. There are three hypotheses in this study.

Hypothesis 1

It is hypothesized that students who are in college and choose to take on extra work in the form of employment will report higher levels of perceived stress than those students who are not currently unemployed whilst studying. Students who are working independently from college whilst also studying have subsequently shown higher levels of stress when fulfilling long hours (Jogaratham & Buchanan, 2004).

Hypothesis 2

It is hypothesized that significantly different results will exist when comparing results of levels of perceived stress and coping self-efficacy dependent on the participant's gender (male/female). Vast studies have demonstrated that females experience higher levels of perceived stress than males, as well as a better ability to cope with said stress (Abouserie, 1994; Trueman & Hartley, 1996; Misra & McKean, 2000; Cohen, 2012;

Brougham, Zail).

Hypothesis 3

And finally, it was hypothesized that when students are in their final year in college they will report higher levels of perceived stress and a lower score on coping self-efficacy than those students currently in earlier years (1st year, 2nd year, 3rd year, 4th year, final year, post grad). This hypothesis has not been previously investigated as extensively as hypothesis 1 or hypothesis 2. Findings that 1st year students experience more significant stress have been identified (Misra & McKean, 2000) however, in contrast, Saipanish (2003) found previously that stress levels are highest amongst students in their 3rd year of college. Therefore, no definitive predictions can be made about the outcomes of these findings.

<u>Method:</u>

Participants

The current study was comprised of a sample of 79 participants recruited from the Republic of Ireland with the objective of representing a sample of Irish students. The sample consisted of both males (N=27) and females (N=52). Within this sample, the majority of students were employed (N=56) rather than unemployed (N=23). Employed participants (Male: N= 22; Female: N= 34) and unemployed participants (Male: N=5; Female: N=18) were divided. Each participant was a student, currently studying in college when the study was conducted. Of the students recruited, they were in either a 1st year (N=12), 2nd year (N=21), final year (N=40) or post graduate (N=6) course *(See table 1 in results section)*. Initially 82 participants took part in the study, however, 3

participants had to be excluded as 2 questionnaire responses were incomplete and 1 individual did not fit the criteria for the study.

Participants were included if they were at least the age of 18 or over and studying in a 3rd level education; they were excluded if they were not in college at the time the study was conducted, if they were not studying in Ireland, and if they were unable to read and understand English. Participants were selected using a random sampling method. With the use of Google Forms, a free online forum, the study was conducted.

Design

This study employed a multivariate cross-sectional design, as this study was investigating more than one dependent variable. Participants were examined on the basis of gender, employment status and year of study (independent variables). The dependent variables are stress levels and coping skills and are being tested on their relationships with the independent, categorical variables. Convenience sampling and purposive sampling methods were used to collect the participants. Since participants were selected through an online database opportunistically, convenience sampling methods were used. It did not matter which college they were studying at. However, it is imperative to this study that they were studying in the Republic of Ireland and their course was a level 7 or above. therefore, basic demographic questions were asked prior to participants took part in the same study, testing for levels of perceived stress and coping self-efficacy.

Measures

This study was conducted with the assistance of Google Forms, a free, easily accessible web-based application which allows for the creation of questionnaires and other online forums. Two separate scales were used in this study to assist in examining participants results. Firstly, a Perceived Stress Scale (Cohen, 1994) was used. It is a self-reported questionnaire that was developed to test the experienced stress levels and stressful outcomes in individuals. It measures the degree to which situations in a person's life is perceived as stressful. It looks at gender, age, education, income and employment status. It is a short 10-item scale using simplistic, coherent language. It aims to investigate thoughts experienced in the past month and any feelings that might have been experienced within this time. The PSS contains generalized questions, conceivable to varied groups of the population, covering a diverse range of topics and responses. It investigates the levels of severity in individuals' unpredictability and how much control they have over their lives related to current levels of experienced stress (Cohen, Kamarck, & Mermelstein, 1994). The Perceived Stress Scale has been widely used amongst researchers and in multiple studies, making it a reliable measure for testing levels of stress. The results section of this study required that questions 4, 5, 7, and 8 (see appendix) be reverse coded before beginning the data analysis.

The Coping Self Efficacy Scale (Chesney et.al., 2006) was additionally adopted for the purpose of evaluating participants' responses towards everyday scenarios and their ability to cope in the face of adversity. It is a 26-item scale composed of questions involving general threats and challenges and provided a labelled scale with response options ranging from "cannot do at all" to "certain can do" and allowed participants to

choose their most relevant answer to the posed questions. The scale includes questions which test an individual's ability to make use of problem-focused coping, get rid of unpleasant thoughts and emotions and have strong social support groups. The Coping Self-Efficacy Scale is a relatively new scale which was tested and refined by the University of California and San Francisco as part of a pilot testing procedure. It has since displayed a strong test-retest reliability and correlation validity (Chesney, Neilands, Chambers, Taylor & Folkman, 2006). The CSE can furthermore identify any changes in coping self-efficacy over time. It was not necessary to recode any items on The Coping Self-Efficacy Scale. Both the Perceived Stress Scale and the Coping Self-Efficacy scale are presented in the appendix section of this study.

Procedure

A link was posted onto Facebook, a social media platform, inviting Facebook users to take part in the study. Participants were briefed on the nature of the study and gave their full consent once they chose to proceed. Some brief demographic questions along with two short sections pertaining to college and employment were included to ensure individuals fitted the subject criteria. The Perceived Stress Scale (PSS) and The Coping Self-Efficacy Scale (CSE) were then completed. On average the study took between 15 to 20 minutes to complete. Upon completion, results were saved automatically and only accessible through the researcher's Google Forms account. Responses were saved under a CSV file and were completely undisclosed, adhering to the NCI ethical codes of conduct. The link was available from the 3rd of January 2017 to the 24th of February 2017. After this time data collection was completed and results no longer accepted. Participation was completely voluntary and all participant identities kept anonymous.

Results:

Reliability Statistics

The Perceived Stress scale and Coping Self-Efficacy scale were tested for reliability using Cronbach's Alpha. The Perceived Stress scale contained 10 items and was highly reliable (a= .85). The Coping Self-Efficacy scale contained 26 items and similarly displayed high levels of internal reliability (a= .96). These results are displayed in table 1. Both forms of testing for independent variables were found to be internally consistent. *See table 1 below*.

Table 1

Reliability Statistics for Independent Variables

	No. of Items	Cronbach's Alpha
Perceived Stress	10	.85
Coping Self-Efficacy	26	.96

Note. N=79

Descriptive statistics

Descriptive statistics were run to assess whether the data was normally distributed. Table 2 reports the descriptive statistics of the continuous variables whilst table 3 reports all the categorical variables within the study. The total mean score for coping self-efficacy (25 items) was (M=5.75, SD=1.69). Inspection of the confidence intervals showed that at the 95% confidence level, the true population mean lies within the 5.37-6.13 range. For coping self-efficacy, the histogram was reasonably normally distributed and achieved a bell-curved shape, and the Q-Q plot represented a reasonably straight line, suggesting a normal distribution of the data. The Shapiro-Wilk was used to test normality, with a result of (Sig=.09) indicating that the data is normally distributed. The total mean score for perceived stress (10 items) was (M=2.31, SD=.71). Inspection of the confidence intervals showed that at the 95% confidence level, the true population mean lies within the 3.05-3.38 range. For perceived stress, the histogram was normally distributed and achieved an almost perfect bell-curved shape, and the Q-Q plot represented a straight line, suggesting a normal distribution of the data. The Shapiro-Wilk was again used to test normality, with a result of (Sig=.16) indicating that the data is normally distributed. A test for the homogeneity of variance was run to test the normality for coping and perceived stress. Both groups were normally distributed for coping (Sig=.34) and perceived stress (Sig=.51). Table 2 outlines the descriptive statistics of the continuous variable. The two continuous variables in this study are levels of perceived stress and scores of coping self-efficacy. Mean scores, standard error mean, standard deviation, and the range of scores for both variables are displayed in table 2. See table 2 below.

Table 2

Descriptive statistics of all continuous variables

	Mean (95%	Std. Error	Median	SD	Range
	Confidence Intervals)	Mean			
Perceived Stress	3.21 (3.05-3.37)	.08	3.17	.71	1.17-4.83
Coping Self-	5.75 (5.38-6.13)	.19	5.88	1.69	.73-10
Efficacy					

Note. N=79

Table 3 outlines the descriptive statistics of the categorical variables and their findings in relation to this study. The categorical variables in this study include gender, employment status, and college year. The frequencies of each variables represent the number of participants which fall under each different category and the valid percentage column represents the percentage of each frequency represented. *See table 3 below*. *Table 3*

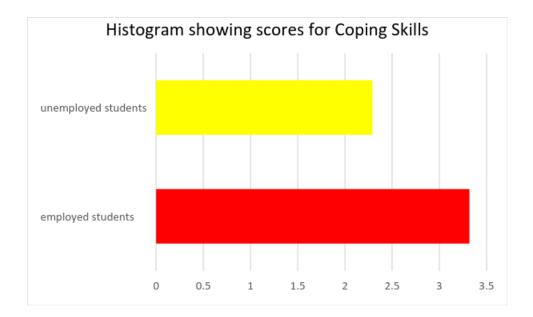
Variable	Frequency	Valid Percentage
Gender		
Male	27	34.2
Female	52	65.2
Employment Status		
Employed	56	70.9
Unemployed	23	29.1
College Year		
1 st year	12	15.2
2 nd year	21	26.6
Final year	40	50.6
Post grad	6	7.6

Frequencies for the current sample of Students on each demographic variable (N = 79)

Note. N=79

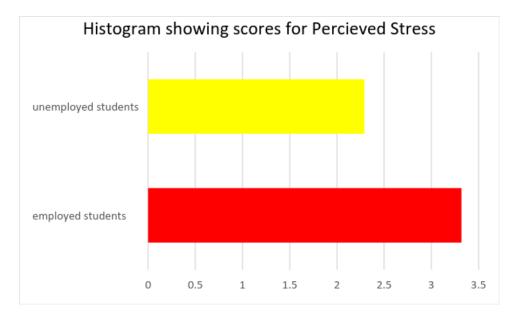
Inferential Statistics

For the purpose of this study, it was necessary to conduct four independent samples ttests (two-tailed). The separate statistical analyses allowed for the interpretation of the collected data. The first independent samples t-test was conducted to compare coping skills between two different categorical variables: employed students and unemployed students. No significant findings were identified between the two groups, t(77) = 0.31, p = .76, two-tailed. Employed students (M = 5.79, SD = 1.81) scored slightly higher than unemployed students (M = 5.66, SD = 1.37). The magnitude of the differences in the means (*mean difference* = 0.13, 95% CI: -.71-.97) was insignificant, which indicated no effect size (*Cohen's d* = 0.08). A histogram chart below visually represents the differences in mean scores for coping skills between employed and unemployed participants.

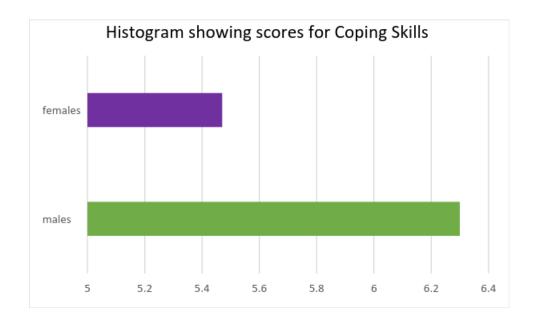


The second independent samples t-test (two-tailed) was conducted in order to compare stress levels between the two different categorical variables, employed students and unemployed students. In relation to perceived stress, a statistically significant difference was identified between employed students and unemployed students, t(77) = 2.10, p = .04, two-tailed. With employed students (M = 3.32, SD = .66) scoring higher than

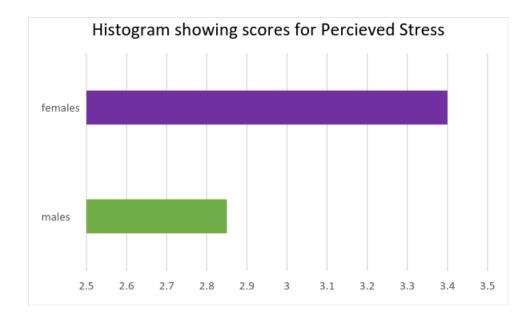
unemployed student (M = 2.96, SD = .77). The magnitude of the differences in the means (*mean difference* =.36, 95% CI: .02-.71) was small, which indicated a medium effect size (*Cohen's d* = .50). A histogram chart below visually represents the differences in mean scores for perceived stress between employed and unemployed participants.



The third independent samples t-test (two-tailed) was conducted in order to compare coping skills between male students and female students. There was a statistically significant difference in scores between the two groups of students. In relation to coping skill, t(77) = 2.13, p = .04, two-tailed. Males (M = 6.30, SD = 1.31) scored higher than females (M = 5.47, SD = 1.8). The magnitude of the differences in the means (*mean difference* = 0.83, 95% CI: .05-1.62) was small, with a medium effect size (*Cohen's d* = 0.53). A histogram chart below visually represents the differences in mean scores for coping skills between male and female participants.



The final independent samples t-test that was run was conducted to compare stress levels and coping skills between male and female students. There was a statistically significant difference in scores between the two groups of students. In relation to perceived stress, t (75.38) = -4.11, p = .00, two-tailed. Females (M = 3.4, SD = .75) scored higher than Males (M = 2.85, SD = .45). The magnitude of the differences in the means (*mean difference* =-0.55, 95% CI: -.82- -.29) was small, with a large effect size (*Cohen's d* = -0.88). A histogram chart below visually represents the differences in mean scores for perceived stress between male and female participants. Results drawn from the independent samples t-tests sections which were statistically significant allow us to conclude that these scores represent distinct populations.



For the purpose of this study, it was also necessary to conduct two one-way between groups analysis of variance (ANOVA). The first one-way between groups analysis of variance (ANOVA), was conducted to explore the impact that different stages in college has on coping self-efficacy. Participants were divided into four groups according to the year they are studying in college (1st year; 2nd year; final year and post grad). In regards to coping, there was a non-significant difference found between the four groups *F* (3, 75) = .48, *p* < .05. The difference in mean scores between groups was very small. The effect size, calculated using eta squared, was .02; this indicates a small effect. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for 1st years (M=5.99, SD=2.05), 2nd years (M=5.48, SD=1.64), final years (M=5.74, SD=1.72) and post graduates (M=6.33, SD=.82) displayed no significant differences throughout the four groups.

Finally, the last statistical test run was a one-way between groups analysis of variance (ANOVA), conducted also to explore the impact that different stages in college and its

effect on perceived stress levels. There was a non-significant difference found in level of perceived stress between the four groups F (3, 75) = .71, p < .05. The difference in mean scores between groups was also very small. The effect size, calculated using eta squared, was .02; this indicates a small effect. Post-hoc comparisons using the Tukey HSD test indicated that the mean scores for 1st years (M=3.18, SD=.88), 2nd years (M=3.36, SD=.69), final years (M=3.2, SD=.71) and post graduates (M=2.89, SD=.44) displayed no significant differences throughout the four groups.

Discussion:

The aim of the current study was to conduct an investigation which examines two dependent variables: stress, which can be explained as the emotional condition adopted by an individual characterized by one's' reaction to threats or experienced anxiety during their lives (Schneiderman, Ironson, & Siegel, 2008); and coping, which can be explained as strategies taken to approach the stressful situations (Evans & Kelly, 2004). This was achieved by specifically examining results from a general sample population of students to identify whether the two dependent variables in this study can be either manipulated or influenced by any, or all the three independent variables. The independent variables examined within this study are employment status, gender, and college year. In order to achieve this aim, three separate hypotheses were investigated to assist in the evaluation of the results section. Hypothesis one: It was hypothesized that employed students will experience higher levels of perceived stress than that of unemployed students. Hypothesis two: It was hypothesized that gender differences will exist between participant when comparing scores in levels of perceived stress and scores in coping self-efficacy. Finally, Hypothesis three: It was hypothesized that

students in their final year of college will experience higher levels of perceived stress and lower scores in coping self-efficacy.

Upon analyzing the results section of the current study, conclusions pertaining to each of the hypotheses could be drawn. For the most part the results from Hypothesis one and Hypothesis two were unsurprising, as they displayed findings which were consistent with previous research. Results drawn from this study found that students reported higher levels of perceived stress when they were currently employed compared with those students who indicated in the study that they were currently unemployed. Hypothesis one was the main hypothesis in this study, the results concur with aforementioned findings that individuals who are overworked or set unrealistic goals such as taking on an inordinate amount of responsibility, will subsequently suffer from higher levels of stress (Patton, Renn, Guido, Quaye, & Forney, 2016). Participant responses demonstrated that female participants reported a higher level of perceived stress, whilst male participants reported a higher overall score in coping self-efficacy. This result has provided further evidence pertaining to gender based differences existing amongst participants, when concerned with the emotional condition that is stress and coping abilities; substantial empirical attention has been given to this field. With regards to the third and final hypothesis, the results of the present study did not support this hypothesis. It was demonstrated that a negative correlation existed between the year of study and the levels of increased stress. There did not appear to be any sign of a significant increase in levels of stress displayed by any participants in their final year, nor were there any differences displayed amongst other college years. Previous literature in this area has produced contrasting findings, however, findings from the

current study have provided no impact on levels of stress or coping abilities. Therefore, regarding hypothesis three, the alternative hypothesis was rejected and the null hypothesis was accepted.

Employment status

It was reported that the employment status of a student significantly affects their levels of perceived stress and coping efficiency. One could draw the conclusion, from the current findings, that students will experience a higher level of stress and a lower ability to cope with their stress when they are employed. This is a positive finding as it is consistent with findings drawn from other literature. Higher perceived stress scores have been found to have a high correlation in previous studies with negative behaviours such as higher susceptibility to experience a stressful life event, an increase in experiencing a depressive disorder and the inability to break a harmful habit, for example, to quit smoking (Cohen, Kamarck, & Mermelstein, 1994). Whilst high scoring by participants on the Coping Self-Efficacy scale is generally related to effective coping skills, low scores are related to the inability to cope well with faced challenges. Previous literature focusing on stress and coping states that excessive stress will be related to a decrease in work ethic and will decrease when an individual can effectively use adaptive coping strategies (Schneiderman, Ironson, & Siegel, 2005; Holton, Barry, & Chaney, 2016). Studies have also found that the use of both emotion-focused and problem-focused coping skills allowed for a reduction in stress levels and an increased positive outcome in individuals over time (Chesney, Neilands, Chambers, Taylor & Folkman, 2006).

Gender

Findings of the current study have provided additional support to the general knowledge that females experience a higher level of stress throughout their lives than that of males. In turn, results have also demonstrated that male participants scored higher on coping than females; a coherent finding, which is consistent with previous research. As discussed in the introduction, stress levels are different when compared with variables such as socio-economic class, social surroundings, and most specifically, sex differences (Berry, Kim, Minde, & Mok, 1987). With stress having the ability to manipulate any situation, it is obvious to see how males and females might perceive their own stress levels to varying degrees, especially when faced with uncomfortable or traumatic situations and experiences.

Year of study

The hypothesis in the current study pertaining to an increase in stress levels when students are in their final year of college have demonstrated a negative correlation. No findings from this study indicated any differences experienced by participants irrespective of their year of study in college. Little research has been done in the area surrounding this topic, only contrasting findings could be identified. An investigation into an individual's year of study and increased or decreased stress levels might be more efficient if the sample size was less of a generalized sample of students and instead focused on specific college subjects or age groups. Saipanish (2003) found that medicine students in their final year of college experience higher levels of stress, whilst contrasting findings by other researchers stated that the increased work load and long hours of studying cause an increase in stress levels in individuals in their 1st year of

college (Misra & McKean, 2000; Jogaratham & Buchanan, 2004).

Implications

The results of the current study have provided an insight into the contributing external factors which lead to an increased level of stress. In turn, resulting in a decrease in work ethic and the inability to successfully reach goals. There is vast evidence linking work load to high levels of stress, however this study provides a broader perspective on these findings. This can be accredited to the additional evidence displaying a correlation to increased stress and employment, with focus amongst a specific subgroup and the role that these effects play. This study is one of the first to empirically assess working and non-working individuals and their year of study in contrast with stress levels and coping abilities, and provides insight into a niche class of the population. Investigations predominantly around college students have supported the idea of overwhelming stress and responsibilities; reportedly, 26% of students have admitted to being unable to cope with their stress whilst in college (Jogaratnam, & Buchanan, 2004). Furthermore, it can be suggested that observations into the psychological phenomena of stress and coping with consideration to the current findings might give rise to further investigation into mental health and the possible contributing factors to developing an emotional disorder. Moreover, making both teachers and employers more aware of these findings could lead to greater understanding into employee and student struggles and behaviour. It is plausible that those individuals experiencing increased stress might seek to control or otherwise become more self-aware in their surroundings.

Limitations

There are various areas in the study where it could be suggested that limitations have occurred. It is important that these limitations of the study are acknowledged as they have the ability to affect the validity of the study, especially when considering the analyses and overall findings interpreted from the results. The primary limitation was the limit presented from the sample size. The sample of participants collected (79) was quite small, and therefore could be considered as a fairly weak representation of the population to draw upon. Larger sample sizes are generally associated with more powerful statistical tests. Unfortunately, as a result, the distribution of the male: female ratio was slightly skewed. However, this did not seem to have much of an impact on findings.

Some other limitations to consider might include the lack of resources available to conduct the study, a lack of funds (external costs), and a lack of time. Specifically, in relation to time, the study was to be conducted under a very short deadline considering the nature of the research, therefore all initial aims might not have been achieved, or some research questions not answered as there was not enough time to investigation these. As this study was a self-reported measure, participants' responses might have been biased or otherwise responses could have been made carelessly or without reason. As the research of the study was conducted through an online forum the environment was not controlled and therefore these careless responses could not be controlled for. However, it could be argued that the use of an online response forum was in fact beneficial. Individuals' identities were kept completely anonymous, leading anonymity to yield more honest and conscious responses.

Conclusion

The aim of current study was to investigate stress as a contributor to negative performance in relation to college students. In order to achieve this, 3 different hypotheses were developed to investigate the differences between individuals and their experienced levels of stress. It was firstly, hypothesized that working individuals will experience an increased level of stress whilst in college. Secondly, it was hypothesized that the findings will display significant gender based differences where stress and coping are evaluated. Finally, it was hypothesized that college students in their final year will experience more stress and a lower score on coping skills.

One of the most unsurprising findings was drawn from hypothesis 1, a significant difference was evident between employed and unemployed students, with employed students displaying higher levels in perceived stress than with those who are unemployed. This finding is consistent with evidence that increased work load has the ability to negatively impact on an individuals' levels of stress. It supports the assumptions that an over-worked and over-loaded student with many responsibilities to withhold, whether financial or educational, will likely experience more mental strain and increased negative impact on their health and well-being. Hypothesis 2 also showed a significant result, and as was initially expected, females experienced an increased level of stress than their male counterparts. Those increased levels of stress display a negative impact on coping skills and lesser female participants' ability to perform as a result. However, no significant finding was drawn from the results of hypothesis 3. This possibly could have been due to a type 2 error, otherwise known as a false negative, as the sample size was relatively small, resulting in a possible skew in results. However,

this is just an assumption, and it would be advised that this area be further investigated.

In conclusion with the current findings, whilst two out of three significant results were drawn from the hypotheses, there is still room for further investigation into the area of perceived stress and coping in employed and unemployed students. Increased time and a larger sample size would leave room for improvement amongst this area and the ability to further strengthen the field of stress and coping as it is a contributor to mental health and well-being, especially in young adults and adolescents. A broader understanding of stress is useful for improving performance, with research constantly growing, it is plausible that these findings are beneficial to a young individuals' health and achievements, especially where academic work load and goal orientated performance is concerned.

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Appendices:

Appendix 1

Brief

This study consists of 2 questionnaires and each response will be anonymous. It is completely voluntary and you have the option to quit at any time. You will be asked to answer a few simple questions regarding your age, college and your current employment status. Overall, the experiment should take no longer than 10 minutes to complete. If you should choose to participate in the study, you will not be exposed to any known risk factors and your identity will not be revealed to the researcher or to the public. By completing the questionnaires, you are giving your full consent to participate in this study.

Are you giving your full consent to participate in this study?

- o Yes
- o No

Please enter your sex

- o Male
- o Female

Please enter your age

Please do not participate in this study if you are not a student in college.

Are you a student in college?

- o Yes
- o No

What year are you in?

- $0 1^{st}$ year
- o 2^{nd} year
- o 3rd year
- o 4^{th} year
- o Other

Are you studying in the Republic of Ireland?

o Yes

o No

What are your hours like in college?

- o Full Time
- o Part Time

Please answer the questions below, choosing the response which is most accurate to

you. Please note if your response to question 1 is no, you are not required to fill out

this section of the study.

Do you have a job?

- o Yes
- o No

How many days a week do you work?

- 0 1 to 2 days a week
- o 3 to 5 days a week
- More than 5 days a week

How many hours per week do you work?

- o Less than 10 hours
- o Between 10 and 24 hours

- o Between 25 and 40 hours
- o More than 40 hours

Do you enjoy your job?

- o Not at all
- o Sometimes
- o Most of the time
- o All the time

Is your job somehow related to the course you study in college?

- o Yes
- o No

Do you think that you are good at your job?

- o Yes
- o No
- o Sometimes

Appendix 2

The Perceived Stress Scale (PSS)

Please use the following scale to identify the answer that is most relevant to you There are 5 different responses to choose from: never, almost never, sometimes, fairly

often and very often. Please choose the most relevant answer for each question.

- 1. In the last month, how often have you been upset because of something that happened
 - Never
 - Almost Never

- Sometimes
- Fairly Often
- Very Often
- 2. In the last month, how often have you felt that you were unable to control the

important things in your life?

- Never
- Almost Never
- Sometimes
- Fairly Often
- Very Often
- 3. In the last month, how often have you felt nervous and "stressed"?
- Never
- Almost Never
- Sometimes
- Fairly Often
- Very Often
- 4. In the last month, how often have you felt confident about your ability to

handle your personal problems?

- Never
- Almost Never
- Sometimes
- Fairly Often
- Very Often
- 5. In the last month, how often have you felt that things were going your way?

- Never
- Almost Never
- Sometimes
- Fairly Often
- Very Often

6. In the last month, how often have you found that you could not cope with all the things that you had to do?

- Never
- Almost Never
- Sometimes
- Fairly Often
- Very Often

7. In the last month, how often have you been able to control irritations in your life?

- Never
- Almost Never
- Sometimes
- Fairly Often
- Very Often
- 8. In the last month, how often have you felt that you were on top of things?
 - Never
 - Almost Never
 - Sometimes
 - Fairly Often
 - Very Often

9. In the last month, how often have you been angered because of things that were outside of your control?

- Never
- Almost Never
- Sometimes
- Fairly Often
- Very Often

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

- Never
- Almost Never
- Sometimes
- Fairly Often
- Very Often

* The following questions were reverse coded to allow for the analysis of the data:

Question 4. "In the last month, how often have you felt confident about your ability to handle your personal problems?"

Question 5. "In the last month, how often have you felt that things were going your way?"

Question 7. "In the last month, how often have you been able to control irritations in your life?"

Question 8. "In the last month, how often have you felt that you were on top of things?"

Appendix 3

The Coping Self-Efficacy Scale

Please mark each question with the number most closely related to your answer. The scale starts from 0 (cannot do at all) to 10 (Certain can do). The rest of the numbers between 0 to 10 represent any answers in-between these two statements, and whether the individuals' feelings are higher or lower than moderate. For each of the following items, give a number from 0 - 10, using the scale below.

Cann	ot		Moderately							Certain
do at				can						can
all			do							do
0	1	2	3	4	5	6	7	8	9	10

When things aren't going well for you, how confident are you that you can:

1. Keep from getting down in the dumps.

2. Talk positively to yourself.

3. Sort out what can be changed, and what cannot be changed.

4. Get emotional support from friends and family.

5. Find solutions to your most difficult problems.

6. Break an upsetting problem down into smaller parts.

7. Leave options open when things get stressful.

8. Make a plan of action and follow it when confronted with a problem.

9. Develop new hobbies or recreations.

10. Take your mind off unpleasant thoughts.

11. Look for something good in a negative situation.

12. Keep from feeling sad.

13. See things from the other person's point of view during a heated argument.

14. Try other solutions to your problems if your first solutions don't work.

15. Stop yourself from being upset by unpleasant thoughts.

16. Make new friends.

17. Get friends to help you with the things you need.

18. Do something positive for yourself when you are feeling discouraged.

19. Make unpleasant thoughts go away.

20. Think about one part of the problem at a time.

21. Visualize a pleasant activity or place.

22. Keep yourself from feeling lonely.

23. Pray or meditate.

24. Get emotional support from community organizations or resources.

25. Stand your ground and fight for what you want.

26. Resist the impulse to act hastily when under pressure.

Appendix 4

Debriefing

I am studying a BA honors degree in Psychology and am conducting a research study for my final year college project. The objective of this research project is to examine the stress levels of college students and how well they are able to cope with stress. Each result will assist me in collecting the research data for my thesis.

If you have any questions regarding this experiment please feel free to contact either

myself, Shannon Cox, through my email x14416762@student.ncirl.ie or my supervisor in this study, Fearghal O'Brien at Fearghal.OBrien@ncirl.ie