Stress, Employment and Academic Performance: A Study Exploring the Effects of Perceived Stress and Employment on a Third Level Student's Academic Performance

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Abstract

Background: The level of employment among students today is increasing along with the amount of stressors they have to face which can have a large impact on their academic performance. This study aims to investigate the effects of perceived stress, employment, personality type and age on a third level student's academic performance.

Method: A convenience sample of 72 students from the National College of Ireland was used. A questionnaire was distributed online and in paper format containing demographic questions, employment questions, the perceived stress scale, a subscale of the PASCI (Personal and Academic Self Concept Inventory), and the measurement of pattern A behaviour.

Results: There was negative correlations found between academic performance and stress and, academic performance and personality type. Further correlations between variables are discussed. Stress, personality type and age were found to be significant predictors of academic performance.

Conclusion: Findings from this study suggest that stress and personality type can have a negative effect on academic performance whereas age can have a positive effect on academic performance.

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Introduction

What is stress?

Cooper and Palmer (2000) suggest that "stress occurs when pressure exceeds your perceived ability to cope". Stress is a psychological demand placed on the body which an individual must adapt, cope or adjust to (Nevid and Rathus, 2003). Perceived stress refers to how an individual identifies with a stressful event they experience and not the actual feelings and symptoms of stress (Cohen et al, 1983).

The American Psychological Association (APA) suggest that there are two major types of stress, acute stress and chronic stress. Acute stress is short term and can stem from any recent demands or pressures such as poverty, college exams, work related problems or family related stressors (APA, 2011). Experiencing stressors can trigger an individual's fight or flight response. Acute stress may encourage the body to fight and keep focused therefore it is not always a bad thing. This type of response may be beneficial in an exam situation when the body is tired but needs to keep focused and complete the exam. Whereas the body may not be able to cope with chronic stressors such as family abuse or ongoing illness which may activate the body's flight response.

The term stress was taken from the area of physics by Hans Selye, one of the "fathers" of stress research (Centre for studies on human stress, n.d). Selye first started using the term during his medical training when he noticed one thing which all of his patients had in common, physical stress. Selye (1936) defined stress as "the non-specific response of the body to any demand for change". Selye was the first to study stress from a response-based approach introducing the General Adaptation Syndrome (GAS) (Sutherland and Cooper, 1990). The GAS describes the three stages the body will experience in response to stress, alarm, resistance and exhaustion. Alarm is stage

one where the fight or flight response is activated to prepare the body for action. Resistance is the second stage where the body has to adapt to stressors and resist them. Exhaustion is the third stage where if the body is unable to resist the stressors it becomes exhausted and therefore is susceptible to collapsing or in some more serious cases, death. However, Selye's GAS model did receive some criticism and was referred to as being simplistic. Christian and Lolas (1985) suggested that the model was not satisfactory in explaining psychological stress and was only valid for explaining typical stressors.

The stimulus based model of stress suggests that life changes, events and stressors, positive or negative, which cause a psychological or physiological reaction can cause an individual to be vulnerable to disease. Holmes and Rahes (1967) developed the Social Readjustment Rating Scale (SRRS) measuring major life changes which they hypothesis are more likely to predict and individual to experience physical or mental illness. This theory has some supporting evidence however it has been criticised for ignoring the cognitive aspects of the effects of stress.

Lazarus and Folkman (1984) proposed the third approach, the transactional model of stress which focuses more on the cognitive aspects. This model suggests that an individual is able to think and evaluate a situation before reacting to a stressor. This model has two stages of appraisal. The primary appraisal process stage is where the individual assess the event and determines if it is a threat to them or not. The second appraisal process stage is where the individual identifies their coping skills to reduce the threat.

According to Sutherland and Cooper (1990) stress is in the eye of the beholder therefore it is important for an individual to be aware of potential stressors which they

may encounter in their environment. Some of the most common causes of stress are job loss, death of a loved one, family problems, money problems, relationships and exams. Stress at high levels or which is constantly present can have negative mental and physical consequences for an individual. Hazel and colleagues (2008) suggest that continued exposure to stress in childhood, largely accounts for early adversity and depression in adolescences. Several studies have also associated stress with negative outcomes in the workplace such as poor performance and less job satisfaction (Husain, 2014). Kivimaki and colleagues (2006) carried out a meta-analysis which found that individuals who were experiencing high levels of work stress had a 50% greater risk of developing coronary heart disease (CHD). Theses are just some of the examples of what can cause stress and the serious consequences which it can have to an individuals life.

Cohen and Wills (1985) suggest that stress occurs when an individual appraises a situation or event as threatening or demanding and does not have the appropriate coping skills to effectively deal with the situation. Cohen (2004) suggests that stress buffering is the primary model considered by psychologists, especially for interventions aiming to help an individual cope with stressors. The stress buffering model predicts that social support can reduce the effects of stressful situations and events by encouraging less threatening interpretations of the situation and providing more helpful coping strategies. Cohen and colleagues (1985) provided evidence to support the stress buffering model. They found that in their sample of both students and adults most of them were more likely to report symptoms of depression and mental illness when experiencing stress however, these symptoms were reduced among those who realised support was available from their social networks such as family, friends or clubs.

Quick and Quick (1984) suggest that as stress is something that is inevitable and distress isn't, its important that there is a distinction made between stressors which cause stress and those which can promote a positive stress response.

Stress and Academic Performance

Students today are faced with stressors from many sources which have a large impact on their psychosocial adjustment and their academic performance (Haynes, 2002). Cruwys and colleagues (2015) suggest that third level education is often seen as a time for personal development and also for improving intellectual abilities however, it can also be a time of stress and anxiety for many students. The contribution of stress is something that can have an impact on students during exam periods or times when important deadlines need to be met. Previous research has suggested that college students experience significant levels of stress and in turn have lower well-being and mental health levels (Stallman, 2010; Adlaf, Gilksman, Dermers & Newton-Taylor, 2010).

During a typical college semester 52% of students will report high levels of stress (Hudd et al, 2000). In 2002, 27% of college students reported being frequently overwhelmed at some point (Sax, 2003). Towbwes and Cohen (1996) suggested that the transition from adolescence to adulthood increases college students vulnerability towards stress. These figures show how college can be seen as a stressful time for students and also highlight how students are more vulnerable to experiencing stress when they are adapting to new and different environments. Previous research also suggests that academic performance can be negatively impacted when students are experiencing high levels of stress (Lumley and Procenzano, 2008; Struthers et al, 2002).

Stoliker and Lafreniere (2015) suggest that for some students university may be a recipe for disaster because of the pressure and stress that is associated with it. They carried out a study in a Canadian university with 150 undergraduate psychology students to investigate the impact of perceived stress, loneliness and burnout on a students educational experience's, coping abilities and overall academic performance. The students completed an online self report survey which measured all of the factors being investigated. Findings from the study showed stress, loneliness and burnout to have negative impacts on educational experience and academic performance. In this study some of the academic and personal pressures which contributed to the student's stress levels were homework, employment, clubs, family and many others. Findings also suggest that the coping abilities of the students mediated the relationship between academic stressors and academic performance. However, these results may be biased as students participating in this experiment were all studying psychology which may have influenced their answers due to their knowledge in certain areas or of certain measures used.

Previous research carried out by Struthers and colleagues (2000) also reflects these findings. Struthers and colleagues (2000) suggest that college students have to face many challenges when pursuing their academic goals. They carried out a study to investigate the extent to which students coping styles and motivation mediate academic stress and academic performance. Participants were 203 students enrolled in a variety of courses. Levels of stress, coping styles and motivation were all measured by a self report questionnaire. Academic performance was measured by grades obtained by the researchers from lecturers. Results supported the hypothesis and showed academic stress and academic performance to be mediated by the students coping styles and

motivations. Results from this study may hold more reliability than the previous study mentioned as the students are from a variety of courses and also academic performance was measured by obtaining grades from lectures and not self-report measures which could be biased and untruthful.

These research studies show the negative impact which stress can have on college students and their academic performance and also their college experiences. However, they also outline how an individual's coping abilities can mediate this negative relationship which may be beneficial for interventions and for future research.

Regehr and colleagues (2013) conducted a review and meta-analysis to examine the effect of interventions at reducing stress levels in university students. They reported that although increasing rates of depression and anxiety have become concerning in university students, only a small number of these students receive support and treatment from university services. The authors reviewed 24 studies, totalling a sample size of 1431 students. Results showed that cognitive, behavioural and mindfulness interventions were all effective in reducing stress levels among the students.

Regehr and colleagues (2013) review and meta-analysis highlights the important role which college and universities can play in promoting positive mental health and well-being among their students. Their work also shows the effectiveness of interventions in reducing levels of stress in students.

Stress, Employment and Academic Performance

Work is an important aspect of most adult lives, for economic reasons and also for social and psychological needs (Blustein, 2008; Hall, 2002). However work, usually defined as some sort of paid employment, can also be a source of stress for some

individuals. According to the Health and Safety Authority work related stress can be stress caused by work, or stress made worse from work. Work stress can have real consequences for individuals including having a negative impact on their behaviour and also their health (Wainwright and Calnan, 2002). Causes of stress in the work place are often conflict, bullying, little communication, stress from home affecting a person's performance and many others.

The National Centre for Education has suggested the number of students employed and the number of hours they are working has increased greatly in comparison to previous years (Logan et al, 2016). This could result in students having less time to focus on their academic work which in turn could have a negative impact on their overall academic performance.

A report from the Higher Education Authority on the social and living conditions of higher education students in Ireland for the college year 2009/2010 reported that 53% of students has some sort of paid job during the college term. Income earned from their employment was their most common source of income. This was the case in particular for part-time students. 39% of students did not feel they had enough income to cover their monthly expenses which shows the importance of employment for some students.

Many researchers have questioned the impact of employment on a students academic performance (Green, 1987). The increasing number of students working has led some researchers to believe that employment could be having a negative impact on their academic performance (Steinberg, Fegley, & Dornbusch, 1993).

Watanabe and colleagues (2005) carried out a study to examine the effects of employment on academic performance in college students. Based upon previous

research the authors hypothesised that (1) fewer hours in work would lead to better academic performance, (2) jobs or internships related to area they were studying would positively affect academic performance and (3) fewer credit hours and more flexible work schedules would lead to better academic performance. Participants were students from a metropolitan university. A self administered questionnaire was used to collect data and academic performance was defined as the students grade point average in the first semester. Surprisingly, results from this study did not support any of the authors hypotheses. Results indicated that student employment did not have an effect on academic achievement. However it is unclear in this research article as to what the sample size was that took part in the study therefore these results should be interpreted with caution.

A study carried out by Salamonson and Andrew (2006) contradicts the findings from the previous study. Their experiment examined the influence of age, ethnicity and part-time employment on the academic performance of 267 second year nursing students. A quantitative survey design was used to collect the data over a two year period. Students taking part were all studying in the same regional university in Australia. 78% of the students reported being in paid employment however, the majority of these students were working in areas related to nursing. Results showed that age was positively associated with academic performance but, ethnicity and time spent in paid employment were negatively associated with academic performance. For future research it may be beneficial to have a broader sample outside of second year nursing students so results can be generalized to a larger population. Future studies may also benefit by looking into the effect which age has on a student's stress levels and

academic performance as the results from this study show it to be positively associated with academic performance.

Staff and colleagues (2010) suggest that adolescents who work more than 20 hours per week do not perform as well in school as those who are working less hours. They conducted a study with 8th, 10th and 12th grade students investigating their levels of work intensity, school performance and academic involvement. The authors suggested that there could be two explanations for the relationship between hours spent working and not performing well in school, (1) that students did not have enough time for extracurricular activities outside of schoool like homework or preparing for exams, or (2) that the relationship was spurious. A longitudinal study was carried out collecting data from the ongoing Monitoring the Future Project which consisted of research on the impact of student employment on academic performance and academic involvement. Results from the study showed that students who spent more time working were more likely to have difficulties in school and also that the mere wish which some of the students had to work corresponded with having difficulties in their academic performance.

Findings from the previous research in this area shows a lot of variety in terms of whether employment has negative effects on a student's academic performance or not. For future research in this area it may be beneficial to conduct a study with a larger group of students from a variety of coarse backgrounds and to also ensure a more reliable measure of academic performance as self report measures may give students the opportunity to be bias.

Stress, Personality and Academic Performance

Allport (1961) defined personality as "a dynamic organisation, inside the person, of psychological systems that create the person's characteristic patterns of behaviour, thoughts and feelings". Several studies suggest that certain personality traits and patterns can leave an individual more vulnerable to experiencing stress (Zysberg et al, 2016). Friedman and Rosenman (1959) identified type A and type B personalities. They developed their theory based on observations of patients with heart conditions in a waiting room. They predicted that individuals with type A personality were more likely to develop heart disease due to their more stressful lifestyle.

Type A personality is described as driven, meets goals, competitive, enjoys competition, works hard and is often seen as successful (Maltby et al, 2013). Type B personality in contrast is described as relaxed, less interested in competition, achievement and power, having more of a take life as it comes approach (Friedman & Rosenman, 1959). An individual with type A personality may have higher levels of stress than those of type B personality however this may help them to preform better in certain situations such as exams. Essau and Jamieson (1987) suggest type A personalities are less aware of their academic arousal and therefore can over expose themselves to stressors.

There has been little research carried out in the area of how type A or type B personality may influence a student's academic performance. Previous research suggests that type A personalities experience more stress than type B personalities and we are aware of the negative impact which stress can have on academic performance. However, it would be expected that type A personalities would perform better academically as they are more driven and focused in terms of their goals compared to

those of type B personality who would be more relaxed and less interested in their academic achievement.

Current Study

This current research study aims to investigate the impact which perceived stress and employment can have on a third level students academic performance, while also examining the effects of personality type and age.

Previous research in the area of stress and academic performance has highlighted the negative impact which stress has on a student's performance and also how students have reported experiencing high levels of stress during their time in college. Stress is not a factor which is often taken into account when grading a student's work however, it has been shown to have a negative impact on performance therefore it is important to understand why and develop strategies to help students cope and manage with different stressors they will face during their education.

Research studies investigating the impact of employment on academic performance have outlined different findings. The level of students in paid employment is increasing therefore it is important to examine the effects this may be having on their academic performance and experiences. Watanabe and colleagues (2005) found that employment did not negatively impact the students academic performance however, in contrast to this, Salamonson and Andrew (2006) later found that there was a negative relationship between hours spent working and academic performance.

It is suggested that an individual with personality type A will experience higher levels of stress than those of personality type B. However, there is no research to suggest that the type of stress associated with personality type A could benefit students

and help them to perform better academically. Although stress is thought to have a negative impact on academic performance, this research study will investigate if stress could improve the academic performance of type A personalities.

Research in the area of age and its influence on college student's academic performance is scarce. Salamonson and Andrew (2006) found that age was positively associated with academic performance and this current research study aims to replicate this finding.

This current research study will test four hypotheses:

Hypothesis 1: That there is a negative relationship between the level of stress experienced and academic performance.

Hypothesis 2: That higher levels of stress will be experienced by students who are employed, having a negative effect on academic performance.

Hypothesis 3: That students described as type A personality will report higher levels of stress however, perform better academically.

Hypothesis 4: That mature students will be experiencing less stress, having a positive effect on academic performance.

Method

Participants:

72 participants (49 female, 23 male) took part in this current research study. All participants were first or third year undergraduate students in the National College of Ireland (NCI) from either a background of business or psychology courses. There was a total of 59 traditional students (18-22 year olds) and 13 mature student (23-54 years old). 59 out of the 72 participants were employed.

Convenience and snowball sampling methods were used to gather participants. This was done by approaching students in their classes and having them complete the paper version of the questionnaire. This was also done by inviting the students to complete the online version of the questionnaire via a Facebook group for NCI students. Students were made aware that participation was voluntary and responses were anonymous.

Measures:

A questionnaire was developed by the researcher which consisted of an information section outlining the purpose of the study, a consent section, demographic questions, employment questions, a scale measuring perceived stress, a scale measuring personality type A and a scale measuring academic performance (see appendix one).

There was a total of 41 questions and statements, and took participants between 5 to10 minutes to complete. The questionnaire was delivered to participants through google forms (an internet program for creating surveys and questionnaires, allowing

you to track the results). Questionnaires were also delivered to students by the researcher in paper format at the beginning of a lecture. Data collected was analysed by the researcher (see appendix two) using IBM statistic 21.0.

The information section, consent section, employment and demographic questions were designed by the researcher. The information section explained the purpose of the study, what was being measured, what data collected would be used for and contact information of the researcher in case participants had any further questions regarding the study. The consent section required participants to tick a box giving full consent to take part in the research study. Demographic factors contained questions referring to age, gender and college information. Employment questions referred to hours spent working, days of the week the participant worked and job enjoyment.

The perceived stress scale (Cohen et al, 1983) was used to measure participants levels of perceived stress in the last month. This is a 10 item questionnaire measured on a likert scale from 0 being never to 4 being very often. The questions asked are related to participants feelings and thoughts in the last month. This is a widely used psychological tool to measure the perception of stress. Cronbach's alpha for the current sample is .79.

A subscale of the PASCI (Personal and Academic Self Concept Inventory) was used to measure student's academic performance. The PASCI is an extension of the Fleming-Courtney Scales (Fleming and Whalen, 1984). The subscale used contained 5 questions measured on a likert scale from 1 being practically never and 7 being very often. Cronbach's alpha for the current sample is .78. To learn more about student's academic ability the researcher added another question requiring participants to report on average what grades they had been achieving in semester one.

The measurement of pattern A behaviour (Bortner and Rosenman, 1967) was used to determine if students were described as type A or type B personality. This consisted of 13 items, each with two statements. On a scale of 0-10 students identified which statement best described them. A score above 100 indicates type A personality and a score below 70 indicates type B personality. A score between 70 and 100 indicates a balanced personality where neither personality type dominates. Cronbach's alpha for this current sample is .35.

Design:

The design for the current research study is quantitative, within-participants, cross sectional. This study is measuring levels of perceived stress, personality type and academic performance at one point in time.

This current study has four predictor variables, stress, employment, age and personality type, and the criterion variable is academic performance.

Procedure:

Pilot study: A pilot study was conducted with 2 female participants (one third year business student and one third year psychology student). Participant one completed the questionnaire online via google forms and participant two complete the paper version. Both participants were timed to determine how long it would take to complete the questionnaire. After completion the researcher asked the participants if they had any problems accessing the questionnaire for the online version or any issues understanding any of the information or questions asked. Participants did not report any difficulties and no changes were made.

The online version of the questionnaire was uploaded to a Facebook page for NCI students explaining the purpose and details of the questionnaire. Participants could then click on a link where they were brought to google forms to complete the questionnaire. Throughout the completion of the questionnaire participants had the option to stop at any stage and had to confirm at the end if they wanted to submit their response.

The paper version of the questionnaire was given to students in a classroom setting. The researcher gave a brief introduction as to what the purpose of the study was and an information sheet was attached to the front of the questionnaire outlining what the data collected would be used for. Participants were not obligated to take part in the study and could carry on studying their own notes quietly if they did not wish to complete the questionnaire. The researcher waited in the classroom for the students to complete the questionnaire which took approximately 10 minutes.

Results

Frequencies for the current sample of participants (N = 72) on each demographic variable measured are represented in table 1.

Table 1

Variable	Frequency	Valid Percentage
Gender		
Male	23	31.9
Female	49	68.1
College		
NCI	72	100
Part or Full-time student		
Part-time	5	6.9
Full-time	67	93.1
Year of study		
First year	59	81.9
Third year	13	18.1
Employed		
No	13	18.1
Yes	59	81.9

Working part or full-time		
Part-time	58	98.3
Full time	1	1.7
Days Working		
Weekends	19	32.2
Weekdays	5	8.5
Both	35	59.3
Enjoy job		
No	12	20.3
Yes	47	79.7
Average scores		
Below 40%	2	2.8
40% - 60%	38	52.8
60% - 70%	29	40.3
Above 70%	3	4.2

Descriptive statistics for age, personality, stress and academic performance are presented in table 2. Histograms and normal Q-Q plots were examined for each variable to test for normality.

The mean score for personality (m = 68.76, SD = 9.95) suggests that the majority of participants scored around 70 on the personality scale indicating that most of the participants were classified as personality type B. Personality scores ranged from 43-100 suggesting that there was very few type A personalities participating in the

study. For personality the histogram presented a normally distributed bell curve shape and the normal Q-Q plot presented a reasonably straight line.

The mean score for stress (m = 21.04, SD = 6.25) indicates the majority or the students reported experiencing relatively high levels of stress. For stress the histogram and normal Q-Q plot indicated a normally distributed shape.

The mean score for academic performance (m = 17.49, SD = 5.76) indicates that the majority of participants were scoring themselves low on the academic performance scale. For academic performance the histogram represented a normal distributed bell curve shape and the normal Q-Q plot a straight line.

Table 2

Descriptive statistics of all continuous variables

	Mean (95% Confidence Intervals)	Std. Error Mean	Median	SD	Range
Age	21.15(19.90-22.41)	.63	19	5.35	18-54
Personality	68.76 (66.41-71.12)	1.2	70	9.95	43-100
Stress	21.04 (19.56-22.52)	.74	22	6.25	3-33
Academic Perf	17.49(16.13-18.86)	.68	18	5.76	5-31

Correlation

Correlation's between all variables are represented in table 3.

Hypothesis 1:

The relationship between stress and academic performance was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a significantly large, negative correlation between the two variables, r = -.51 n = 71, p = .000. This indicates that high levels of stress have a negative impact on academic performance. The two variables shared 26.01% of variance in common.

Hypothesis 2:

The relationship between stress and employment was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a non-significant small, positive correlation between the two variables, r = .12 n = 71, p = .317. These two variables shared 1.44% of variance in common.

The relationship between employment and academic performance was also investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a non-significant small, negative correlation between the two variables, r = -.06 n = 71, p = .650. These two variables shared 0.36% of variance in common.

Hypothesis 3:

The relationship between stress and personality type was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a non-significant small, positive correlation between the two variables, r = .11, n = 70, p = .379. These two variables shared 1.21% of the variance in common.

The relationship between academic performance and personality type was also investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a significantly small to moderate, negative correlation between the two variables, r = -.29 n = 70, p = .014. This indicates that participants who identified as personality type B were performing worse academically. These two variables shared 8.41% of the variance in common.

Hypothesis 4:

The relationship between stress and age was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a non-significant small, negative correlation between the two variables, r = -.19 n = 71, p = .101. These two variables shared 3.61% of the variance in common.

The relationship between age and academic performance was also investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a non-significant small, positive correlation between the

two variables, r = .22 n = 71, p = .064. These two variables shared 4.84% of variance in common.

Table 3

Correlations between all continuous variables

Variables	1	2	3	4	5
1. Age	1				
2. Employment	.15	1			
3. Stress	-.19	.12	1		
4. Personality	.27*	-.05	.11	1	
5. Academic Performance	.22	-.06	-.51**	-.29*	1

Note. Statistical significance: *$p < .05$; **$p < .01$; ***$p < .001$

Regression

Multiple regression was performed to investigate the ability of stress, personality, age and employment to predict academic performance (see table 4). Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. Additionally, the correlations between the predictor variables included in the study were examined (see table 3). All correlations were small to moderate, ranging between r = -.05, p < .001 and r = .27, p < .001. This indicates that multicollinearity was unlikely to be a problem.

The four predictor variables explained 36% of variance in academic performance (F (4, 65) = 9.23, p = .000). This indicates that the multiple regression model as a whole is significant.

In the final model stress (β = -.43, p = .000), personality (β = -.31, p = .004) and age (β = .23, p = .037) were significant predictors of academic performance. These results indicate that personality type and stress can predict negative academic performance whereas age can predict positive academic performance.

Table 4

Multiple regression model predicting academic performance

	R^2	β	*B*	*SE*	CI 95% (B)
Model	.36***				
Stress		-.43***	-.39	.09	-.58 / -.19
Personality		-.31**	-.18	.06	-.30 / -.06
Age		.23*	.25	.12	.02 / .48
Employment		-.05	-.79	1.5	-3.8 / 2.2

Note. N = 72; Statistical significance: *$p < .05$; **$p < .01$; ***$p < .00$

Discussion

The primary aim of this current research study was to investigate the impact of perceived stress and employment on a third level student's academic performance, while also looking at the effects of age and personality type.

Hypothesis one stated that there is a negative relationship between stress and academic performance. Previous research carried out by Stoliker and Lafreniere (2015) supported this hypothesis showing that stress had a negative impact on university psychology student's academic performance. Results from this current study supported the hypothesis producing a significantly large, negative correlation between stress and academic performance ($r = -.51$). Stress was also found to be a significant predictor of academic performance ($\beta = -.43$, $p = .000$). Therefore, these findings highlight the negative effect which stress can have on a student's academic performance. Hudd and colleagues (2000) suggest that over 50% of student's report experiencing high levels of stress during a typical college semester. If colleges and universities become more aware of the problem, they may be able to offer students better services or interventions to help them manage and cope with their stress. If students were to avail of these services it may be of benefit to their academic performance. Regehr and colleague's (2013) meta-analysis found that cognitive, behavioral and mindfulness interventions were all effective in reducing the stress levels of students.

Hypothesis two stated that higher levels of stress will be experienced by students who are employed, having a negative effect on academic performance. The National Center for Education reported that the number of students employed has been increasing compared to previous years (Logan et al, 2016). Therefore, it is important to understand the effect employment can have to a student's stress levels and academic performance.

Results from the current study did not support the hypothesis. A non-significant small, positive correlation was found between stress and employment (r = .12), and a non-significant negative correlation between employment and academic performance (r = -.06). The multiple regression model also suggests employment is not a significant predictor of academic performance. These results reflect the findings of Watanabe and colleagues (2005) who suggest that employment does not have an effect on academic performance. However, these previous research findings and those of the current study contradict Salamonson and Andrew (2006) who suggest that employment and academic performance are negatively associated.

Hypothesis three states that students described as type A personality will report higher levels of stress however, perform better academically. Essau and Jamieson (1987) suggest that a type A personality may over expose themselves to stressors as they are less aware of their academic arousal. Results from this current study contradict this as they found a non-significant small, positive correlation between personality type and stress (r = .11). However, there was a significantly moderate, negative correlation between personality and academic performance (r = -.29) and multiple regression analysis shows personality type to be a significant predictor of academic performance (β = -.31, p = .004) suggesting that type B personalities perform worse in terms of academic performance.

Hypothesis four states that mature students will be experiencing less stress having a positive effect on academic performance. Previous research carried out by Salamonson and Andrew (2006) supported this hypothesis with findings of a positive association between age and academic performance. The current study found a non-significant small, negative correlation between age and stress (r = -.19), and a non-

significant small, positive correlation between age and academic performance (r = .22). However, the multiple regression model shows age to be a significant predictor of academic performance (β = .23, p = .037) suggesting that age may have a positive effect on a student's academic performance.

Limitations

This current research study is not without its limitations. Convenience sampling was used to gather only psychology and business students from the National College of Ireland therefore findings cannot be generalized to other colleges. The sample size was small (N = 72) with distribution of age being a limitation as the range was 18 to 54 with the average age being 19. A small sample size can leave the research vulnerable to age and gender biases. The sample only included students in first and third year therefore not taking into account the experiences of any second year students in NCI or any of the students studying computing at NCI.

The use of an online questionnaire is another limitation as participants may be completing it in a distracting environment or discussing it with others around them therefore not concentrating on the questions and possibly being untruthful.

The lack of control for outside variables is another limitation. Other factors may be influencing how a participant may respond to certain questions on the day which could have an overall effect on the accuracy and reliability of the results produced.

Cronbach's alpha for Bortner and Rosenman's (1967) measurement of type A behavior was .35 for the current sample indicating that it was an unreliable measure which could have negatively impacted the findings of the study.

Strengths

Irrespective of the limitations the current study also had its strengths. The main strength of this research study can be seen in the results. Significant relationships were found between variables tested and three variables were found to be significant predictors of academic performance.

A pilot study was also conducted which can be seen as another strength. This was done to ensure that participants could access and complete the online questionnaire without experiencing difficulties, and also to be sure that the questions were asked clearly and could be understood by all participants completing the questionnaire online and the paper version.

Another strength may be that there was no certain time period where participants had to complete the questionnaire. The link was available on a Facebook page so they could choose when they wanted to take the time to complete the questionnaire without putting themselves under any pressure.

Implications for Future Research

If this research was to be replicated in the future a larger sample size should be gather containing students from a variety of years, courses and colleges to produce more reliable results of the student population.

Limiting the time frame for when students can complete the questionnaire to a time when they would be focusing more on their college work such as exam periods or periods when continuous assessments are due may tell the researchers more about how stress and employment are effecting their academic performance. Having students complete the questionnaires in paper format in the same environment may also be

beneficial as they researchers can eliminate any distractions which influence their answers.

A more reliable measure of personality type should be used to ensure more accuracy in the results produced. Researchers should also control for outside factors which could be influencing the relationships being examined.

Conclusion

This current study has provided empirical research evidence regarding stress, employment, age and personality type, and their effects on third level student's academic performance. Although not all of the hypotheses were supported by the research the findings still give insight into the type of relationships shared between the variables and those which are significant predictors of academic performance. These findings are important as they make students, lectures and others working in academia more aware of the factors which may be effecting a student's academic performance. Previous research has reported stress to be negatively associated with academic performance which is supported by the current findings. Stress is a significant predictor of academic performance and a negative relationship was found between the two variables. Previous research has suggested that employment and academic performance are also negatively associated however the current findings did not show a significant relationship between the two variables. Surprisingly there has not been a lot of research investigating personality type A and B, and academic performance. The current findings found personality type to be a significant predictor of academic performance. Little research has also been done to investigate the impact of age on academic performance. The current findings show age to be a significant predictor of academic performance supporting what previous researchers have said in the area.

There is a need for further research to gain a better understanding of the effects of stress, employment, age and personality type on academic performance. This will inform researchers if results from this study can be generalized to all third level students.

To conclude, the findings from this research will assist future researchers in discovering what factors effect academic performance, positively or negatively. This research also opens a window for more empirical research to be done regarding the effects of age and personality type on academic performance.

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Appendix

Appendix 1:

Questionnaire used to measure variables:

Information section:

This is a short questionnaire which contains questions and statements relating to stress, employment, personality and academic performance. This questionnaire is completely anonymous and does not require any personal information. Results will be analysed and used for the purpose of an undergraduate thesis. If you have any questions please e-mail the researcher at x14413498@student.ncirl.ie

Consent section:

1. By ticking this box you are agreeing to take part in this study where the data collected will be used for a research purpose. No personal details will be required.

Demographic factors:

2. Are you male or female?

   Male Female

3. What age are you?

4. What college or university are you attending?

5. Are you a full-time or part time student?

   Full-time Part-time

6. Are you an undergraduate student?

   Yes No

7. What year of study are you in?

   First year Second year Third year

8. Are you currently employed?

   Yes No

9. If yes, are you working part-time or full-time?

Part-time Full-time

10. How many hours a week do you work on average?

11. What days of the week do you work?

Weekends Weekdays Both

12. Do you enjoy your job?

Yes No

Personality Type:

13. Casual attitude toward time keeping / Always on time

14. Lacking competiveness / Extremely competitive

15. Feel you have plenty of time / Always feel rushed

16. Slow at everyday activities (e.g. walking) / Fast at everyday activities

17. Lose patience if made wait / Able to wait patiently

18. Many hobbies/interests / Home/work is main interest

19. Tackles tasks one by one / Juggle many things at once

20. Highly ambitious / Not very ambitious

21. Good listening skills / Poor listening skills

22. Express feelings / Keep things to yourself

23. Talk fast empathetically / Talk slow, deliberately

24. Want to satisfy yourself regardless of others / Easy-going

25. Keen to finish/do things / Not concerned with deadlines

Perceived stress:

26. In the last month, how often have you been upset because of something that happened unexpectedly?

Never 0 1 2 3 4 Very often

27. In the last month, how often have you felt that you were unable to control the important things in your life?

Never 0 1 2 3 4 Very often

28. In the last month, how often have you felt nervous and stressed?

Never 0 1 2 3 4 Very often

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

Never 0 1 2 3 4 Very often

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

Never 0 1 2 3 4 Very often

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

Never 0 1 2 3 4 Very often

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

Never 0 1 2 3 4 Very often

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

Never 0 1 2 3 4 Very often

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

Never 0 1 2 3 4 Very often

35. In the last month, how often have you felt difficulties were piling up so high that you could no overcome them?

Never 0 1 2 3 4 Very often

Academic Performance:

36. Do you often think of yourself as an outstanding student?

Practically never 1 2 3 4 5 6 7 Very often

37. Do you ever feel less capable academically than others in your class?

Practically never 1 2 3 4 5 6 7 Very often

38. Do you think of yourself as someone who can do quite well on exams and assignments?

Practically never 1 2 3 4 5 6 7 Very often

39. Are you frequently concerned about your ability to do well in college?

Practically never 1 2 3 4 5 6 7 Very often

40. Are you often concerned that your performance is not up to par?

Practically never 1 2 3 4 5 6 7 Very often

41. On average, how well were you scoring on assignments last semester?

Below 40% 40-60% 60-70% Above 70%

Thank you for taking the time to complete my questionnaire. Please do not hesitate to contact me (x14413498@student.ncirl.ie) if you have any questions regarding the results. Good luck in your future studies.

Appendix 2:

Method of data analysis:

Descriptive statistics were run on the data to describe the characteristics of the sample and to ensure no violation of the assumptions. A correlation analysis was conducted on the data to measure the relationships between predictor variables and the criterion variable. Correlation is not causation but it does give insight into the type of relationship that exists between two variables. A multiple regression analysis was then run to examine if perceived stress, employment, age and personality type could predict academic performance.