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Self-Efficacy, Motivation and Stress: A Study of Employed and Unemployed College Students

Submitted in partial fulfillment of the requirements of the Bachelor of Arts degree (Psychology Specialization) at DBS School of Arts, Dublin.

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Table of Contents

1. Abstract.....	3
2. Introduction.....	4
2.1 Stress.....	5
2.2 Motivation.....	7
2.3 Self-Efficacy.....	8
2.4 Linking Self-efficacy, Stress and Motivation.....	9
2.5 Current Study.....	10
3. Methodology.....	14
3.1 Materials/Apparatus.....	14
3.2 Participants.....	16
3.3 Design.....	17
3.4 Procedure.....	17
4. Results.....	19
5. Discussion.....	25
6. References.....	35
Appendix 1 – Sample Questionnaire.....	49
Appendix 2 – Barchart.....	58

Acknowledgements

I would like to thank the following people for their help and assistance during my final year project. To my research supervisor, Dr. John Hyland, for all his support and guidance in relation to the project. To Michael Nolan, DBS for all his assistance with compiling the questionnaire. Thank you also to Dr. Rosie Reid who assisted me gaining a sample and to the students of DBS who participated in the study. To Dr. Jonathon Murphy, Dr. Patricia Frazer and Dr. Margaret Quinn Walsh for their support and encouragement during the research project seminars. And finally to my mother Antoinette and my brother Bryan for their support and encouragement throughout. Thank you all so much.

1. Abstract

This study investigates the effect paid employment has on a student's level of perceived stress, general self-efficacy and academic motivation. The study also looks at the relationship between these three variables and their joint effect on academic success. 119 students were used in the study. The study is a mixed design. Participants were required to complete three scales (PSS-14, AMSC-28 and GSES). The levels of perceived stress, general self-efficacy and academic motivation were measured for each student and a variety of statistics were carried out. In general the hypotheses are not supported by the results. However significant findings were reported between mode of education, fee payment and academic motivation. The results suggest that a student's mode of education and method of fee payment significantly influence their motivational orientation.

2. Introduction

A great deal of research studies to date have focused on the effect employment has on a student's academic performance. Many researchers believe that students who work suffer from decreased academic performance. Most of these studies stated that an increase in the number of hours worked was the most influential factor. Pritchard (1996) demonstrated that students who worked more hours were less likely to become an "A" student. Similarly Furr and Elling (2000) found that 29% of students working 30-39 hours per week and 39% of those students working full time indicated that work had a negative impact on their academic progress. They believed that students found it challenging to maintain a balance between their academic responsibilities, extracurricular activities, and employment commitments. Steinberg and Dornbusch (1991) supported this view. According to this study it is not the job itself that causes problems but the overload of work. Not all studies however reported a negative effect on academic performance. For instance Pinto et al (2001) found that the hours worked did not have an adverse effect on student's performance. Dallam and Hoyt (1981) maintained that employment can have a positive effect if in the proper proportions. It is evident that studies have produced mixed results regarding the influence of employment on academic accomplishment. The literature in general has not found a significant negative effect on student's academic performance.

A possible reason for the inconsistent findings regarding the relationship between employment and academic grades is that the relationship is not linear. It is mediated by a number of extraneous variables such as the number of hours worked, student engagement in educationally purposeful activities and also the location of work. A study carried out by

Svanum and Bigatti (2006) demonstrates this point. This study looked at both the influence of course effort and outside activities on academic performance. It was found that the number of hours students worked was not related to academic performance when course effort was also included as a covariate. Other researchers looked at employment and student engagement in educationally purposeful activities such as time spent studying, participating in active learning experience or interaction with faculty members. Significant relationships are consistently found between these two variables (Fur and Elling, 2000; Klum and Cramer, 2006; Pike, Kuh, Massa and Mc Kinley, 2008). Dallam and Hoyt's (1981) study revealed that students who worked between one and fifteen hours per week had a higher grade point average than those who did not work at all or who worked a greater number of hours. Similar results are reported by Dundes et al (2006) and Orszag, Orzab and Whitmore (2001). Where students work appears to be equally as important as the number of hours worked. Astin (1993) found a positive relationship between working on campus and grades.

2.1 Stress

Generalised stress is defined as a state of psychological arousal that results when environmental stressors surpass a person's adaptive abilities (Lazarus, 1966). College students are exposed to a range of environmental stressors. This is evident in Hirsch and Keniston's (1970) study which looked at the dropout rate of students in university. They estimated that fifty percent of entering freshman do not finish college four years later. Many studies have researched what the primary sources of stress among college students are.

According to Hirsch and Ellis (1996) the pressure to earn good grades and to earn a degree is a very high source of stress among students. Kohn and Frazer (1986) proposed that too much coursework and unclear assignments also contributed to stress levels. And Sgan-Cohen and

Lowental (1988) indicated that time pressures and interaction with faculty members were other common stressors. It is clear from these studies that college students are particularly prone to stress. However according to research carried out by Ross, Niebling and Heckert (1999) and Macan, Shahani, Dipboye and Phillips (1990) holding down a job is an additional source of stress for students. This could be attributed to additional responsibilities or increased time pressures.

A great deal of research to date has focused on the effect stress has on a student's academic performance. According to the Yerkes-Dodson law (1908) when stress reaches an optimal point performance decreases. This law maintains that people under high or low stress will learn less than those under moderate stress. Although the Yerkes and Dodson law is quite old it has held up through numerous studies. Lazurus (1966) similarly stated that the extent of a student's stress is a significant predictor of performance. This law can provide an explanation for the inconsistent results regarding the influence of employment on academic performance. For some students having a job will increase academic performance provided their course is not too demanding. However for others in an already stressful course employment will hinder performance. Thus full- time and part-time students will be effected differently by employment. It is evident that a student's level of stress is directly related to academic performance. This study is going to research the effects of employment on full-time and part-time student's academic performance. It is also going to consider whether there is a significant difference between the categories of the number of hours worked and student stress.

2.2 Motivation

Motivation can be described as something that energizes, directs, and sustains behaviours. In the early 1970's Educational psychologists began looking at both intrinsic and extrinsic motivation in relation to students. Intrinsically motivated students do certain activities because it gives them pleasure or develops a particular skill. An intrinsically motivated student will go deep into the subject to fully understand it. However students who are extrinsically motivated perform tasks for external factors which are unrelated to the task being performed for example good grades. These students may have to be bribed to perform tasks (Alexander, Ryan and Deci, 2000). There is little research focusing on the influence employment has on a student's motivation levels. Some studies indicate that employment provides students with a number of important skills which in turn are likely to increase motivation levels. For instance Pennington, Zvonkovic and Wilson (1989) found that hard work built a stronger academic character. It taught students time management skills, gave them experience outside of the classroom, and provided them with more satisfaction in college. Dallam and Hoyt (1981) supported this view. They suggested that a good balance between students' college hours and working hours forced students to be more organised. Green (1987) believed that working provided students with a sense of accomplishment and a feeling of responsibility. Furthermore Pike et al (2008) found that employment increased student's engagement in educationally purposeful activities. The idea that employed students have higher levels of motivation than unemployed is supported by Hammes and Haller (1983). They attributed the higher grades of working students to greater motivation and superior organisational skills.

Moore, Burrows and Danziel's (1992) study traced a link between motivation and stress. These researchers believed that moderate amounts of stress motivated people and increased performance. This was referred to as positive stress (eustress). However negative stress

(distress) had a discouraging effect on people. This type of stress involved strain, tension and burnout physically and psychologically. It is therefore evident that employment can have both a positive and negative effect on a student's motivation levels. Li-Chen and Wooster (1979) support this view. This study suggested that the type of employment a student holds can influence their performance. It was revealed that dead-end jobs which did not work with students schedules had a negative effect on a student's motivation. It is evident that research results in this area are not consistent. While some studies report that employment has a positive effect on student's time-management skills and engagement in educational activities. Other studies suggest that the level of stress a student is exposed to will determine their motivation levels. This current study aims to resolve this question. It will establish if there is a difference between the categories of the number of hours in employment per week and academic motivation. It will also distinguish between both extrinsic and intrinsic motivation.

2.3 Self-Efficacy

Self-Efficacy is another variable which can be affected by employment. The concept of self-efficacy was introduced by psychologist Albert Bandura (1997). Bandura defined self-efficacy as one's belief in one's ability to succeed in specific situations. It is widely established that a strong sense of efficacy markedly enhances human accomplishment. For instance a number of researchers have demonstrated that academic self-efficacy is positively associated with grades in college (Bong, 2001; Brown, Lent and Larkin, 1989; Hackett, Betz, Casas and Rocha-Singh 1992) as well as with persistence (Lent et al 1984, 1986, 1987, Zhang and RiCharde, 1998). Torres and Solberg (2001) also found a significant relationship between academic self-efficacy and the number of hours spent studying.

Previous studies have not considered the influence employment has on students' self-efficacy beliefs. According to Bandura peoples beliefs about their efficacy can be developed

by four main sources. He believed that mastery of experience was the most important factor in deciding a person's self-efficacy. Successes were shown to raise self-efficacy whereas failures lowered it. The second way of strengthening self-efficacy beliefs is through social modelling. Bandura observed that when people saw other people succeeding their self-efficacy increased. Social persuasion and perception of emotional states also had a significant influence on people's efficacy beliefs. The working environment exposes individuals to many of these sources of influence. It is therefore likely that being employed encourages a strong sense of efficacy. A study carried out by Azar and Vasudeva in Iran supports this idea. In this study it was reported that women who were professionally employed related higher levels of self-efficacy than those who were non-professionally and unemployed. However this study has not addressed the influence employment has on a students' efficacy beliefs. The current study aims to finally address this unresolved question. It is going to determine whether there is a significant difference between the categories of the number of hours worked and general self-efficacy.

2.4 Linking Self-Efficacy, Stress and Motivation

Self-efficacy and stress are very closely related concepts. Lazarus's cognitive model of stress illustrates this point (Lazarus and Folkman, 1984). According to this model personal beliefs such as self-efficacy are central in evaluating demands from the environment. Lazarus believed that stressful events can be perceived as either challenging or threatening. Students who perceive these events to be challenging are motivated to learn. However students who view stressful events to be a threat are left with a feeling of helplessness. Chemers, Hu and Garcia (2001) and Folkman and Lazarus (1984) found that people with high self-efficacy beliefs are more likely to evaluate the environmental demands as a challenge. Chemers et al's (2001) research stated that the effect of academic self-efficacy on stress was completely mediated by evaluations of demands as threat or challenge. Pajares

(1996) demonstrated that the relationship between these two variables works both ways. In this research study it was found that physiological arousal states associated with stress such as pupil dilation, release of endorphins and increased heart and respiration rate offer information affecting self-efficacy judgements. The cognitive model provides clear support for the link between self-efficacy and stress.

Self-efficacy is also linked to the variable motivation. Bandura (1993) believed that self-efficacy beliefs directly influenced people's level of motivation. He posited that strong self-efficacy beliefs increased student's motivation to overcome challenging academic tasks such as exams and assignments. Bandura maintained that the stronger the self-efficacy or mastery expectations, the more active the efforts. Similarly Schunk (1990) found that people with high self-efficacy in a task are much more likely to make more of an effort, and persist longer, than those with low efficacy. The majority of research has focused on these variables individually when looking at their influence on students grades. However the current study is going to look at the relationship between motivation, self-efficacy and stress. It is also going to determine if there is a significant positive correlation between motivation and self-efficacy.

2.5 Current Study

From evaluating the above literature it is undeniable that investigations in this area are vast. Nevertheless there are explicit gaps in the research which need to be addressed. This study will outline some of these limitations and explain how it is going to address them. It is evident that there is an indirect relationship between student employment and grades. Some studies have found that employment can have a positive effect on academic performance. They reported an increase in student's time-management skills. However other researchers maintain that student employment hinders performance. They reported that students found the overload of work too overwhelming. Furthermore certain researchers believe that the number

of hours worked is the best predictor of performance. Findings regarding this relationship remain inconsistent. This present study hopes to resolve some of the theoretical issues relating to student employment and grades. It also aims to address an issue which has not been addressed before regarding the academic performance of full-time and part-time students. This study is being conducted in a private fee-paying college. It therefore offers a unique sampling experience where both categories of student can be obtained. It will reveal which student performs better academically and it also hopes to demonstrate the reason for this. For instance is it due to different levels of motivation, stress or self-efficacy. The study will also investigate how fee payment effect's motivation levels. For instance are students who pay for their own education more motivated than those who receive funding by other means.

Ross et al (1999) and Macan et al (1990) have established that employment is an additional source of stress for students. However these studies have not addressed how students stress levels change according to number of hours worked or the mode of education (full-time or part-time). The current study is going to consider these questions. In relation to motivation there is limited research on the influence employment has on a student's motivation levels. The current study aims to resolve this question. It will establish if there is a difference between the number of hours in employment per week and academic motivation. It will also distinguish between both extrinsic and intrinsic motivation. Another area which has been largely overlooked in the research literature is the influence employment has on a student's self-efficacy beliefs. A study carried out by Azar and Vasudeva in Iran looked at the influence employment has on women's self-efficacy beliefs. However this study used a very small and specific sample which cannot be generalised to the student population. The current study aims to determine whether there is a significant difference between the numbers of hours worked and a student's self-efficacy beliefs. Another weakness of the literature is that

the majority of studies have looked at these variables individually. This study is going to consider the relationship between stress, self-efficacy and motivation when looking at student academic performance.

The research interests of this study are increasingly relevant in today's economic climate. It is evident that students are feeling the effects of this economic downturn. In a study conducted by the Irish Universities Association (2009) it was reported that approximately 30 per cent of the undergraduate students run out of money on almost a monthly basis. Approximately 33 per cent of diploma and 20 per cent of master's students also fall into this category. According to a report carried out by the Department of Education (2006) the average expenditure per student in college in Ireland is €8,469 whereas the EU average is €7,946. As a result of these considerable expenses an increasing number of Irish students are working for pay during college. This study intends to generate useful information in relation to the academic performance, stress levels, motivation levels and self-efficacy beliefs of employed students. People will gain a better understanding of the potential negative consequences of employment. Consequently the study hopes to bring about interventions to ensure that financial worry is reduced and academic performance is not affected.

The economic downturn has also caused many mature students to return to education. The unemployment rate in Ireland was last reported at 14.3 percent in December of 2011 (Central Statistics Office, 2012). Many of these unemployed individuals sign on the live register. There were 434,784 people signing on the Live Register in December 2011 (Central Statistics Office, 2012). Others emigrate overseas in search of work. In the Central Statistics Office 2009 report it was estimated that 65,100 people had emigrated, 18,400 of them being Irish nationals. These figures represented a return to net outward migration for Ireland (Central Statistics Office, 2006). However a large proportion of these individuals also return to education. Individuals who are currently employed are also returning to education to improve

their career opportunities and earning potential. This study is important because it will provide feedback on how mature students are performing in University in comparison to their younger counterparts. It hopes to identify any difficulties experienced by these students.

It is evident that encouraging higher education is fundamental in the current economic climate. Firstly it will reduce the number of individuals signing on the live register. Instead these individuals will improve their opportunities for employment whether that is in Ireland or abroad. Having an educated workforce will also make Ireland a more competitive nation. It will result in new technologies being developed, advances being made in research and an increase in the level of exports. Furthermore education will encourage enterprise. It will enable people to use their knowledge and skills to generate income. Finally an educated workforce will encourage multinational companies to locate in Ireland thus creating employment. This study will provide valuable research concerning education in the current climate. It will also establish how students can achieve their academic potential thus encouraging people towards education.

The study firstly hypothesises that there will be a significant difference between the categories of the number of hours worked and perceived stress. Secondly it is hypothesised that there will be a significant difference between the categories of the number of hour's worked and academic motivation. Thirdly it is hypothesised that there will be a significant difference between the categories of the number of hour's worked and general self- efficacy. And finally it is hypothesised that there will be significant positive correlation between general self-efficacy and academic motivation.

3. Method

3.1 Materials/Apparatus

The Perceived Stress Scale (PSS-14) was used to measure the 'degree to which situations in one's life are appraised as stressful' (Cohen, Kamarck, and Mermelstein (1983). It contains 14 self-report items. The items in the scale refer to the participant's appraisal of events which occurred in the last month. The scale includes questions such as "In the last month, how often have you felt confident about your ability to handle your personal problems?" or "In the last month, how often have you found that you could not cope with all the things you had to do" (Cohen et al, 1983). The scales internal consistency reliability was assessed in three samples using Cronbachs alpha (Cohen et al, 1983). The scale displayed high internal consistency (0.84, 0.85 and 0.86). However test-retest reliability only remained high over short-time intervals. Over two days the test-retest reliability of college students was 0.85, while over six weeks it was 0.55. The difference in values can be explained by the changing hassles and coping resources present in people's lives. Cohen et al (1983) tested the PSS concurrent validity. Correlations were found with 'number of life events' (0.17 to 0.39) and 'impact of life events' (0.24 to 0.49). It was also revealed that the PSS-14 had predictive validity. It was a better predictor of future physical symptomatology (range 0.52 to 0.70) than life event measures in studies of college students (Cohen et al, 1983).

The Generalised Self-Efficacy Scale (GSES) was used to assess student's optimistic self-beliefs to cope with a variety of difficult demands in life (Schwarzer, 1992). This is a 10 item scale. Each item has a four scale response from "Not at all true" to "Exactly true". Some of

the statements on the scale include “If someone opposes me, I can find the means and ways to get what I want” and “I can remain calm when facing difficulties because I can rely on my coping abilities” (Schwarzer, 1992). The internal consistency reliability of GSES was assessed in five samples using Cronbachs alpha. High internal consistency was reported in the samples. Cronbachs alphas ranged from 0.82 to 0.93. The test re-test reliability was tested over a two year period. For men it was reported to be 0.47 and for women it was 0.63 (Schwarzer, 1992). The concurrent validity of the scale was established on the basis of correlations with other suitable tests. Positive correlations were found with measures of self-esteem (0.52), internal control beliefs (0.40) and optimism (0.49). Negative correlations were found with general anxiety (-0.54), performance anxiety (-0.42), shyness (-0.58) and pessimism (-0.28). The scales predictive validity was assessed in a one year follow up of German migrants. In women, self-efficacy was positively correlated with measures of self-esteem (0.40) and optimism (0.56). However less notable correlations were found for men (0.20 and 0.34).

The Academic Motivation Scale (AMSC-28) was used to assess the extent to which student’s academic motivation is intrinsically or extrinsically driven (Vallerand, Blais, Brière and Pelletier, 1989). It contains 28 items assessed on a seven point scale. The scale measures three forms of extrinsic motivation including identified, introjected and external regulation. It also measures three forms of intrinsic motivation including intrinsic motivation to know, to accomplish things and to experience stimulation. Finally the scale measures amotivation. The scale begins with the question “Why do you go to college” this is followed by a series of statements such as “Because I think that a college education will help me better prepare for the career I have chosen” and “For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments” (Vallerand et al, 1989). Each item has a seven scale response ranging from “Does not correspond at all” to “Corresponds exactly”. A

confirmatory factor analysis carried out by Vallerand et al (1989) confirmed the seven factor structure of the scale. It was found that gender differences obtained with the original French version of the scale the Echelle de Motivation en Education (EME) were also found with the later English version (AMS). The scale reported high internal consistency (mean alpha value = 0.81). Similarly high levels of temporal stability were reported over a one-month period (mean test-retest correlation = 0.79). These findings support the factorial validity and reliability of the scale (Vallerand et al, 1989).

The three scales (PSS-14, GSES, and AMS-C 28) were accompanied by a cover letter which described the topic of research and also what would be required of the subject throughout the study. It assured anonymity and also informed participants that they had the right to withdraw from the study at any time. Demographic questions concerning age, gender, employment status and mode of education were included in the Questionnaire. Finally a computer and SPSS software were used to verify the results of the study.

3.2 Participants

The sample consisted of 119 full-time and part-time students (31 men and 88 women). The participants ranged from 18 to 57 years old. The average age of participants in the study was 26 years. The full-time and part-time students were fairly evenly distributed. There were 68 subjects in the full-time sample and 51 subjects in the part-time sample. 74 of the participants in the study were employed between 1 to 40 hours per week. 45 students were not employed at all. Convenience sampling in Dublin Business School was used to gather the sample. Participants volunteered to take part in the study. No inducements were used. The sample was drawn from a population of third level students.

3.3 Design

The aim of this study is to determine if there was a significant difference between the categories of number of hours worked and the perceived stress, general self-efficacy and academic motivation of students. The study is a mixed design. It has both quasi-experimental and correlational design aspects. The Independent variables in the design are the students age, sex, mode of education, method of fee-payment and number of hours employed. The dependent variables in the study are the student's perceived stress, academic motivation and generalised self-efficacy. All of the variables in this design are within-subjects.

3.4 Procedure

Upon entering the testing room I introduced myself to the students. The subjects were then asked to complete a questionnaire. It was communicated to them that it would take no more than 20 minutes to complete and it would ask questions relating to the areas stress, self-efficacy and motivation. Participants were provided with an e-mail address in case they had questions relating to the study. It was made clear to each participant that the information provided would remain completely confidential. The material would also be anonymous as the only information obtained on the participants was their age, gender, mode of education and employment status. The subjects were informed that they were not obligated to complete the questionnaire and were free to leave the testing room at any time. Once the students were provided with sufficient instruction they were each given a questionnaire to complete. The students answered the questionnaires in quiet and unstressed conditions. The Samaritans number was provided at the end of the survey for individuals who had been affected by any of the questions. Finally subjects were thanked for their contribution and were free to leave.

The three scales (PSS-14, GSES, and AMS-C28) were scored and the levels of perceived stress, general self- efficacy and academic motivation were measured for each student. This

data was entered into SPSS and a variety of statistics were carried out. Firstly descriptive statistics such as the mean and standard deviation were run on the data. One way analysis of variance and an independent samples t-test were also run to determine if there was significant variation between the variable's sample means. Finally Pearson correlations were carried out to determine the extent to which different variables were related to each other.

4. Results

In general the results have not supported the hypotheses of this study. Descriptive statistics were carried out on the variables perceived stress, general self-efficacy, academic motivation and number of hours per week a student worked. One way analysis of variance was then carried out to determine if there was variation between the sample means. A significant difference was not found between any of these variables. However the fourth hypothesis was supported by the results. It stated that there would be a significant positive correlation between general self-efficacy and academic motivation. A Pearson correlation coefficient was carried out to determine the extent to which general self-efficacy is related to academic motivation. The test statistic revealed a significant positive correlation between the two variables. There was no difference between extrinsic motivation and general self-efficacy. Other significant findings were found between mode of education, fee payment and motivation.

The difference between the categories of the number of hours worked and the perceived stress of students was not significant overall. The average perceived stress of participants was $M = 31.71$, $SD = 5.18$. Students working 21-30 hours per week reported the highest level of stress ($M = 33.42$, $SD = 3.50$). Students working 31-40 hours per week reported the lowest level of perceived stress ($M = 29.12$, $SD = 4.62$). There was little difference in the perceived stress scores of students who did not work ($M = 31.57$, $SD = 5.31$) and students who worked more than 40 hours per week ($M = 31.37$, $SD = 5.57$). A one way analysis of variance showed no significant difference between the hours worked by a student and their perceived stress levels $F(5, 113) = 1.52$, $p = 0.19$. A partial eta squared test indicated that just 6% of the variance was due to the number of hours a student worked ($\eta^2 = .063$).

A significant difference was not found between the categories of the number of hours worked and the academic motivation levels of students. The average academic motivation of the entire sample was $M = 7.46$, $SD = 7.63$. Students who did not work at all were shown to have the highest level of academic motivation ($M = 8.66$, $SD = 11.2$). The lowest level of motivation was among students working 31-40 hours per week ($M = 5.82$, $SD = 2.79$). A one way analysis of variance showed that there was no significant difference between the categories of hours worked and student's academic motivation levels $F(5, 113) = 0.62$, $p = 0.69$. A partial eta squared test showed that only 3% of the variance was due to the number of hours worked ($\eta^2 = 0.027$).

There was no significant difference found between the categories of the number of hours worked and the general self-efficacy of students. The average general self-efficacy of the sample was $M = 29.39$, $SD = 4.71$. Students working more than 40 hours per week reported the lowest level of self-efficacy ($M = 29.16$, $SD = 3.86$). However students who did not work at all reported similar scores ($M = 29.34$, $SD = 5.72$). Students who worked 21-30 hours per week reported the highest level of general self-efficacy ($M = 30.17$, $SD = 3.86$). A one way analysis of variance indicated no significant difference between the categories of hours worked and students general self-efficacy levels $F(5, 113) = 0.13$, $p = 0.99$. The partial eta squared test showed that only 6% of the self-efficacy levels is explained by the number of hours worked ($\eta^2 = .006$).

A significant correlation was found between student's general self-efficacy scores and their academic motivation. A Pearson correlation indicated that there was a significant positive correlation between general self-efficacy and intrinsic motivation ($r = 0.19$, $df = 117$, $p < 0.05$). Students with high levels of general self-efficacy also have high levels of intrinsic motivation. According to the coefficient of determination the variance explained is only 4% ($R^2 = 0.04$). A Pearson correlation also revealed that the relationship between general self-

efficacy and extrinsic motivation was not significant ($r = -0.04$, $df = 117$, $p > 0.05$). It was further revealed that there is a significant positive relationship between intrinsic motivation and extrinsic motivation ($r = 0.33$, $df = 117$, $p < 0.01$). Students with high levels of intrinsic motivation also have high levels of extrinsic motivation. The coefficient of determination indicated that the variance explained is 11% ($R^2 = 0.11$).

Overall there was no significant correlation found between the variables perceived stress, general self-efficacy and academic motivation. A Pearson correlation was carried out between these three variables to determine the extent to which one variable is related to the other. Although none of these correlations were significant the relationship between extrinsic motivation and perceived stress was approaching the significance level ($r = 0.18$, $df = 117$, $p = 0.05$). As student's extrinsic motivation increased, their levels of perceived stress also increased. The coefficient of determination indicated that the variance explained is only 3% ($R^2 = 0.03$).

The results indicated that part-time students had significantly higher intrinsic motivation than full-time students. Furthermore full-time students were shown to have significantly higher extrinsic motivation than part-time students. An independent samples t-test was carried out to compare the mean scores of academic motivation for part-time and full-time students. The mean intrinsic motivation of part-time students ($M = 57.39$, $SD = 11.54$) was shown to be significantly higher ($t = -2.67$, $df = 117$, two-tailed, $p = 0.01$) than that of full-time students ($M = 50.75$, $SD = 14.69$). Levene's test for equality of variances indicates that the variances are equal. The 95% confidence interval ranged from -11.57 to -1.72. The independent samples t-test also revealed that the mean extrinsic motivation of full-time students ($M = 57.82$, $SD = 10.51$) was significantly higher ($t = 2.67$, $df = 89.57$, two-tailed, $p = 0.01$) than the mean extrinsic motivation of part-time students ($M = 51.61$, $SD = 13.94$). Levene's test for equality of variances indicates that the variances are unequal

($F = 6.62, p = 0.01$) so degrees of freedom were adjusted from 117 to 89.57. The 95% confidence interval ranged from 1.58 to 10.85. Figure 1. illustrates the significantly higher intrinsic motivation scores for part-time students and the significantly higher extrinsic motivation scores for full-time students.

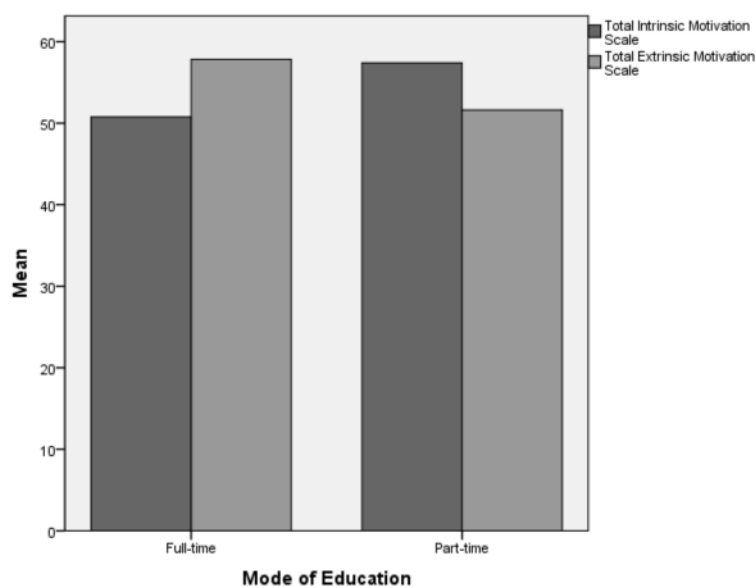


Figure 1. Clustered Barchart showing the mean Intrinsic and Extinsic Motivation scores of full-time and part-time students

It was found that students whose family members pay less than half of the college fees have higher levels of intrinsic motivation, whereas students whose family members pay more than half of the college fees have higher levels of extrinsic motivation. An Independent samples t-test was used on the data to compare the mean scores. The intrinsic motivation levels of students whose family members pay less than half of the fees ($M = 56.61, SD = 11.73$) was shown to be significantly higher ($t = 2.66, df = 95.81, two-tailed, p = 0.01$) than the intrinsic motivation levels of students whose family members pay more than half of the

fees ($M = 49.85$, $SD = 15.26$). Levene's test for equality of variances indicates that the variances are unequal ($F = 4.41$, $p = 0.01$) so degrees of freedom were adjusted from 117 to 95.82. The 95% confidence interval ranged from 1.71 to 11.81. The independent samples t-test also indicated that the extrinsic motivation levels of students whose family members pay more than half of the fees ($M = 58.04$, $SD = 11.84$) was significantly higher ($t = -2.30$, $df = 117$, two-tailed, $p = 0.02$) than the extrinsic motivation levels of students whose family members pay less than half of the fees ($M = 52.85$, $SD = 12.51$). Levene's test for equality of variances indicates that the variances are equal ($F = 0.13$, $p = 0.02$). The 95% confidence interval ranged from -9.65 to -0.73.

A significant difference was found between the employed and unemployed students and their academic motivation levels. Unemployed students displayed higher levels of extrinsic motivation than employed students. An Independent samples t-test was carried out on the data to compare the mean scores of the two groups. The test indicated that the mean extrinsic motivation of unemployed students ($M = 58.24$, $SD = 11.89$) was significantly higher ($t = -2.18$, $df = 116$, two-tailed, $p = 0.03$) than the mean extrinsic motivation of employed students ($M = 53.16$, $SD = 12.51$). Levene's test for equality of variances indicates that the variances are equal. The 95% confidence interval ranged from -9.69 to -0.47.

Another significant difference was found in the academic motivation levels of males and females. The female students displayed higher levels of extrinsic motivation than the male students. An independent samples t-test was used to determine the difference between the two sample means. The test indicated that the mean extrinsic motivation of female students ($M = 57.13$, $SD = 11.69$) was significantly higher ($t = -3.00$, $df = 117$, two-tailed, $p = 0.003$) than the mean extrinsic motivation of male students ($M = 49.58$, $SD = 12.99$). Levene's test for equality of variances indicates that the variances are equal. The 95% confidence interval ranged from -12.52 to -2.57.

A significant relationship was found between the variables age and academic motivation. A Pearson correlation was used to determine if there was a significant relationship between the sample means. It was revealed that there was a significant negative relationship between extrinsic motivation and age ($r = -0.4$, $df = 117$, $p < 0.01$). Older students were less extrinsically motivated than younger students. The coefficient of determination showed that the variance explained is 16% ($R^2 = 0.04$). The Pearson correlation also indicated that there was a significant positive relationship between intrinsic motivation and age ($r = 0.18$, $df = 117$, $p < 0.05$). Older students were more intrinsically motivated than younger students. The coefficient of determination showed that the variance explained is 3% ($R^2 = 0.03$).

5. Discussion

The main research questions in this paper concern the effect paid employment has on a student's level of perceived stress, general self-efficacy and academic motivation. The study also intended to investigate the relationship between these three variables and their joint effect on academic success for third level students. In addition it was interested in whether full-time and part-time students had differing levels of perceived stress, general self-efficacy and academic motivation. Finally the study aimed to investigate the motivation levels of students who funded their own education and students whose education was paid by other means. The results of the study indicated that a student's employment status did not influence their perceived stress, general self- efficacy or academic motivation levels. However a significant relationship was found between perceived stress and academic motivation. Interesting results were also found between participant's motivation levels, their method of fee payment and their mode of education.

The perceived stress of students who did not work at all ($M = 31.57$) was found to be essentially the same as the perceived stress of students who worked more than 40 hours per week ($M = 31.57$). This finding contradicts the original hypothesis that there will be a significant difference between the categories of the number of hours worked and perceived stress. The result is also inconsistent with previous research (Ross et al, 1999; Macan et al, 1990) which maintained that employment is an additional source of stress for students. A possible explanation for this result is that the relationship between work and perceived stress is mediated by intervening college experiences. Since part-time students are under less academic demands than their full-time counterparts it is likely that they can cope with more hours of employment. The part-time students in this study were found to work longer hours

than the full-time students. The students perceived stress levels were therefore likely to balance out since they were both exposed to the same degree of stress. Both the full-time and part-time students were exposed to a healthy degree of stress which allowed them to become involved in healthy activity (Lazarus, 1966). This result is in keeping with other studies which have suggested that the number of hours worked by a student is the best predictor of performance (Dallam et al, 1981; Furr, 2000; Pritchard et al, 1996 and Steinberg et al, 1991).

The second hypothesis stated that there would be a significant difference between the categories of the number of hour's worked and academic motivation. This however was not supported by the results. A one way analysis of variance revealed no significant difference $F(5, 113) = 0.62, p = 0.69$. This result conflicted with previous research which suggested that employment provided students with greater motivation and superior organisational skills (Dallam et al, 1981; Hammes et al, 1983; Pennington et al, 1989 and Pike et al, 2008). However research carried out by Moore et al (1992) suggested that employment could have both a positive and negative effect on student's level of academic motivation. According to this study when people are exposed to moderate amounts of stress their motivation levels increase. However too much or too little stress can have a demotivating effect on people. This idea is further supported by the Yerkes -Dodson law (1908) which states that when levels of arousal become too high, performance decreases. Research by Li Chen (1979) revealed that the type of employment a student holds can also influence motivation levels. Pascarella and Terenzini (1991, 2005) concluded that part-time, on-campus employment is associated with the highest levels of motivation and performance. It is evident that the relationship between student employment and academic motivation is not straightforward. It can be influenced by a number of other factors such as the number of hours employed and the type of employment. This therefore provides an explanation for the insignificant result of the current study.

It was thirdly hypothesised that there would be a significant difference between the categories of the number of hour's worked and general self- efficacy. However a one way analysis of variance revealed that the number of hours a student worked had no effect on their general self-efficacy beliefs $F(5, 113) = 0.13, p = 0.99$. This result differs from research carried out by Azar and Vasudeva which reported that employed Iranian women have higher self-efficacy beliefs than unemployed Iranian women. An apparent reason for the weak and inconsistent findings regarding this relationship is that general self-efficacy measures are not found to be predictive of college outcomes. A large meta-analysis of studies on self-efficacy in academic environments was carried out by Multon, Brown, and Lent (1991). The researchers concluded that generalised self-efficacy measures were less closely associated with college outcomes than the specific academic self-efficacy measures. According to Ferrari and Parker (1992) general self-efficacy scales were unreliable measures of any college outcomes. However an extensive body of research demonstrates that academic self-efficacy measures consistently predict both grades and persistence in college (Bong, 2001; Brown, Lent and Larkin, 1989; Hackett, Betz, Casas, and Rocha-Singh, 1992; Lent, Brown, and Larkin, 1984, Multon Zhang and RiCharde, 1998). It is therefore apparent that in college settings academic self-efficacy should be measured rather than generalised self-efficacy.

The fourth hypothesis stated that a significant correlation would be found between student's general self-efficacy scores and their academic motivation. This hypothesis was supported by the research statistics. A significant relationship was found between general self-efficacy and intrinsic motivation ($r = 0.19, df = 117, p < 0.05$). Hence students with high levels of general self-efficacy were also shown to have high levels of intrinsic motivation. The results further revealed that the relationship between general self-efficacy and extrinsic motivation was not significant ($r = -0.04, df = 117, p > 0.05$). These findings are supported by the research literature. Previous studies have discovered a strong link between measures of

self-efficacy and motivation (Bandura, 1993; Schunk, 1990). However more recent studies have traced a link between intrinsic motivation and general self-efficacy (Niehaus, Adelson and Rudasil, 2012; Thomas, Keisha, Roan-Belle, Tyler Brown Carrie and Garriot, 2009; Walker, Greene and Mansell, 2006). These studies have consistently found a positive relationship between measures of self-efficacy, and intrinsic motivation. However insignificant relationships are constantly reported between extrinsic motivation and general self-efficacy.

This study was also interested in the relationship between the three variables perceived stress, academic motivation and generalised self-efficacy and their joint effect on academic performance. A Pearson correlation revealed that the relationship between extrinsic motivation and perceived stress was approaching the significance level ($r = 0.18$, $df = 117$, $p = 0.05$). As student's extrinsic motivation increased, their levels of perceived stress also increased. A possible explanation for this relationship is that extrinsic motivation is not sustainable. It is evident that this type of motivation is rooted in an external stimulus. The reason extrinsically motivated students engage in a certain activity is for a reward or accolade (Alexander et al, 2000). It is therefore true to say that when the reward is eliminated for these individuals their motivation is also eliminated. The individual's diminished motivation levels are likely to result in feelings of stress and strain. Another possible explanation for the approaching significant relationship is that extrinsically motivated students are more perceptive to both the rewards and the punishments of their activities than intrinsically motivated students. These individuals are subsequently exposed to a great deal of pressure. This is evident in Hirsch and Keniston's (1970) study which looked at the dropout rate of students in university. According to this study the pressure to earn good grades and to earn a degree is the primary source of stress among students.

The results revealed interesting findings regarding the motivational orientation between full-time and part-time students. Full-time students ($M = 57.82$, $SD = 10.51$) were shown to have significantly higher extrinsic motivation than part-time students ($M = 51.61$, $SD = 13.94$). This result is in keeping with previous studies which have reported a progressive increase in the extrinsic motivation of students across the elementary and middle school years (e.g., Harter, 1981; Harter and Jackson, 1992; Newman, 1990; Tzuriel, 1989). Other studies suggest that there is likely to be a developmental decrease in student's intrinsic motivation (Covington, 1984; Epstein and McPartland, 1976; Sansone and Morgan, 1992). The results of the current study confirm that full-time students decide to study because they believe that education will enable them entrance into the work market, which they are interested in. This result is not surprising given the heavy use of extrinsic contingencies and incentives in many third level institutions and the increasing importance attached to grades and test scores.

The results also indicated that part-time students ($M = 57.39$, $SD = 11.54$) had significantly higher intrinsic motivation than full-time students ($M = 50.75$, $SD = 14.69$). This finding is consistent with prior research, which has shown that part-time students are at a high risk of attrition (King, 2003; NCES, 2002; Windham, 1995). This is due to these student's low levels of extrinsic motivation which enables students to persevere with their studies even when they are not interested in the subject matter. The results of the current study confirm that part-time students, more than full-time students decide to study because they want to expand knowledge in areas that interest them. It is possible that the part-time students of this study have returned to education simply for the pleasure of learning while full time students have specific career ambitions which they want to achieve. Another explanation is that many of the part-time students are at a different developmental stage than the full-time students. Most of these students reside in the middle adulthood stage. Individuals during this stage are reported to view family relationships as more important than work (Thoits, 1992). Thus these

individuals are less motivated by employment opportunities and more motivated by the inherent satisfaction of learning new things. The results further reported a significant negative relationship between extrinsic motivation and age ($r = -0.4$, $df = 117$, $p < 0.01$). The older students were shown to be less extrinsically motivated than the younger students. This confirms the previous result regarding part-time and full-time student's motivational orientation.

This study was also interested in researching the influence college fees have on student academic motivation. It was found that students whose family members paid less than half of the college fees had higher levels of intrinsic motivation ($t = 2.66$, $df = 95.81$, two-tailed, $p = 0.01$) whereas students whose family members paid more than half of the college fees had higher levels of extrinsic motivation ($t = -2.30$, $df = 117$, two-tailed, $p = 0.02$). These findings compliment the study carried out by Blankenau and Camera (2001) which suggests that subsidising college education leads to poorly motivated students. The result of the current study could be explained by the degree of input which the student has in choosing their college course. Students who funded most or all of their education themselves are more likely to have made the decision to attend college independently of their parents. It is also likely that these students were responsible for choosing the course which they wanted to undertake. Consequently these students will be motivated by the pleasure they experience from studying the course modules. However very often it is the parents that pay for their child's college education. Even though under-graduate borrowing has become more widespread and borrowing limits have increased for college students, the bulk of the burden is still on the parents. When parents invest in their child's college education they will be more involved in the decision process. It can be assumed that parents and children do not share the same preferences. Pollak (1988) demonstrates how the child wants more leisure than the parent desires for them. It is therefore unlikely that these students will have the same interest in their

course. They thus will be motivated by external sources such as earning good grades for their parent's satisfaction. Costrell (1994) and Betts (1998) support this idea. These studies suggest that students respond to standards that are implicitly set by their parents.

Another significant difference was found in the academic motivation levels of males and females. The female students displayed higher levels of extrinsic motivation than the male students ($t = -3.00$, $df = 117$, two-tailed, $p = 0.003$). This result is not consistent with previous research which reliably states that boys show a greater degree of extrinsic motivation than girls. (Anderman and Anderman, 1999; Midgley and Urdan, 1995; Roeser, Midgley and Urdan, 1996; Urdan et al, 1998) while girls show greater intrinsic motivation (Meece and Holt, 1993; Nolen, 1988). Such inconsistent findings are uninterpretable. They are most likely due to the unrepresentative sample of male and female students in the study.

An important potential limitation of our study, apart from the modest sample size, is the question of representativeness of our sample. Convenience sampling was employed as part of the study. The major drawback of this sampling method is that it can lead to both under-representation or over-representation of particular groups within the sample. As a result the findings of the study would be biased and thus unrepresentative of the larger student population. A second limitation of the current study was the use of the generalised self-efficacy scale in measuring college student's self-efficacy beliefs. Ferrari et al (1992) reported that this type of scale was an unreliable measure of any college outcome. However an extensive body of research demonstrated that academic self-efficacy measures consistently predict both grades and persistence in college (Bong, 2001; Brown et al, 1989; Hackett et al, 1992; Lent, et al, 1984 and Multon et al, 1998). Evidently the academic self-efficacy scale should have been used in the current study in order to achieve more accurate and generalisable results.

Despite the limitations, the results of the present study have important implications for theory and practise. First and foremost the results suggest that the number of hours worked by a student is an important factor in determining the student's levels of perceived stress, academic motivation and also their academic performance. This implies that full-time students should be encouraged to work part-time hours to minimize the potential negative consequences of employment. The type of work a student does is another important factor influencing students stress and motivation. Students are therefore encouraged to create meaningful work experiences. It is evident from the results that the relationship between extrinsic motivation and perceived stress was approaching the significance level. This suggests that it would be beneficial for third level institutions to place less emphasis on external rewards and more emphasis on the pleasure which can be received from learning. This of course is very difficult to put in place when qualifications need to be achieved. Nevertheless intrinsic motivation could be increased by providing students with information on talks relating to their course content and by encouraging them to take part in discussions on topical issues. The results further indicated different motivational orientations for full-time and part-time students. This has hugely significant implications in the education system particularly with the large number of mature students returning to part-time education. It would be recommended that universities adopt different approaches to motivate full-time and part-time students to enable them to achieve their full academic potential.

The findings of the current study have important implications for student affairs professionals and others interested in the success of fulltime and part-time students. Ensuring students have high levels of academic motivation and academic self-efficacy and moderate levels of perceived stress can be very beneficial to student's academic success. The current study raises some interesting questions for future research. First of all it would be useful to

reconsider how to motivate part-time and full-time students in higher level education. In addition a longitudinal study could be carried out in which mature students are provided with academic activities which promote intrinsic motivation. Both the academic performance and the dropout rate of these students could be recorded and then compared with those of previous part-time students who did not receive the same treatment. This information would be useful in discovering the impact these academic activities have on a part-time student's performance and persistence in university. Another interesting research question would be to look at the academic motivation of students in public colleges and compare them with the results of the current study. This would be beneficial in determining the primary motivational orientation of students in public and private institutions. It would also be particularly relevant in the current climate with the proposition of fees for all third level institutions.

In conclusion, the findings of the present study suggest that the employment can influence a student's level of perceived stress and academic motivation. However it became apparent that this was not a straightforward relationship. It was dependent on a range of variables such as the student's mode of education, their hours of employment and also their position of employment. This conclusion is supported by the research literature (Dallam et al, 1981; Furr, 2000; Pritchard et al, 1996 and Steinberg et al, 1991). The study further emphasised the importance of intrinsic motivation among the student population. This type of motivation was positively correlated with general self-efficacy beliefs. The potential negative consequences of extrinsic motivation were also highlighted. An approaching significant result suggested that a student's level extrinsic motivation was related to their level of perceived stress. The study thus clarifies the importance of encouraging intrinsic motivation rather than extrinsic motivation among university students. Finally the study confirms the importance of reconsidering how to motivate students in the classroom. It was demonstrated that student's

motivational orientation could be influenced by age, mode of education and method of fee payment.

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Appendix 1 – Sample Questionnaire

My name is Caroline Clarke and I am a final year psychology student at Dublin Business School. As part of my final year research project I am investigating differences between levels of employment and associated Psychological variables in college students.

In total the questionnaire should take no more than 20mins to complete. It will ask questions relating to areas like stress and self-efficacy.

The information provided will remain completely anonymous and confidential. If you have an issue with any of the questions you are not obligated to answer them. You do not have to complete the questionnaire and can leave the room at any time.

If you have any questions regarding this study please do not hesitate to contact me by e-mail

████████████████████

Thank you for your input.

Demographical information

1. Age: ____

2. Sex (Circle the correct response):
Male Female

3. Mode of Education (Circle the correct response):
Full-time Part-time

4. Approximately how much of your college fees will be paid by a parent, guardian, family member, friend or partner (Circle the correct response):
 - a. None or very little
 - b. Less than half
 - c. More than half
 - d. All or nearly all

5. Employment status (Circle the correct response):
Employed Unemployed

6. If you are employed approximately how many hours per week do you work?
 - a. I do not current work
 - b. 1 - 10 hours a week
 - c. 11 - 20 hours
 - d. 21 - 30 hours
 - e. 31 - 40 hours
 - f. more than 40 hours

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

For each question, choose from the following alternatives:

0 = never

1 = almost never

2 = sometimes

3 = fairly often

4 = very often

1. In the last month, how often have you been upset because of something that happened unexpectedly? _____
2. In the last month, how often have you felt that you were unable to control the important things in life? _____
3. In the last month, how often have you felt nervous and stressed? _____
4. In the last month, how often have you dealt with irritating life hassles? _____
5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life? _____
6. In the last month, how often have you felt confident about your ability to handle your personal problems? _____
7. In the last month, how often have you felt that things were going your way? _____
8. In the last month, how often have you found that you could not cope with all the things you had to do? _____
9. In the last month, how often have you been able to control irritations in your life? _____
10. In the last month, how often have you felt that you were on top of things? _____
11. In the last month, how often have you been angered because of things that happened that were outside of your control? _____

12. In the last month, how often have you found yourself thinking about things that you have to accomplish? _____
13. In the last month, how often have you been able to control the way you spend your time? _____
14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? _____

Please read the sentences below and select an answer for each statement which indicates how much the statement applies to yourself.

1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

- 1 I can always manage to solve difficult problems if I try hard enough. _____
- 2 If someone opposes me, I can find the means and ways to get what I want. _____
- 3 It is easy for me to stick to my aims and accomplish my goals. _____
- 4 I am confident that I could deal efficiently with unexpected events. _____
- 5 Thanks to my resourcefulness, I know how to handle unforeseen situations. _____
- 6 I can solve most problems if I invest the necessary effort. _____
- 7 I can remain calm when facing difficulties because I can rely on my coping abilities. _____
- 8 When I am confronted with a problem, I can usually find several solutions. _____
- 9 If I am in trouble, I can usually think of a solution. _____
- 10 I can usually handle whatever comes my way. _____

Using the scale below, indicate to what extent each of the following items presently corresponds to one of the reasons why you go to college.

Does not correspond	Corresponds	Corresponds	Corresponds	Corresponds
at all	a little	moderately	a lot	exactly
1	2	3	4	5
6	7			

Why do you go to college?

1. Because with only a high-school degree I would not find a high-paying job later on. _____
2. Because I experience pleasure and satisfaction while learning new things _____
3. Because I think that a college (CEGEP) education will help me
better prepare for the career I have chosen _____
4. For the intense feelings I experience when I am communicating my own ideas
With others. _____
5. Honestly, I don't know; I really feel that I am wasting my time in school _____
6. For the pleasure I experience while surpassing myself in my studies _____
7. To prove to myself that I am capable of completing my college (CEGEP) degree. _____

8. In order to obtain a more prestigious job later on _____
9. For the pleasure I experience when I discover new things never seen before. _____
10. Because eventually it will enable me to enter the job market in a field that I like. _____
11. For the pleasure that I experience when I read interesting authors. _____
12. I once had good reasons for going to college (CEGEP);
however, now I wonder whether I should continue. _____
13. For the pleasure that I experience while I am surpassing
myself in one of my personal accomplishments. _____
14. Because of the fact that when I succeed in college (CEGEP) I feel important. _____
15. Because I want to have "the good life" later on. _____
16. For the pleasure that I experience in broadening my knowledge about subjects
which appeal to me _____
17. Because this will help me make a better choice regarding my career orientation. _____
18. For the pleasure that I experience when I feel completely absorbed by what certain
authors have written _____
19. I can't see why I go to college (CEGEP) and frankly, I couldn't care less. _____

20. For the satisfaction I feel when I am in the process of accomplishing
difficult academic activities. _____
21. To show myself that I am an intelligent person. _____
22. In order to have a better salary later on. _____
23. Because my studies allow me to continue to learn about many things that
interest me. _____
24. Because I believe that a few additional years of education will improve my competence
as a worker. _____
25. For the "high" feeling that I experience while reading about various interesting subjects. _____
26. I don't know; I can't understand what I am doing in school. _____
27. Because college (CEGEP) allows me to experience a personal satisfaction in my quest for
Excellence in my studies. _____
28. Because I want to show myself that I can succeed in my studies. _____

Thank you for your time. Your input is greatly appreciated.

If you have been affected by any of the questions in this survey please contact

Samaritans (24 hour helpline) 1850 60 90 90.

Appendix 2 – Bar Chart

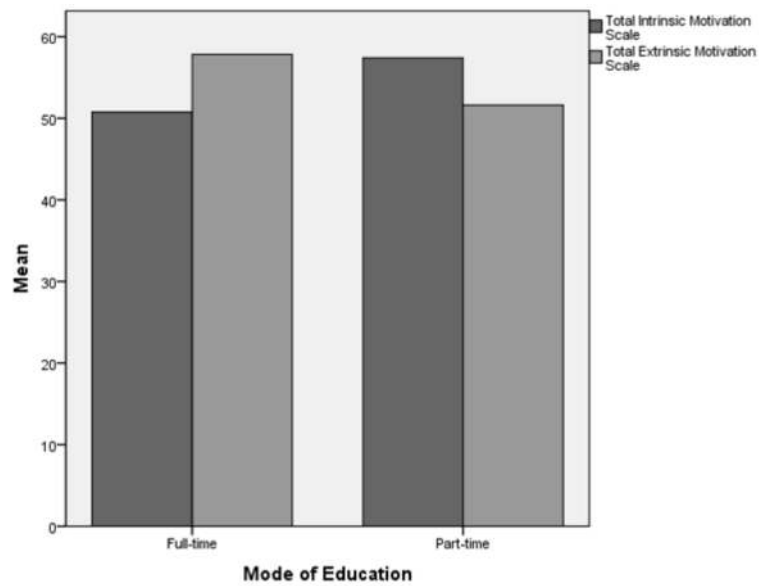


Figure 1. Clustered Bar chart showing the mean Intrinsic and Extrinsic Motivation scores of full-time and part-time students

