

**The Relationship between Stress,  
Self-Efficacy and Procrastination  
in Traditional and Non-Traditional Students**

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## Abstract

This study discusses the relationship between stress, self-efficacy and procrastination in traditional and non-traditional students (n=116). Participants completed the Aitken Procrastination Scale, the Perceived Stress Scale and the College Academic Self-Efficacy Scale and gave demographic information. Analyses of data were completed using independent samples t-test, one-way Analysis of Variance (ANOVA), Pearson's product correlation and multiple regression. Significantly higher stress was reported by traditional students but non-significant differences in self-efficacy and procrastination were found. The variables were found to be significantly correlated and procrastination was found to significantly predict stress levels in students. The implications of this study are for third-level education administrators and college counselling services to direct their services to at-risk student cohorts and plan for the specific needs that arise.

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## 1. Introduction

Obtaining a college education can be among the most important experiences a person can have. A college degree may lead to a new career path, or serve as a catalyst for higher wage earnings, and provide a feeling of personal achievement (Stagman, 2011). However, completing third level education is considered a difficult task and there are many issues to be considered within students that can impact their experiences and the outcome of their educational journey.

### *1.1 Purpose of Current Research*

The purpose of the current research is to investigate the relationship between stress, self-efficacy and procrastination in a population of traditional and non-traditional students in Ireland. These three variables can significantly impact student success in third-level education and have an impact on student attrition and retention rates (Casstevens, Waites & Outlaw, 2012).

### *1.2 Irish Students*

The amount of people attending higher-level education is growing in both the traditional and non-traditional student populations in Ireland. Uptake of higher education was reported to be at approximately 60% in Ireland in 2009 and the Higher Education Authority (HEA) has endorsed a goal of 72% uptake by 2020 (Keane, 2011). However, Keane (2011) identifies that discussion of the 'student experience' is required before this growth continues. One such factor to be considered is the diversification of the student population and the needs of these groups. In recent years, student populations of third-level institutions have become increasingly diverse (Irish Association of University College Counsellors, 2007). According to the HEA, the traditional view of Irish students as a homogenous group is changing. The

HEA published statistics for 2015 third-level education entry and identified that 42,461 (65%) students entered full-time undergraduate education in HEA funded institutions and 21,062 (35%) students entered part-time education (HEA, 2015). This is an increase on the numbers discussed by the Economic and Social Research Institute (ESRI) in 2003/2004, which identified that 22% of students were in part-time education in Ireland and 78% in full-time. Therefore, it is important to consider both these populations in any research. Traditional students in Ireland tend to be 22 years of age on average; studying towards a primary degree full-time; are single without dependent children, and have entered higher education directly from secondary school. On the other hand non-traditional part-time students tend to be older, on average 34 years of age, and are more likely to be working, either full-time or part-time, and to be married with children (Darmody, Smyth, O'Connell, Williams & Ryan, 2004). The HEA (2013) identified that gender distribution in Irish institutions varied by course, with over twice the number of males in the science courses but equal male-female participation in the arts and commerce courses. Research on non-traditional students generally defines them as those who have not followed a continuous educational path into college. For the purposes of this study, traditional students are defined as those in full-time third-level education and non-traditional students are those in part-time third-level education. In 2003, the HEA established a National Office for Equity of Access to Higher Education to ensure equality for non-traditional students and to examine the additional factors that affect this student group. The widening variety of students gaining access to third-level education provides new challenges for institutions to accommodate, for example counselling needs of students. There is now a clear need to re-evaluate such service delivery (Irish Association of University College Counsellors, 2007), as it is identified that these students do not have homogenous education needs or experiences of education (Buckley, Harris, O'Mullane & Reidy, 2010).

### *1.3 Experiences of Traditional and Non-traditional Students*

When considering the experience of students, while many non-traditional students are generally very positive about their decision to attend third-level education, many of these students have unique challenges to face that often differ from that of the traditional student (MacDonald & Stratta, 1998, as cited in Higher Education Authority, 2007). Bowl (2001) found that non-traditional students had other commitments, such as financial, personal and caring commitments, which they had to fit around university life. Forbus, Newbold and Mehta (2011) found that non-traditional students bring different expectations for the college experience, and experienced differing levels of motivation and participation in social activities from their traditional counterparts. Shanahan (2000) found that other internal psychological issues that non-traditional students face include a sense of inadequacy and a feeling of disadvantage compared to traditional students. A fear of failure from a negative past experience of education can also hamper non-traditional students' experience of third level education. Forbus, Newbold and Mehta (2011) also found that the differing levels of campus involvement related to time management issues and lead to differing levels of stress and methods of coping between the two groups of students. Kramer, Mathews and Endias (1987) found that non-traditional social work students reported higher stress levels than traditional students. Differences exist between the procrastination habits of traditional and non-traditional students. Prohaska, Morrill, Iraidá and Perez (2000) also found age to be a significant factor in procrastination levels finding lower levels of academic procrastination in older students from a sample of university psychology students. Non-traditional students also may report lower self-efficacy, particularly in the area of computer efficacy (Henson, 2014). However, Zajacova, Lynch and Espenshade (2005) found no difference between self-efficacy levels in traditional and non-traditional students but found that self-efficacy is highly predictive of stress in both student types.

Non-traditional students require support to manage these issues as they can impact student retention (Casstevens et al, 2012). Given the growth of non-traditional student entrance to third-level education, it is important to continue to examine and discuss the issues that impact students in general and those that affect non-traditional students in particular. The current study will examine these issues.

#### *1.4 Procrastination*

Procrastination is an everyday occurrence and occurs in all domains for life. Procrastination is common in the general population and 15 – 20% of adults are reported to procrastinate on tasks (Ferrari & Diaz-Morales, 2014). Procrastination is considered to occur when a person delays beginning or completing an intended course of action (Ferrari, 1993, as cited in Steel, 2007) and can also be considered an irrational delay of behaviour (Ellis & Knaus, 1977 as cited in Ozer, O’Callaghan, Bokszczanin, Edererand & Essau, 2014) or a failure of self-regulation (Sirois, 2014). This definition of procrastination as an irrational behaviour suggests that individuals procrastinate when they voluntarily delay an intended course of action despite expecting the delay of action to negatively impact them in some way, either materially (e.g. money) or psychologically (e.g. happiness) (Steel, 2007). This also fits with the description of procrastination as the unnecessary delaying of activities, especially when done to the point of creating emotional discomfort (Lay & Schouwenburg, 1993, Seo, 2011).

##### *1.4.1 Academic procrastination.*

One type of procrastination is academic procrastination, this is defined as intentionally delaying academic work that must be completed (Schraw, Wadkins & Olafson, 2007) and is a source of stress to students. Academic procrastination is described as a negative behaviour that is to the detriment of academic achievement because it restricts both the quality and quantity of work produced by a student (Dunn & Rakes, 2014). Though the negative



consequences of procrastination are well defined, research from the United States of America estimated that between 80 – 95% of college students procrastinate (O'Brien, 2002). Some students report that procrastination typically occupies over one third of their daily activities and the activities that they substitute for academically related activities include sleeping and watching television (Pychyl, Lee, Thibodeau, & Blunt, 2000 as cited in Steel, 2007). Research has found that procrastination is related to higher course withdrawals, depression, anxiety, stress, worry, performance anxiety, motivation, and poor academic performance (Balkis & Duru, 2009). However, Chu and Choi (2005) state that some people do not believe that procrastination has negative consequences. Researchers believe that this is a result of 'flow,' which Csikszentmihalyi (1990, as cited in Seo, 2011) described as the act of complete involvement in an activity that consumes all of an individual's attention. Procrastination among successful college students may have little impact on their performance because it allows them to achieve a sustained level of flow (Seo, 2011). Schraw et al. (2007 as cited in Seo, 2011) suggested procrastination ultimately increases the likelihood of achieving a deep state of flow because procrastinators work under pressure for an extended period of time in which all of their resources are focused on one goal. However, this is not true for all students and procrastination can lead to stress and anxiety in some (Choi & Moran, 2009).

The above research has been conducted with an international cohort of students with a dearth of literature examining these issues in the Irish population. The current study will investigate the incidence of procrastination in a population of students in Ireland and also the extent to which procrastination is associated with levels of perceived stress to enable educators understand a key issue that may be impacting their students.

#### *1.4.2 Procrastination and gender and age.*

As mentioned above procrastination manifests itself in different ways, this is particularly relevant when considering the age and gender of the student. Prohaska et al. (2000) found

that academic procrastination among non-traditional students was higher in reading weekly assignments and school activities in general, but lower in writing a term paper and attendance tasks. In general, older students reported lower academic procrastination tendencies. Research into the area of cyberloafing, which is described as Internet use for personal reasons during work time, has found conflicting evidence on the impact of age on computer use as a means of procrastination. Researchers have found no significant differences between ages in terms of cyberloafing in the past (Ugrin, Pearson, & Odom, 2007). However, more recently, Restubog et al. (2011) found that age was negatively correlated with cyberloafing.

Özer, Demir, and Ferrari (2009, as cited in Cerino, 2014) found that academic procrastination was more prevalent in men than women. However, findings in this area are mixed as many other studies have found that there was no gender difference in procrastination. In a subsequent study by Özer and Ferrari (2011) non-significant differences between male and female students on academic procrastination were found. Steel (2007) concludes that influence of gender on procrastination is difficult to predict. Rabin, Fogel, and Nutter-Upham (2011, as cited in Cerino, 2014) found that procrastination increases with age, but as with other demographic factors, such as gender, results vary. The behaviour of cyberloafing was also examined in relation to gender. Again, findings on whether gender differences are an indicator of cyberloafing have also been mixed. Vitak, Crouse and LaRose (2011), found that younger males were significantly more likely to engage in a high frequency of cyberloafing. However, other researchers have found contradicting findings and Weatherbee (2010) concludes that further empirical evidence in the area is required.

The current study will investigate the differences between the students of different ages and genders and their procrastination levels to aid educators to target their interventions for these issues at appropriate audiences.

### *1.5 Stress*

Another important topic among third-level institutions internationally is student wellness, as higher education administrators are becoming increasingly concerned with stress among students (Heckman, Lim & Montalto, 2014). Lazarus and Folkman (1984) define stress as a state of psychological arousal that is a result of a transaction between external stressors and an individual's ability to manage the demands. This process involves primary and secondary appraisal of situations. The primary appraisal involves the person considering the nature of the stimulus, whether it is harmful, threatening, or setting a challenge. The person then questions what action is required to manage the stressor. A secondary appraisal coincides with the primary appraisal, when the person assesses their resources and ability to cope with the stressor (Morrison & Bennett, 2006). Stress can, at times, be of some benefit; it can motivate us to do things in our best interests. Selye (1974) argued that stress can sometimes be a motivating force that can improve the quality of our lives. This kind of stress is known as eustress and is associated with positive feelings, optimal health, and performance. However, when stress exceeds this optimal level, it becomes excessive and performance begins to decline. This is known as the Yerkes – Dodson Law, first described in 1908 (Spielman, 2014). Chronic stress can be detrimental to a person's health. Short-term stress has been linked to gastrointestinal problems and heart problems. Chronic stress has been linked to chronic fatigue and headaches, disordered eating, coronary disease and depression (Holinka, 2015). Physiological response to stress is mediated by the activation of the sympathetic branch of the autonomic nervous system and hypothalamic-pituitary-adrenal (HPA) axis activation. The activation of these systems cause the secretion of a number of hormones into the bloodstream; for example, cortisol (the stress hormone), which helps provide a boost of energy when a stressor is first encountered. However, sustained elevated levels of cortisol can lead to a weakened immune system (Spielman, 2014).

### *1.5.1 Academic stress.*

College-related stress is just one type of stress that students can encounter. It has been found to be related inversely to academic performance among undergraduates (Zajacova et al., 2005). 75% of college students perceive themselves as moderately stressed and 12% as highly stressed (Çivitci, 2015). Ambiguous events, such as poorly defined student roles or coursework have the potential to be stressful, along with unexpected events, such as unscheduled assignments or unexpected requests; which involve financial input from students (Ogden, 2007). Financial burden is a leading cause of stress among college stress, and is second to academics as the leading cause of stress (Lim, Heckman, Letkiewicz & Montalto, 2014). The most common intrapersonal stressors as identified by students are change in sleep habits, vacations or breaks, change in eating habits, new responsibilities, and increased class workload (Holinka, 2015). Stress can also come from within the student's family, Shih (2014) discusses that Asian students face particular pressure from their families to obtain high grades.

### *1.5.2 Stress and non-traditional students.*

However, non-traditional students may face additional or different stressors than those faced by traditional students (Stagman, 2011). Recent research has suggested that work stressors may play a greater role than personal or academic stressors for non-traditional students (Kohler Giancola, Grawitch, & Borchert, 2009). Zajacova et al. (2005) found that part-time students are at increased risk of attrition from education secondary to high levels of stress and low reported self-efficacy. Among the additional stressors that non-traditional students face; are more time constraints and role conflicts than traditional students. However, some conflicting research in this area shows that some non-traditional students appraise university demands as less stressful than traditional students, this may be secondary to improved time

management or previous exposure to study and learning techniques (Stagman 2011). Kenny, Kidd, Nankervis, and Connell (2011) found that non-traditional students tend to be more self-confident and more motivated to endure the pressures of third-level education. These researchers also found that older students may experience an increased amount of stress because they are not prepared for the time commitment and the financial burden associated with returning to school. Those with children may not be fully prepared for child-care issues, such as cost, extended classes when child-care may not be available, and crèches that refuse to care for sick children. Gaedke, Covarrubias-Venegas, Simbrunner and Janous (2012) found similar results when they investigated the link between non-traditional student stress and burnout. Any additional burden such as child-care or budget management adds to the perceived exhaustion of part-time students. These researchers advise caution when interpreting their results as their data was analysed through correlational study and cannot be considered causative. The current study will examine the demographic factors that may increase perceived stress including student type, age and employment, again to aid educators in developing interventions aimed at the appropriate audience to decrease stress levels in students.

### *1.5.3 Stress and gender.*

Another demographic factor that can impact the level of stress an individual perceives is gender. Social expectations can affect how people react to stress and their psychological effects. Men and women are exposed to different types of stress and can deal with that stress based on cultural norms. This type of restrictiveness of gender roles can have negative implications, for example, increased aggression in men and body issues in women (Calvarese, 2015). This socialization hypothesis also suggests that females are socialized to seek more social support to manage stress and therefore report higher levels of stress,

whereas males are expected to engage in more active coping and are more likely to cope with stress by denying the problem (Greenglass, 2002). Female students have been found to report higher overall stress levels than men and it has been identified that they report greater levels of stress in the areas of family, daily life and in their social lives (Brougham, Zail, Mendoza, & Miller (2009). Misra and McKean (2000) found that females reported higher levels of stress but also an increased use of time management strategies, which are generally thought to reduce stress. In terms of coping with stress, they found that males benefitted more from the use of leisure activities as a coping strategy, which is in agreement with the socialization hypothesis. Brougham et al. (2009) also found that female college students used more emotional focused coping while the males reported using self-punishment methods and increased alcohol use.

The current study will further investigate the differences between perceived stress in men and women and examine whether the socialization hypothesis applies to the findings.

### 1.6 Self-Efficacy

The third psychological construct to be considered in this study is self- efficacy. Self-efficacy is “a belief in one’s capabilities to organize and execute courses of action required to produce given attainments” (Bandura, 1997, p. 3). It can be defined as a self-evaluation of a person’s ability to successfully reach desired outcomes by implementing an appropriate course of action (Bandura, 1977, as cited in Zajacova et al., 2005). Individuals’ perceived self-efficacy is believed to influence their choices of tasks, their performance levels, the amount of effort they put into accomplishment of the tasks, and the amount of perseverance they show on task pursuit (Bandura, 1997). When researchers examined self-efficacy within the educational settings, they found academic self-efficacy can predict grades and persistence in college (Razek & Coyner, 2014). Self-efficacy beliefs affect college outcomes by increasing

students' motivation to master challenging tasks and by the efficient use of acquired knowledge. Self-efficacy has been found to be significantly correlated with academic success (Caska & Prentice, 2009). Psychological factors like self-efficacy are essential to understand student academic achievements and should be utilized as a guide in establishing college programs. Moreover, the sources of self-efficacy, once identified, could guide planning effective interventions that would improve academic achievement through increasing self-efficacy (Razek & Coyner, 2014).

### *1.6.1 Gender, age and self-efficacy.*

A substantial area of self-efficacy research has been concerned with the relationship between gender self-efficacy and academic performance. Hall and Ponton (2005, as cited in Becker & Gable, 2009) studied the mathematics self-efficacy in college freshmen and found no significant gender difference. However, other researchers found that females in second-level education (i.e. high school) frequently were less confident and gave up more easily than male students. However, in a study involving college students, researchers found that women had a higher ability to cope with stress, by setting and striving to achieve academic goals. It is also important to consider the relationship of age and self-efficacy because the cohort students in Ireland is becoming increasingly diverse in terms of age range, as mentioned above. Henson (2014) found that one difference between younger students and older students was that older students had lower self-efficacy in relation to computer use than younger students. This is a significant concern for educators as the modern student is required to use a computer often for academic purposes.

### *1.7 Stress, Self-Efficacy and Procrastination*

The three psychological constructs as discussed above are closely linked in the literature.

### *1.7.1 Self-efficacy and procrastination.*

The research on academic procrastination among students has explored a multitude of potential causative psychological variables of procrastination and academic self-efficacy is the highest reported negative predictor of academic procrastination (Ferrarri, 2004, as cited in Lowinger, He, Lin & Chang, 2014). The idea that self-efficacy affects procrastination was first suggested by Bandura (1986 as cited in Lowinger, He, Lin & Chang, 2014). Many studies have pointed out that academic self-efficacy predicts students' grades and academic self-efficacy is a stronger predictor of college academic performance than high school grades (Klomegah, 2006 as cited in Lowinger, He, Lin & Chang, 2014). Prat-Sala and Redford (2010, as cited in Cerino, 2014) showed that students with high levels of self-efficacy take on school with a strategic style, and those with low levels take on school with a lax style. The strategic style refers to a lot of time and consideration put into schoolwork, studying, and time management for optimal results. The lax approach refers to less time thinking about and working on school-related work. Participants with high levels of self-efficacy reported having higher goals they aimed to achieve, tying self-efficacy to academic motivation.

Solomon & Rothblum (1984, as cited in Rotenstein, Davis & Neath, 2013) in an analysis of reasons for procrastination by university students suggest that fear of failure, including performance anxiety, perfectionism, and lack of self-confidence, was the most relevant factor, accounting for 49.4% of the variance. The researchers showed that high procrastinators exhibit numerous forms of anxiety as well as tendencies toward lower self-esteem, lower self-efficacy, and lower control over emotional reactions as compared with low procrastinators. Owens and Newbegin (1997, as cited in Rotenstein et al., 2013) also found this result with high school students and a negative relationship between academic esteem and procrastination and a positive relationship between anxiety and procrastination.



Similarly, Haycock, McCarthy and Skay (1998 as cited in Rotenstein et al., 2013) found low self-efficacy to be the strongest determinant of procrastination among college students. Some researchers have found that procrastination, performance and self-efficacy are cyclically linked, that is, procrastination may lead to poorer performance, which lowers self-efficacy, which in turn leads to more procrastination (Steel, 2007).

The current study will investigate the correlation between self-efficacy and procrastination in a sample of Irish Psychology students to further understand the area and guide educators in helping students achieve success.

### *1.7.2 Stress and self-efficacy.*

Stress and self-efficacy are also closely related. In Lazarus and Folkman's model of stress, personal beliefs such as self-efficacy are crucial in evaluating demands from the environment. That is, the extent to which a person feels confident about his or her competence to handle a given situation affects whether a given task is perceived as stressful or threatening, rather than as a challenge. Previous studies show that self-efficacy and stress among college students have moderate to strong negative correlations. However, most research has explored the independent roles of stress and self-efficacy in explaining academic outcomes. Very little work has examined their joint influence as determinants of academic success in college. Even though the two variables are highly correlated, very little research has been conducted on perceptions on identical tasks (Zajacova et al., 2005).

### *1.7.3 Procrastination and stress.*

Underlying all of the stressors associated with being a college student is the issue of how to manage all of these responsibilities. Time management can be considered among the biggest academic challenges for students. A significant correlation is reported in the literature

between measures of stress and perceived control of time and those who practice time management behaviors perform better. Students can limit their stress by use of effective time management and study practices (Stagman, 2011). In line with these findings, Aziz and Tariq (2013) concluded that there is a positive relationship between procrastination and stress following a web-based examination of students in Pakistan. Glick and Orsillo (2015) also concluded that even if students pursue leisure activities as a measure of stress reduction, this avoidance of academic activities (procrastination) can lead to higher stress levels.

In conclusion, the issues of student success versus attrition are complex areas, with many factors to account for. However, this area is becoming increasingly more important to study, given the rising number of students attending third-level education and the continuous diversification of this population.

### *1.8 Current Study*

With the above research in mind, the purpose of this study is to explore the relationship between the variables of procrastination, stress and self-efficacy within traditional and non-traditional students in particular, in the Irish context. However, other differences between these students, such as age and gender, are also examined.

#### *1.8.1 Research questions.*

The research questions of this study are as follows;

What differences exist among traditional students in relation to stress, self-efficacy and procrastination?

What relationship does stress, self-efficacy and procrastination levels in students have with each other?

### *1.8.2 Study Hypotheses.*

With the above variables in mind, this study hypothesizes the following;

Hypothesis 1: A significant difference exists between student type (traditional and non-traditional) and levels of reported procrastination, stress and self-efficacy.

Hypothesis 2: A significant difference exists between employment amount and stress levels.

Hypothesis 3: A significant difference exists between gender and levels of reported procrastination, stress and self-efficacy.

Hypothesis 4: A significant difference exists between age and levels of reported procrastination, stress and self-efficacy.

Hypothesis 5: A significant relationship exists between stress, procrastination and self-efficacy levels in students.

## 2. Method

The present study examined the variables stress, procrastination and self-efficacy in an academic sample of third level students attending Dublin Business School (n = 116).

### *2.1 Participants*

A non – probability convenience sampling technique was used to recruit 116 participants. All the participants were Psychology students of Dublin Business School over the age of 18. Permission was sought from lecturers at DBS to access their classes. There was no control group in this study and therefore all participants took part in all required materials. The sample consisted of 35 males and 80 females, with 1 participant not stating their gender. 63% of the participants were part time students (non – traditional students) and 37% were full time students (traditional students), 1 participant did not state their study mode. The age range of the sample was from 18 to over 50. 45% of the participants were in full time employment, while 37% of the participants were in part time employment and 17% of the participants were unemployed.

Participation in the study was voluntary as no inducements were offered to participants and participation was optional to the students accessed. Anonymity of participants was assured. The inclusionary criteria were Psychology students in Dublin Business School who are 18 years old or over. The exclusionary criteria were people under 18 years of age.

### *2.2 Design*

A questionnaire based study employing a quantitative mixed methods between subjects design was implemented. A correlational design investigated the relationship between the predictor variables self-efficacy and procrastination and the criterion variable of stress. A quasi-experimental design investigated the differences between the independent variables of

age, gender and student type and the dependent variables of self-efficacy, stress and procrastination.

### *2.3 Materials*

A short demographic questionnaire was devised to obtain information regarding the participants' gender, age and student type (i.e. traditional or non-traditional) and amount of employment engaged in (see Appendix A).

Three anonymous self-report questionnaires were used in this study: the Perceived Stress Scale (Cohen, Kamarck & Mermelstein, 1983) (PSS, see Appendix B); the College Academic Self-Efficacy Scale (Owen & Froman, 1988) (CASES, see Appendix C); and the Aitken Procrastination Inventory (Aitken, 1982) (API, see Appendix D).

#### *2.3.1 The Perceived Stress Scale.*

The Perceived Stress Scale was used to measure the psychological stress the participants felt in the last month. This instrument consists of 10 items designed to measure how unpredictable, uncontrollable and overloaded respondents find their lives to be (Cohen et al., 1983). Items include statements such as; "in the past month, how often have you found that you could not cope with all the things that you had to do?" Participants rated each of the 10 items on a 5-point response scale ranging from 0 (never) to 4 (very often). PSS scores are obtained by reversing responses to the four positively stated items, and then computing a total score across all items. The higher the overall score the greater the amount of perceived stress. The PSS-10 has a good reliability with Cronbach's alpha values ranging from 0.84 to 0.86, the test-retest correlation is 0.85 (Cohen et al., 1983). The PSS proved to be a better predictor of health and health related outcomes than other life event scales. However the predictive validity drops after four to eight weeks (Cohen et al., 1983). A Cronbach's Alpha of .84 was

found on this occasion.

### *2.3.2 The College Academic Self-Efficacy Scale.*

The College Academic Self-Efficacy Scale is a 33-item scale used to measure self-efficacy in academic behaviours of college students, when completing routine tasks. It is designed to assess a student's confidence in their ability to complete tasks associated with academic success in third level education. A five-point Likert-type scale measures degrees of confidence ranging from 'not at all confident' (1 point) to 'very confident' (5 points), on behaviours such as "listening carefully during a lecture on a difficult topic." Higher scores indicate higher college academic self-efficacy. The instrument is scored by obtaining a mean score for each participant. CASES reports excellent internal consistency reliability between .90 and .92 and an eight-week test-retest reliability correlation of .85 (Barber, 2009) A Cronbach's Alpha of .87 was found on this occasion.

### *2.3.3 The Aitken Procrastination Inventory.*

The Aitken Procrastination Inventory is a 19-item scale used to examine levels of procrastination in college students. Participants were asked to rate items on the scale such as "I delay starting things until the last minute" along a Likert scale from "1 – False" to "5 – True". Eight items required recoding before computing total scores. Aitken (1982) reported that high scores were associated with procrastination. The range of scores possible was from 19 – 95. A previous study showed it had high validity and strong reliability when applied to college students. Its Cronbach's Alpha coefficient is reported to be 0.80 (Ying and Lv, 2012). Balkis and Duru (2009) reported a retest reliability coefficient of 0.87. However, a Cronbach's Alpha of .64 was found on this occasion.

#### *2.4 Procedure*

Firstly, ethical approval was obtained from the Ethics Committee Board of Dublin Business School Psychology Department. The questionnaires were then distributed to participants during their lecture time, following permission from their lecturers, which was sought by email prior to approaching the class. The students received a verbal explanation of the purpose of the study to examine the relationship between stress, self-efficacy and procrastination in traditional and non-traditional students. Students were advised at this point that participation was not obligatory and all responses would be anonymous. An information sheet was also provided to students, which further outlined the information pertaining to informed consent, anonymity and confidentiality (see Appendix E). Details for support services were provided with the questionnaires (see Appendix F) and following completion of the questionnaire, the participants were given an opportunity to ask questions and debrief. The questionnaire took 10 to 15 minutes to complete. The statistical package SPSS 22 software was used to analyse the data and test the null hypothesis.

### 3. Results

Data was analysed using SPSS Statistics 22. Analyses were two-tailed and a significance level of  $p < .05$  was used to determine statistical significance. Tests of normality were run on all variables. The sample was made up of males, 30% ( $n=35$ ), and females, 69% ( $n=80$ ). 36% ( $n=42$ ) of the participants were full time traditional students and 63% ( $n=73$ ) of the sample were part time non-traditional students. Participants ranked as follows in terms of age: 18-25 years (38%), 26-33 years (31%), 34-41 years (22%), 42-49 years (8%) and over 50 years (1%). 45% ( $n=52$ ) of the participants were in full time employment, 37% ( $n=43$ ) were in employed part time and 17% ( $n=20$ ) were unemployed. Data was further analysed using independent sample t-tests, Pearson's product correlation coefficient, one-way unrelated ANOVA and multiple regression.

#### *3.1 Traditional and non-traditional students*

A series of independent samples t-tests were conducted to examine whether a difference exists between student type (traditional and non-traditional) and levels of reported procrastination, stress and self-efficacy. Traditional students ( $M = 20.82$ ,  $SD = 6.51$ ) were found to report higher levels of stress than non-traditional students ( $M = 17.05$ ,  $SD = 6.68$ ), but similar levels of self-efficacy and procrastination were reported by both student groups.

An independent samples t-test found that there was a statistically significant difference between stress levels of full time traditional students and part time non-traditional students ( $t(110) = 2.89$ ,  $p = .005$ ,  $CI (95\%) 1.18 - 6.36$ ). Therefore the null can be rejected.

An independent samples t-test found that there was not a statistically significant difference between self-efficacy levels of full time traditional students ( $M = 3.44$ ,  $SD = 0.57$ ) and part time non-traditional students ( $M = 3.44$ ,  $SD = 0.52$ ) ( $t(103) = .01$ ,  $p = .990$ ,  $CI (95\%) -0.22 - 0.22$ ). Therefore, the alternative hypothesis can be rejected.



An independent samples t-test found that there was not a statistically significant difference between procrastination levels of full time traditional students ( $M = 55.0$ ,  $SD = 10.72$ ) and part time non-traditional students ( $M = 54.01$ ,  $SD = 10.28$ ) ( $t(105) = 0.47$ ,  $p = .641$ ,  $CI (95\%) -3.19 - 5.17$ ). Therefore, the alternative hypothesis can be rejected. These results are displayed graphically in table 1 and figure 1 below.

Table.1 Results of Independent Samples t-test for scale variables in traditional and non-traditional students.

Variable		Mean	SD	t	df	p	Lower	Upper
Stress	Traditional students	20.82	6.51	2.89	110	.005*	1.18	6.36
	Non-traditional students	17.05	6.68					
Self - Efficacy	Traditional students	3.44	0.57	0.01	103	.990	-0.22	0.22
	Non-traditional students	3.44	0.52					
Procrastination	Traditional students	55.0	10.72	0.47	105	.641	-3.19	5.16
	Non-traditional students	54.01	10.28					

\* $p < .05$

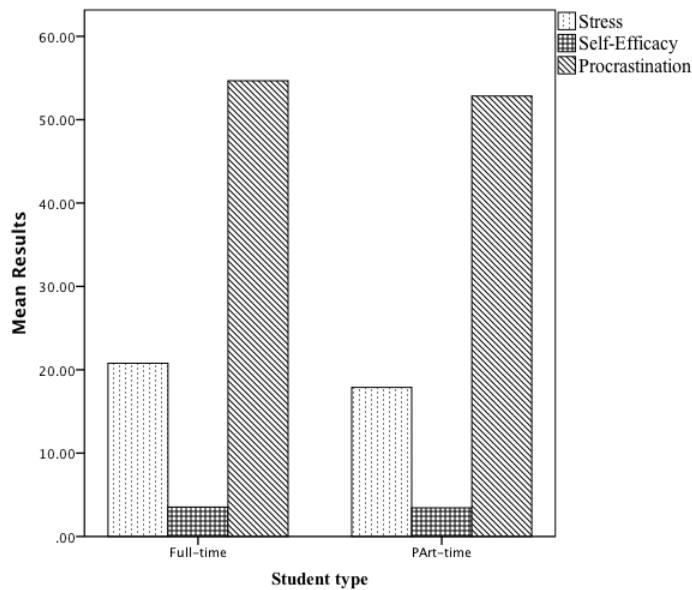


Figure 1. Stress, Self-Efficacy and Procrastination results by student type (full-time and part-time)

### 3.2 Employment levels

To examine any differences between employment levels and stress, a one-way ANOVA was conducted. A statistically significant difference was not found between these groups and levels of stress. A one-way ANOVA showed that the perceived stress did not differ significantly between the three groups of participants, those in full time employment ( $M=17.62$ ,  $SD=6.60$ ), part time employment ( $M=19.24$ ,  $SD=7.53$ ) and those unemployed ( $M=18.63$ ,  $SD=5.89$ ) ( $F(2, 109) = .65$ ,  $p = .525$ ). Therefore the null hypothesis can be accepted.

### 3.3 Age

To examine any differences between age and levels of stress, self-efficacy and procrastination a series of one-way ANOVAs were conducted. A statistically significant difference was not found between these variables. Procrastination levels across age ranges were reported as the following; 18-25 years ( $M=55.75$ ,  $SD=11.28$ ), 26-33 years ( $M=52.85$ ,  $SD=8.36$ ) 34-41 years ( $M=53.17$ ,  $SD=12.69$ ) 42-49 years ( $M=57.33$ ,  $SD=6.73$ ) and over 50

years ( $M=51$ ) A one-way analysis of variance showed that procrastination levels did not differ significantly between the four age ranges of participants ( $F(4, 102) = .63, p = .640$ ). Therefore the null can be accepted.

Stress levels across age ranges were reported as the following; 18-25 years ( $M=20, SD=6.09$ ), 26-33 years ( $M=18.14, SD=7.07$ ) 34-41 years ( $M=16.92, SD=7.42$ ) 42-49 years ( $M=17.78, SD=5.99$ ) and over 50 years ( $M=5$ ). A one-way analysis of variance showed that perceived stress levels did not differ significantly between the four age ranges of participants ( $F(4, 107) = 1.90, p = .114$ ). Therefore the null can be accepted.

Self-efficacy levels across age ranges were reported as the following; 18-25 years ( $M=3.31, SD=0.58$ ), 26-33 years ( $M=3.43, SD=0.45$ ) 34-41 years ( $M=3.64, SD=0.59$ ) and 42-49 years ( $M=3.46, SD=0.43$ ). A one-way analysis of variance showed that academic self-efficacy levels did not differ significantly between the four age ranges of participants ( $F(3, 101) = 1.84, p = .144$ ). Therefore the null can be accepted.

### *3.4 Gender*

A series of independent samples t-tests were conducted to examine the difference in gender and levels of self-efficacy, stress and procrastination. Men ( $M=3.41, SD=.48$ ) reported lower levels of self-efficacy compared to women ( $M=3.45, SD=.57$ ). However, an independent samples t-test found that there was not a statistically significant difference between self-efficacy levels of male and female students ( $t(103) = -.34, p = 0.733, CI(95\%) -.26 - .19$ ). Therefore, the alternative hypothesis can be rejected.

Men ( $M=17.88, SD=6.00$ ) reported lower levels of stress compared to women ( $M = 18.63, SD = 7.19$ ). However, an independent samples t-test found that there was not a statistically significant difference between stress levels of male and female students ( $t(110) = -.53, p = 0.598, CI(95\%) -3.54 - 2.05$ ). Therefore, the alternative hypothesis can be rejected.

Men ( $M=54.15$ ,  $SD=8.37$ ) reported lower levels of procrastination compared to women ( $M=54.46$ ,  $SD=11.24$ ). However, an independent samples t-test found that there was not a statistically significant difference between procrastination levels of male and female students ( $t(105) = -.14$ ,  $p = 0.888$ ,  $CI (95\%) -4.64 - 4.03$ ). Therefore, the alternative hypothesis can be rejected.

### *3.5 Relationship between Stress, Procrastination and Self-efficacy*

A relationship between stress, procrastination and self-efficacy levels in students was initially predicted by this study. This relationship was examined by conducting Pearson's correlation coefficient and multiple regression. Statistically significant relationships between levels of stress and procrastination, self-efficacy and procrastination and self-efficacy and stress were found in the data. In terms of predicting stress levels in students, it was found that procrastination levels could predict stress but self-efficacy levels could not significantly predict stress in students.

A Pearson correlation coefficient found that there was a weak positive significant relationship between perceived stress ( $M = 18.29$ ,  $SD = 6.90$ ) and procrastination ( $M = 54.24$ ,  $SD = 10.43$ ) ( $r(104) = 0.26$ ,  $p = .008$ ). Therefore the null hypothesis is rejected. This relationship can account for 6.76% of variation of scores. This indicates that as levels of procrastination rise, so does perceived stress.

A Pearson correlation coefficient found that there was a moderate negative significant relationship between academic self-efficacy ( $M=3.44$ ,  $SD=.54$ ) and procrastination ( $M = 54.24$ ,  $SD = 10.43$ ) ( $r (95) = -0.46$ ,  $p < .001$ ). Therefore the null hypothesis is rejected. This relationship can account for 21.16% of variation of scores. This indicates that lower self-efficacy levels are associated with higher levels of procrastination and vice versa.

A Pearson correlation coefficient found that there was a weak negative significant relationship between academic self-efficacy ( $M=3.44$ ,  $SD=.54$ ) and perceived stress ( $M =$

18.29, SD = 6.90) ( $r(101) = -0.30, p = .002$ ). Therefore the null hypothesis is rejected. This relationship can account for 9% of variation of scores. This indicates that lower self-efficacy levels are associated with higher levels of stress and vice versa.

Multiple regression was used to test whether academic self-efficacy and procrastination were predictors of perceived stress. The results of the regression indicated that the two predictors explained 14% of the variance ( $R^2 = .14, F(2, 94) = 7.72, p = .001$ ). It was found that procrastination significantly predicted perceived stress ( $\beta = 0.28, p = .009, 95\% \text{ CI} = .05 - .34$ ) but academic self-efficacy did not significantly predict perceived stress ( $\beta = -0.15, p = .148, 95\% \text{ CI} = -4.71 - 0.72$ ). The results of the regression data are displayed in table 2 below.

Table 2. Regressions Analysis for Procrastination and Self-Efficacy Predicting Stress in Students

Outcome Variable	Predictor Variable	p	$\beta$	F	df	p	adj.R <sup>2</sup>
Stress	Self-efficacy	.148	-0.15	7.72	2, 94	.001*	.14
	Procrastination	.009*	0.28				

\* $p < .05$

## 4. Discussion

The aim of this study was to investigate the relationship between stress, self-efficacy and procrastination in full-time traditional and part-time non-traditional students. The differences between the variables of age, employment levels and gender were also considered in the study of these constructs.

### *4.1 Traditional and Non-traditional students*

In terms of the differences between traditional and non-traditional students, the results showed that traditional full-time students reported significantly higher levels of stress than non-traditional part-time students. This concurs with the first hypothesis that a difference exists between student types. However, significant differences were not found between student types in terms of self-efficacy and procrastination.

As seen in the research, traditional and non-traditional students experience different stressors. Research shows that part-time students face additional stressors, for example, in terms of childcare (Gaedke et al., 2012). However, conflicting research shows that non-traditional students may have the benefit of experience and previous learning strategies to manage stress. Also, if analysed under the cognitive theory of stress as proposed by Lazarus and Folkman (1984), non-traditional students may appraise challenging situations differently to traditional students resulting in lower perceived stress levels (Stagman 2011).

No difference was found in self-efficacy levels of traditional and non-traditional students. Previous research in this area is conflicting, with some researchers finding differences in certain types of self-efficacy, such as computer efficacy and belief in their own ability to use computers for educational purposes (Henson, 2014). However, Zajacova et al. (2005) found no overall difference between self-efficacy levels in student types. The implication of this

finding for college administrators is that further research is needed into the types of tasks students find challenging.

This same implication applies for the construct of procrastination. No difference was found in procrastination levels of traditional and non-traditional students in this study. Prohaska, Morrill, Iraida and Perez (2000) not only found differences in student type and procrastination but in the types of tasks that students procrastinate on. Vitak et al. (2011) found that younger people were more likely to engage in cyberloafing but the research in this area is inconclusive. As with self-efficacy, further study of procrastination is required in the type of tasks students might delay and the way in which they procrastinate. Future research in this area is required to quantify the differences between students.

#### *4.2 Employment*

With regards employment levels, there were no significant differences found between people in full-time employment, part-time employment and those unemployed and the construct of stress. This finding was not in agreement with the second hypothesis of the study. It was deemed important to examine stress in relation to hours worked weekly as the majority of students reported that they were in some form of employment, with some students reporting to work up to 60 hours a week. Previous research in this area from Zajacova et al. (2005) found that students in employment can experience stress in relation to role conflicts. However, the literature in this area also reports that employed students may learn time management and coping strategies while in employment (Stagman, 2011) and may be more motivated to endure the pressures of education (Kenny et al., 2011). Further research in this area may be beneficial to examine whether a threshold of hours worked weekly exists to impact stress level or whether any differences in the types of stress experienced by different groups exists.

### *4.3 Gender*

The difference between men and women in relation to stress, self-efficacy and procrastination was also examined. No significant differences were found in relation to gender, contrary to the study's third hypothesis. In general, the literature reports higher perceived stress levels in women than in men. The socialization hypothesis accounts for this difference in light of the stereotypical view that women tend to express their feelings more and men tend to deny a problem. Many differences in coping with stress are also reported in the literature, with men favouring leisure activities and women using social support (Brougham et al., 2009). This study did not examine coping strategies and therefore cannot determine why the typical results were not found on this occasion. Perhaps the female students examined in this study were implementing adequate coping strategies and managing their stress levels adequately. Future research in the area of coping with this sample would be beneficial.

Conflicting evidence also exists in the literature in relation to self-efficacy and gender. Becker and Gable (2009) studied 194 community college students in America and did not find a difference in self-efficacy levels. Similar results were found by Hall and Poynton (2005, as cited in Becker & Gable, 2009), when they studied mathematics self-efficacy in first year college students. However, previous studies have found a difference in self-efficacy on particular tasks. Future research is warranted in this area to quantify the self-efficacy difference of males and females.

In relation to gender differences and procrastination, Steel (2007) in his meta-analysis of the subject concluded that gender differences in procrastination are difficult to predict. However, as noted above cyberloafing is more prevalent in males and future research in the types of procrastination and other activities commonly engaged in may be warranted to fully explore the differences between men and women in this area.



#### *4.4 Age*

In relation to differences between age and perceptions of stress, self-efficacy and procrastination, a significant difference was not found in this study. This is contrary to the fourth hypothesis of the study. The majority of the participants in this study were between 18 and 33 years old with very few participants over the age of 40. Future research should include an increased number of participants of different ages to fully examine this area. Also, as mentioned above in discussing the difference between traditional and non-traditional students, further study, perhaps of a qualitative nature, is required to fully examine the nature of the difference in levels of stress, self-efficacy and procrastination in people of different ages.

#### *4.5 Relationship of Stress, Self-efficacy and Procrastination*

Finally, a correlational study of the above constructs to examine the fifth hypothesis found that a significant relationship exists between stress, self-efficacy and procrastination. The alternative hypothesis was accepted in this instance. A Pearson correlation coefficient found that there was a weak positive significant relationship between perceived stress and procrastination. This indicates that as procrastination levels increase in student, stress levels increase also and vice versa. This finding is in line with the literature that states that procrastination is associated with high stress levels in students (Zajacova et al., 2005). Analysis of the data also found that there was a moderate negative significant relationship between academic self-efficacy and procrastination. This indicates that low self-efficacy levels are associated with high levels of procrastination and vice versa. This again is agreement with the previous literature on the area. Solomon & Rothblum (1984, as cited in Rotenstein et al., 2013) in an analysis of reasons for procrastination by university students suggest that fear of failure, including lack of self-confidence, was the most relevant factor,

accounting for 49.4% of the variance. The researchers showed that high procrastinators exhibit numerous forms of anxiety as well as tendencies toward lower self-esteem, lower self-efficacy, and lower control over emotional reactions as compared with low procrastinators. The correlational data of this study also indicated that there was a weak negative significant relationship between self-efficacy and perceived stress. In this case, low levels of self-efficacy are associated with high stress levels and vice versa and is in line with the previous literature in the field. The extent to which a person feels confident about his or her competence to handle a given situation affects whether a given task is perceived as stressful or threatening, rather than as a challenge. Previous studies show that self-efficacy and stress among college students have moderate to strong negative correlations (Zajacova et al., 2005). However, as this data was correlational and not causal, results must be interpreted with as such. Further research would be beneficial to establish whether a causal relationship exists in this population and the general population.

Furthermore, following analysis of a multiple regression conducted it was found that procrastination levels in students significantly predicted stress levels. It has emerged from the literature that the behaviour of time management underlies stress and self-efficacy levels and procrastination. Time management can be considered among the biggest academic challenges for students (Stagman, 2011). The implication for educators when considering that self-efficacy and procrastination predicted an amount of stress in this study, is that intervention and strategies for students should be focused on these areas to reduce attrition rates. However, an amount of variance was not accounted for by this study. It will be important for administrators to fully account for the variance so that interventions for students can be tailored to the specific needs.

#### *4.6 Limitations and Future Research*

Apart from the limited sample size, limitations of this study include the possible lack of representativeness of the sample. This study included students from Dublin Business School only, which is a private education institution and students are required to pay fees to attend. This may have an impact on the financial stress that the students encountered and a difference may exist between the financial stress encountered of privately educated and publicly educated students. Heckman, Lim and Montalto (2014) found that one of the most important financial stressors was high amount of student loan debt at graduation. However, this is a stressor that students in Irish HEA funded third-level institutions may not encounter as they are not required to pay fees. Further research of the variables included in this study should include students from publicly funded institutions.

Another limitation regarding the representativeness of the sample was that the research was conducted only with students who attended lectures. Differences may be seen in stress and self-efficacy levels of students who do not regularly attend lectures. Conflicting evidence is seen in the relationship between self-efficacy and attendance and Caska and Prentice (2009) found a correlation between self-efficacy and attendance in a sample of Irish students. It would be beneficial to include a web-based component to the research design to access students who do not regularly attend lectures or for those students who were not present on the day of data collection.

Limitations were also seen in terms of the scope of the research. While it was identified that procrastination significantly predict stress in the participants, no effort was made to provide intervention or strategies for these students. Further research in the area of intervention to remediate procrastination, self-efficacy and stress would be beneficial to aid students' success in education and to investigate the impact of these programs. It would be useful to measure students, pre and post intervention. An example of one such intervention would be to train

lecturers to help students develop their self-efficacy as if increasing self-efficacy leads to greater academic performance, then learning how to enable students to develop it has profound implications for those currently constrained by environmental forces and underserved by the educational system (Becker & Gable, 2009).

Future research of the above constructs is also required in the Irish context as limited study of students in Ireland has been conducted thus far.

#### *4.7 Implications*

The primary intention of this study was to determine the relationship between stress, self-efficacy and procrastination in a population of traditional and non-traditional third-level students. It is important to identify entering first-term students who are potentially at-risk of poor academic performance or failure. Early identification of students who need additional support to succeed would allow targeted and efficient deployment of limited available institutional resources. Effective academic resource allocation to at-risk students would benefit the institution and its students by reducing achievement-related failures and withdrawals (Becker & Gable, 2009). A certain amount of variance of stress was explained in this study, however a recommendation for future research is to account for the other predictors of student stress.

#### *4.8 Conclusion*

The findings in the current study make a useful contribution to the body of literature on the internal challenges faced by students in third-level education. As the cohort of students becomes increasingly diverse in Ireland and internationally, the difference between traditional and non-traditional students in terms of perceived stress levels is very important for third-level education administrators to consider. Non-traditional students reported lower

rates of stress than traditional students and educators will need to consider stress levels of different student groups in their teaching. Retention and attrition rates of students in third-level education continues to be an important issue for educators and these rates are influenced by the constructs of stress, self-efficacy and procrastination. Stress is significantly predicted by procrastination levels, therefore intervention by lecturers and college counseling services for these needs in students will continue to be required in the future to encourage student success.

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## Appendix A-Demographic Questions

**Please tick the box that applies to you.**

**What sex are you?**

Male  Female

**What mode of study are you currently completing?**

Full-time  part-time

**What age are you?**

18-25  26-33  34-41  42-49  50 and over

**Do you have any dependents?**

Yes  no

**Are you employed?**

Yes  no

**If yes, how many hours do you work a week, on average?**

\_\_\_\_\_ hours

Appendix B- Perceived Stress Scale (Cohen, Kamarck & Mermelstein, 1983)

The questions in this scale ask you about how your feelings and thoughts during the last month. In each case, please indicate with a check how often you felt or thought a certain way

0-Never    1-Almost Never    2-Sometimes    3-Fairly often    4-Very Often

No.	Question	0	1	2	3	4
1.	In the last month, how often have you been upset because something unexpectedly happened?					
2.	In the last month, how often have you felt that you were unable to control the important things in your life?					
3.	In the last month, how often have you felt nervous and "stressed"?					
4.	In the last month, how often have you felt confident about your ability to handle your personal problems?					
5.	In the last month, how often have you felt that things were going your way?					
6.	In the last month, how often have you found that you could not cope with all the things that you had to do?					
7.	In the last month, how often have you been able to control irritations in your life?					
8.	In the last month, how often have you felt you were on top of things?					
9.	In the last month, how often have you been angered because of things that were outside of your control?					
10.	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?					

## Appendix C - College Academic Self-Efficacy Scale (Owen &amp; Froman, 1988)

Directions: How much confidence do you have about doing each of the behaviours listed below? Fill in the choice that best represents your confidence level.

1-Not at all confident    2-Less confident    3-Unsure    4-Confident    5-Very Confident

No.	Behaviour	1	2	3	4	5
1.	Taking well-organised notes during a lecture.					
2.	Participating in a class discussion					
3.	Answering a question in a large class.					
4.	Answering a question in a small class.					
5.	Taking "objective" tests (multiple choice).					
6.	Taking essay tests.					
7.	Writing a high quality term paper.					
8.	Listening carefully during a lecture on a difficult topic.					
9.	Tutoring another student.					
10.	Explaining a concept to another student.					
11.	Asking a professor in class to review a concept you don't understand.					
12.	Earning good grades in most courses.					
13.	Studying enough to understand a concept thoroughly.					
14.	Running for student government office.					
15.	Participating in extra curricular events (sports, clubs).					
16.	Making professors respect you.					
17.	Attending class regularly.					
18.	Attending class consistently in a dull course.					
19.	Making a professor think you are paying attention in class.					
20.	Understanding most ideas you read in your texts.					
21.	Understanding most ideas presented in class.					
22.	Performing simple math computations.					
23.	Using a computer					
24.	Mastering most content in a math course.					
25.	Talking to a professor privately to get to know him or her.					
26.	Relating course content to material in other courses.					
27.	Challenging a professor's opinion in class.					
28.	Applying lecture content to a laboratory session.					
29.	Making good use of the library.					
30.	Getting good grades.					
31.	Spreading out studying instead of cramming.					



32.	Understanding difficult passages in textbooks.					
33.	Mastering content in a course you are not interested in.					

## Appendix D- Aitken Procrastination Inventory (Aitken, 1982)

Directions: For each of the items below, please indicate the extent to which the statement is more or less FALSE (1) or TRUE (5) of you. Read each statement carefully; remember, there are no right or wrong answers.

- 1 = False  
 2 = Mostly false  
 3 = Sometimes false/sometimes true  
 4 = Mostly true  
 5 = True

	Statement	1	2	3	4	5
1.	I delay starting things until the last minute.					
2.	I'm careful to return library books on time.					
3.	Even when I know a job needs to be done, I never want to start it straight away.					
4.	I keep my assignments up to date by doing my work regularly from day to day.					
5.	If there were a workshop offered that would help me learn not to put off starting my work, I would go.					
6.	I am often late for my appointments and meetings.					
7.	I use the vacant hours between classes to get started on my evening's work.					
8.	I delay starting things so long I don't get them done by the deadline.					
9.	I am often frantically rushing to meet deadlines.					
10.	It often takes me a long time to get started on something.					
11.	I don't delay when I know I really need to get the job done.					
12.	If I had an important project to do, I'd get started on it as quickly as possible.					
13.	When I have a test scheduled soon, I often find myself working on other jobs when a deadline is near.					
14.	I often finish my work before it is due.					
15.	I get right to work at jobs that need to be done.					
16.	If I have an important appointment, I make sure the clothes I want to wear are ready the day before.					
17.	I arrive at college appointments with plenty of time to spare.					
18.	I generally arrive on time to class.					
19.	I overestimate the amount of work I can do in a given amount of time.					

## Appendix E- Questionnaire Coversheet

## Coversheet

Procrastination, self-efficacy and perceived stress in a sample of traditional and non-traditional students.

My name is Sorcha Murphy and I am conducting research in the Department of Psychology that explores stress and related factors in Psychology students in Dublin Business School. This research is being conducted as part of my studies and will be submitted for examination.

You are invited to take part in this study and participation involves completing and returning the attached anonymous survey. While the survey asks some questions that might cause some minor negative feelings, it has been used widely in research. If any of the questions do raise difficult feelings for you, contact information for support services are included on the final page.

Participation is completely voluntary and so you are not obliged to take part.

Participation is anonymous and confidential. Thus responses cannot be attributed to any one participant. For this reason, it will not be possible to withdraw from participation after the questionnaire has been collected.

The questionnaires will be securely stored and data from the questionnaires will be transferred from the paper record to electronic format and stored on a password protected computer.

**It is important that you understand that by completing and submitting the questionnaire that you are consenting to participate in the study.**

Should you require any further information about the research, please contact Sorcha Murphy,

. My supervisor, Margaret Walsh can be contacted

.

Thank you for taking the time to complete this survey.

## Appendix F-Relevant Contact Details

If this questionnaire has raised any issues that you may want to discuss further, you can contact:

- DBS Counselling service ()
- Samaritans (<http://www.samaritans.org.uk/talk/branches/ireland.shtm>)
- Sorcha Murphy ()