

**The Relationship of Stress to Gender, Age, Academic Motivation, Student
Expectations and Self-esteem among Students**

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Abstract

The purpose of this quantitative, correlational study was to explore the relationship of stress to gender, age, intrinsic motivation, extrinsic motivation, student expectations and self-esteem among students. The convenience sample of 436 participants comprising of males aged 17- 56(n= 137) and females aged 17-60 (n= 299) took part in a cross-sectional between group study. The analysis showed significant findings were found for stress in relation to age, gender and self-esteem. Mixed findings on the factors of academic motivation were found. These factors were need for achievement, mastery of goal (intrinsic motivation), power motivation, fear of failure, authority expectations (extrinsic motivation). Significant findings were found for need for achievement, master of goals, fear of failure and authority expectations. This study contributes to research on student stress and the individual components that influence stress.

Introduction

The diverse nature of the student population at undergraduate level and their mode of study are widely accepted as the modern face of higher level education (Department of Education and Skills, 2011). What is also emerging from research is that stress is present in students' lives and pervades across many facets of their academic life (Dyson and Renk, 2008, Robotham, 2008). This study will examine the relationship of stress to some of these different aspects of students' life. These aspects are the variables gender, age, academic motivation, student expectations on grades and self-esteem. With regard to age this study will further examine academic stress in relation to age and mode of study. The literature review will cover both general stress and academic stress and go on to review their relationship to the above variables.

The Impact of Stress on Students

The fourth Eurostudent Survey (Higher Education Authority, [HEA] 2013) survey examined some of the characteristics which help define the Irish higher level student population (n=180,000). For the first time outcomes of stress were included in the survey. Participants in the survey (n=13,530) were surveyed on a range of aspects such as stress, health and wellbeing, income and expenditure, socio economic background to travel and accommodation. Data were collected using self-report (HEA, 2013 p. 11) and the results of outcomes on stress reveal that students exhibited symptoms of chronic stress in relation to (quite often/most of the time) difficulty concentrating (28%), difficulty sleeping (26%), headaches (19%) and catching colds (18%). The researchers also found that students associated stress with demands of college and financial worries (HEA, p. 56) these findings support previous findings from a qualitative study by the Department of Health and Children [DoHC] (2005).

The American College Health Association (2009) also surveyed college students (n=80,121) on health status and included academic stress in the survey. The results show that 33.9% reported that academic stress was an impediment to academic performance which resulted in dropping a course and receiving lower grades in exams and course projects. These surveys, as with a considerable amount of other research on stress, highlight the negative aspect of stress. Such research indicates that the physical and psychological effects of stress are predictors of poor health behaviours, poor health outcomes and poor performances (Ablanedo-Rosas, Blevins, Gao, Wen-Yuan Teng and White, 2011; Louis, Chan and Greenbaum, 2009; Zeier, Brauchi and Joller-Jemelka, 1996). However, Crum, Salovey and Achor (2013) posit that the effects of stress can be either enhancing or destructive and refer to this contradiction as the “paradox of stress”.

Therefore, to gain a better understanding of how stress may influence academic life researchers have examined stress amongst students in relation to gender (Lindsey, et al., 2011, Lighthall, Gorlick, Schoeke, Frank and Maher, 2013), academic motivation (Yoshida et al. 2008), performance expectations (Tan & Yates, 2011) and self-esteem (Eisenbarth, 2012).

Aim of Study

The aim of this study is to examine the role of stress in relation to gender, age, intrinsic motivation, extrinsic motivation, self-esteem and students expectations. The interrelationships between these variables will also be examined. Furthermore, with opportunities to take up third-level education on a full-time or part-time basis at any point in the adult life span, the age profile of the third-level student population is changing and it is now timely to examine age as a variable within the context of mode of study. For this reason this study will examine stress in relation to the age of full-time and part-time students.

Overall this study will build on previous studies and advance our knowledge of the role stress plays in the academic environment.

Stress and coping

Some researchers highlight specific areas of interest on stress and the student population. Park and Adler, (2003) in looking at the effects of stress over the academic year found that the style of coping impacted on health and well-being. For those individuals who used active problem-focused coping there was less of an impact on physical health. Lazarus and Folkman, (1984) examined emotion and coping with the stress of college exams. They found that participants reported cognitive appraisals of threat and challenge. In the threat condition the feelings of foreboding or worry were present while in the challenge condition excitement and eagerness were present. In a more recent study Skinner and Brewer, (2002) examined threat and challenge appraisals prior to stressful achievement (exam) and found that perception of stress as threat or challenge exists when stress is anticipated. In the light of these studies student course work, exams and life events could be described as stressors. If these stressors are perceived as worthwhile and ultimately rewarding, performance can be enhanced by excitement and eagerness to take on the challenge. To take as an example, the stress of living away from home may be appraised as having independence and an opportunity to meet new friends. In the case of the part-time student appraising the challenge of his/her multiple roles as a means to a better career by accessing the social support of family may enhance performance. Conversely, appraising any of the above events as a threat may cause anxiety resulting in risky health behaviours for example alcohol or drug abuse, feeling overwhelmed, poor time management, avoidance, social withdrawal or simply giving up Park and Adler (2003).

General Stress

Stress can be defined as “a pattern of cognitive appraisals, physiological responses and behavioural tendencies that occur in response to a perceived imbalance between situational demands and resources needed to cope with them” (Passer et al. 2009, p. 722). “Nearly everyone experiences psychological distress, or negative affect, in response to actual or perceived stress” (Mroczek and Almeida, 2004). The situational demands are referred to as stressors. To be able to understand what stress is and how it can affect a person physically and psychologically a number of theories have been proposed. The early theories of fight-or-flight (Cannon, 1932) and General Adaptation Theory (Selke, 1950) relied heavily on the physiological aspects of the effects of stress. The theory of “fight or flight” emphasised the role arousal of the sympathetic nervous system and the endocrine system to trigger an escape (flight) from the stressor or confront (fight) the stressor. Selke (1950) in his General Adaptation Theory integrated observations from physiological and pathological events to demonstrate that stress was a major cause of disease. He proposed that regardless of the stressor that the basic response pattern is always the same and that adaptation to the event causes depletion of resources and this occurs regardless of the severity and intensity of the stressor. However, the uniformity of the stress response has been questioned (Hobfoll, 1989 and Kemeny, 2003 as cited in Taylor, 2006, p154). The work of Richard Lazarus broadened the research on stress beyond the physical domain to the cognitive domain. In Lazarus and Folkman’s, (1984) transactional model of stress it is posited that the stressor is psychologically appraised for meaning whether threat or challenge (primary appraisal) and ability to cope (secondary appraisal).

In addition to these theories the theory of Tend and Befriend, proposes that “humans demonstrate tending and befriending responses to stress” (Taylor, 2006, p. 172). This

evolutionary based theory incorporates the social engagement response and proposes that the human, particularly the female, respond to stressors by nurturing and gathering the community to support each other against an external threat. An emerging theory (Crum, et al. 2013) on the effect of mindset on our response to stress proposes that depending on whether stress is viewed as enhancing or debilitating may influence our behaviour and how we respond. Each of these theoretical positions makes an important contribution to the study of stress.

On balance stress can be the result of “too little or too much arousal resulting in harm to mind and body” (Shafer as cited in Gibbons, 2012). Yerkes and Dodson (1908) universal law demonstrates that increments of stress up to a certain level increase task performance but beyond this level disorganisation and impairment results.

Academic Stress

Stressors that give rise to stress can be specific for a particular environment and for students the stressors of academic life can lead to academic stress. These stressors can range from academic demands, exam anxiety, academic expectations of significant others, fear of failure, poor time management, negative social interactions or lack of social interactions (Lindsey, et al. 2011; Taylor, 2006, p. 207; Park and Adler, 2003). From the above it can be seen that it is possible for stress to have the characteristics of a stimulus (e.g. academic demands) or a response (e.g. exam anxiety). This point is considered by Putwain (2007) where he points out the lack of conceptual precision with regard to the referents of stress. For this reason it is intended that within this current study stress will be considered to have the properties of a stimulus when looking at demographics, and the properties of a response when looking at the subjective experience, of academic motivation, student expectations and self-esteem.

General Stress and Age

Stress and how it relates to age has also been the focus of research with mixed findings (Diehl and Hay, 2010). Earlier developmental theories posited that psychological aging mirrored physiological aging with affective well-being fading as we physically aged (Banham, 1951, Frenkel-Brunswik, 1968 as cited in Charles, 2010) and older adults were more likely to suffer negative affects due to daily stress (Mroczek and Almeida, 2004). However, recent advances in aging theory indicate that age brings both strength and vulnerability to individual's well-being and how they deal with stress (Charles, 2010). The theory of Strength and Vulnerability Integration (SAVI) (Charles, 2010) posits that compensatory processes are applied to emotional regulation as the physical ability declines due to aging. Consequently, individuals become savvier in handling emotional response to stress. Older adults employ strategies to mitigate the negative affect associated with stress. These strategies include attentional, appraisal and behavioural strategies for example directing their attention to positive stimuli, appraising situations in a more positive way and avoiding risk. In a more recent study Scott, Sliwinski and Blanghard-Fields (2013) examined the importance of context and SAVI. The research focused on timing to exposure, severity of stress and global perceived stress (GPS) differences for age. While there was no difference found in the response to the severity of stress the findings on timing to exposure to stress and GPS indicated that older adults experienced less negative affect.

Academic Stress and Age

While there is extensive research regarding stress and its relationship to age there is a dearth in the literature into academic stress and age. In the main research has looked

academic stress in the part-time and full-time student divide (Forbus, Newbold, Mehta, 2011, Given, 2000, Ting, Morris, McFeaters and Eustice, 2006).

Academic Stress in relation to age of part-time and full-time students

It is of interest that currently the median age for full-time students is 21(mean 23.04) while part-time students represent an older age group median 32 (mean 34.26) (HEA, 2013 p. 15). Previous research has investigated traditional and non-traditional students (Carroll and Patterson, 2011; Given, 2000; Giancola, Grawitch and Borchert, 2009; Forbus et al. 2011) where the demographic characteristics of the traditional student were viewed as under 23 years of age and having a linear entry from second level to full-time third level education. In contrast non-traditional students were viewed as over 23 years of age and entering third level education as mature students who in the main pursue part-time courses. In Ireland for example in 2011 the majority of mature students (92%) participating in third level education were following part-time studies (Carroll and Patterson, 2011). For this reason this study will view traditional students as full-time students and non-traditional students as part-time students. As previously stated researchers have investigated traditional and non-traditional students, however, much of this research has investigated all types of non-traditional students together (Carroll and Patterson, 2011; Giancola, 2009; Ting et al. 2006) on specific areas such as profile, stress or performance. The age profile of the traditional and non-traditional students has received little attention from researchers (Given, 2000). Considering that the non-traditional students have stressors relating to work/school life which are additional those experienced by traditional students (Giancola, 2009) other stressors may also be present for example age (Given, 2000). Stress in relation to age has already been discussed within this

current paper where research indicates that age can bring strength and vulnerability integration (SAVI) in response to stress (Charles , 2010). For this reason stress in relation to age of full-time and part-time students will be examined within this study.

Stress and Gender

As previously stated, it is suggested by Lazarus and Folkman (1984) that it is how the individual appraises the situation that influences their perception of stress. However, the specific individual differences that moderate the perception of stress are unclear. Some researchers suggest that one difference may be gender (Kessler, 1984; Roxburgh, 1996; Misra, West and Russo, 2000; Day and Livingstone, 2003). To support their research the differential vulnerability hypotheses (Kessler, 1984) and the differential exposure hypothesis (Roxburg, 1996), while competing in their explanations; have been put forward to explain these gender differences in perception of stress. Proponents of the differential vulnerability hypothesis posit that when women are faced with the identical stressors as men, women will perceive the stressors to be more stressful, however, proponents of the differential exposure hypothesis argue that women are exposed to more stressors and therefore experience more stress. While the degree to which either vulnerability or exposure contributes to gender differences in the perception of stress is still unknown (Day and Livingstone, 2003) it would appear that a growing body of evidence suggests that gender plays a role in how stress is perceived by the individual. This evidence is strengthened by research into the neural underpinnings of gender specific stress effects. A recent study using functional magnetic resonance imaging (fMRI) to examine gender differences in response to reward-related decision making among individuals exposed to stress (Lighthall, et al. 2012) indicated that the impact of stress differs depending on gender.

Academic Stress and Gender

It can be said that students have a unique cluster of stressful experiences resulting in academic stress (Lindsey, et al. 2011; Taylor, 2006, p. 207; Park and Adler, 2003). Some research into academic stress and how it relates to gender indicates that women reported a higher number of stressors than men (Misra et al. 2000). Women considered some of these stressors self-imposed for example women incorporated more social and family activities into their schedules leaving little time for academic work (Misra et al. 2000). However, as social support systems are considered as a response to stress, as proposed in the theory Tend and Befriend Model of stress (Taylor et al., 2000) this may in part contribute to the additional stressors. In a more recent study the need for family support was found to be significantly higher in females than males (Eman, Dogar, Khalid and Haider, 2012). This finding gives further support to the Tend and Befriend theory as previously referenced. Furthermore, gender differences in stress response have been identified in relation to test anxiety (Eman et al. 2012). Female students experience higher levels of stress due to test anxiety as compared with male students (Eman et al. 2012). However, not all researchers agree that differences exist between men and women in academic stress and coping with stress. Dyson and Renk, (2006) did not find a significant difference in levels of stress or coping strategies in their study of 166 freshmen. The researchers suggest that the lack of difference in levels of stress and coping strategies may be due to similar role expectations for men and women. For example sharing child rearing and equal opportunities in the work place may lead to similar coping strategies.

Motivation

Motivation Theories

Although motivation theories present different perspectives on why humans are motivated to behave in a certain way these theories share the view that motivation is a desire

to attain some kind of goal. Freud (1920) had a very broad concept of motivation inferring that human behaviour was not only driven by life instincts (eros) but by death instincts (thanatos). However, a narrower view is found in the Instinct Theory of Motivation which theory that organisms engage in certain behaviours because they lead to success in terms of natural selection. Instinct theory casts motivation as essentially intrinsic and biologically based. (Ghent, 2002). In contrast the behaviourists reinforcement theories posit that motivation is governed by external stimulus response to rewards or punishments (Thorndike, 1898; Pavlov, 1927; Skinner, 1938). As an alternative to behaviourism need theories have emerged for example the hierarchy of needs (Maslow, 1998) and self-determination theory (SDT) Deci and Ryan 1985 theory which viewed needs as being within psychological needs (autonomy, competence and relatedness) and social needs (achievement, affiliation and power). However, it is the self-determination theory (Deci and Ryan, 1985) which has gained traction in relation to research on how motivation influences human behaviour. This theory proposes that motivation is autonomous or controlled. Three core elements are present: competence, connection and autonomy. Firstly, competence implies a need to gain mastery of tasks and learn different skills, secondly connection implies a need to experience a sense of belonging and attachment and finally where autonomy implies a need to control one's own behaviour and goals. When these three elements are experienced Deci and Ryan (1985) suggest that the individual becomes self-determined and intrinsically motivated to perform tasks that interest them.

Another theory which been put forward is the Vroom's expectancy value theory (Vroom, 1964) which suggested that persistence and effort are determined by the value of the task and their expectancy to succeed. A more recent motivation theory which is grounded in the expectancy theory and closely associated with learning and online education is the ARCS

motivation model (Keller, 1984, 1987a). ARCS (attention, relevance, confidence, satisfaction) as a theory posits that an individual will engage in a task which is linked to the satisfaction of their needs and have a positive expectancy that he/she will be successful where the task is linked to satisfaction of their needs.

Academic Motivation

Motivation in education has been categorised into three types: intrinsic motivation (the individual's need to know, to accomplish and to experience stimulation), extrinsic motivation (the external forces that influences behaviour) and amotivation (the influence of feelings of incompetence and behaviour by forces outside of the individual's control) (Vallerand, and Pelletier, 1992). However, building on the SDT, Shia (1998) suggests that academic motivation comprises of intrinsic and extrinsic motivation. For Shia (1998) intrinsic motivation comprises of two sub-sets; mastery and need for achievement while extrinsic motivation comprises of four sub-sets; power motivation, fear of failure, authority expectations and peer acceptance. This approach operationalises the hypothetical issue of what areas in a student's life that intrinsic and extrinsic motivation effects. The self-report inventory developed by Shia (1998) scores the two sub-sets for intrinsic motivation (mastery and need to achieve) and the four sub-sets for extrinsic motivation (power motivation, fear of failure, authority expectations and peer acceptance). Scores high on intrinsic statements and low on extrinsic statements indicate a student experiences high intrinsic motivation. On the other hand scores high on extrinsic statements and low on intrinsic statements indicate a student low in intrinsic motivation. For the purpose of this study Shia's (1998) model will be used to examine academic motivation.

Intrinsic Motivation

Intrinsic motivation is inherent in the task itself which arouses curiosity and incongruity with previous experience. The individual is motivated to work on the task until the incongruity is resolved (Shia, 1998; Whitehead, 2006). Intrinsically motivated behaviours are engaged in for the satisfaction derived from carrying out the activity. Individuals take part in the activity by choice and without the necessity of reward (Deci, Vallerand, Pelletier, and Ryan 1991; Shia, 1998). However, intrinsic motivation is sensitive to the overjustification effect which occurs when an unnecessary reward is offered before an enjoyable task for example a student who may enjoy studying statistics receives a reward from their parents to attend lectures. Such a reward could be seen to control people and as a consequence lead them to believe that they did for the reward and diminish their intrinsic motivation. (Myers, Abell, Kolstand and Fabio 2010).

Extrinsic Motivation

Extrinsic motivation occurs when a task is learnt for some external reward that is valued by the individual but is dependent upon the completion of the task in the future (Shia, 1998, Whitehead, 2006). Students can be extrinsically motivated by pressure from significant others for example parents or they can see the advantage of qualifications which in the long-term should reward them with a career. However, Skinner (1968) considered long-term rewards only influenced motivation if there were intermediary rewards building up to the long-term reward. In the case of students the success of course work and exams could be considered intermediate rewards.

Stress in relation to Intrinsic and Extrinsic Motivation

While stress and how it influences our behaviour has been widely researched the literature is sparse in relation to how stress relates to both intrinsic and extrinsic motivation. Nevertheless, the research on stress identifies the antecedents of stress as cognitive appraisals on whether the stressor is a treat or challenge (Lazarus and Folkman, 1984; Skinner and Brewer, 2002), likewise, these antecedents also appear within the domain of motivation. As an illustration of this conundrum, Shia (1998), as referred to previously, categorised intrinsic motivation as mastery and need to achieve with extrinsic motivation comprising of power motivation, fear of failure, authority expectations and peer acceptance; as can be seen these concepts would fall within either a treat or challenge. Gibbons, (2012) in his research on stress and positive psychology attempts to place intellectual motivation alongside stress. While intellectual motivation is not defined within the study it appears to share similar constructs as academic motivation and for the purpose of illustration within this current study it will be viewed as referring to academic motivation. Gibbons's (2012) examines intellectual motivation as an outcome of stress which once again raises the issue as to whether stress is a stimulus or a response.

The issue of whether stress is a stimulus or a response was raised by Putwain, (2007) who concluded that the lack of precision in the definition of stress and its referents was the challenge for researchers. This point of view may also help to explain a similar problem with academic motivation yet to date it appears that this discourse has not begun, leaving ambiguity on how stress relates to academic motivation. For this reason the relationship of stress and academic motivation will be explored within this current study.

Self-esteem

Self-esteem is a construct which has been widely researched in psychology (Baumeister, Campbell, Krueger, and Vohs, 2003; Watsons Suls Haig 2002) and a term which has been popularised within the media. Self-esteem is literally defined by how much value people place on themselves. It is the evaluative component of self-knowledge. “High self-esteem refers to a highly favourable global evaluation of the self. Low self-esteem, by definition, refers to an unfavourable definition of the self” (Baumeister et al. 2003). In studies relating self-esteem to learning findings indicate that in academic life students with high self-esteem are successful at overcoming failures and go on to succeed while students with low self-esteem tend to accept failure on one task which can transfer a negative influence on subsequent tasks causing under-performance (Dodgson and Wood, 1998; Brown and Dutton, 1995). However, Baumeister et al. (2003) contend that while there are modest correlations between self-esteem and school performance this does not necessarily mean that high self-esteem leads to good performance. An alternative explanation might be that good performance boosts self-esteem (Baumeister et al. 2003). Further explanations have been proposed regarding levels of self-esteem. Theorising that implicit cognition may also influence self-esteem, Greenwald and Banaji, (1995) propose that attitudes towards self and self-evaluation occur unintentionally and often outside awareness, in other words implicit self-esteem.

In further explaining this concept Baccus, Baldwin and Packer (2004) describe implicit self-esteem as “an automatic attitude toward the self, which influences subsequent evaluations of the self and self-relevant objects in the environment”. Support for the premise that attitudes, such as self-esteem, correlate with behaviour can also be found in the work of Ajzen, (1991, 2005) and indeed Greenwald and Banajii (1995) acknowledge the advances made in this regard to resolve the problem of predictive validity on the conditions under

which attitudes strongly correlate with behaviour. Interestingly, Baccus et al. (2004) are not only proponents of the concept of implicit self-esteem but they further propose that implicit self-esteem can be increased through classical conditioning. Their work is noteworthy as the simple conditioning paradigm as applied appears effective in modifying the individual's unconscious response to self which in turn may imply that self-esteem is not set in stone but can be manipulated to the advantage of the individual.

Academic Stress in relation to Self-esteem

Stress and self-esteem are frequently studied among students. Research findings are conflicting regarding the relationship of stress and self-esteem with some reporting an inverse relationship (Hudd et al. 2000) and others refuting the existence of a significant relationship (Caruthers, 2009). Although Caruthers (2009) found no significant relationship between stress and self-esteem the low number of participants (n=15) weakens the generalisability of the study. Some other researchers claim that as the number of stressful life events increase there is a decrease in self-esteem (Youngs, Rathge, Mullis and Mullis, 1990). According to Youngs et al. (1990) research into adolescence stress and its effect on self-esteem the researchers found that stress caused by negative events had a greater impact on self-esteem while positive events had only slight effects. It is worth noting that the participants (n=2,154) were adolescents and it is possible that the coping mechanisms to deal effectively with negative affect of stress were weak; as according to Charles (2010) age brings both strength and vulnerability when dealing with stress.

Stress and Student Expectations on Grades

Research into student expectations indicate that students are overly optimistic at the beginning of semester regarding their final year grades (Andrews, Swanson and Kugler, 2007). Andrews et al. (2007) contend that being overly optimistic with regards to grade

expectations can be detrimental as students may become discouraged or even drop out, if after setting their goal too high, their actual grades fall below their expectations. Guillaume and Khackikan, 2011 suggest that students expectations on achieving high grades do not necessarily correlate with their performance. This view is also supported by Maskey (2012) who in addition argues that the extent to which grade results fall short of expectations could be as high as 76% (Maskey, 2012). As an educator Maskey (2012) proposes that the “grade gap” due to this false optimism on achievement should be addressed by institutions in the early days at college. Some researchers suggest that students experience stress due to unrealistic expectations or outcomes falling short of expectations (Kreg, 2013; Kanter Agliata and Renk, 2009). However, how stress relates the formation of these expectations is unclear. In this current study students were asked about their expectations for their average result after their first year in college. To add to the research in this evolving domain the current study will examine stress in relation to students’ expectations.

Aim of Study

In extensive research, no previous study on stress in relation to gender, age, academic motivation, student expectations and self-esteem and the interrelationships of these variables amongst the student population has been found. Additionally, stress in relation to the age of students and mode of study has previously been neglected within the student population. This study aims to produce findings in an Irish student population to advance existent international findings regarding the relationship of stress to the previously stated demographic variables, in particular, age and mode of study, and the psychosocial variables of academic motivation, student expectations, self-esteem. Within this study academic motivation is considered to be a combination of intrinsic motivation and extrinsic motivation (Shia, 1998).

It is accepted that third level students, whether full-time or part-time, are exposed to many experiences relating to their academic life. For some these experiences can be

perceived as a treat while for others the same experiences can be perceived as a challenge resulting in stress. Due to the changing nature of the student population it is important for educators to be aware of what enhances or impedes the student's life in order that he/she attains their full potential. This current study seeks to bring up-to-date findings to this debate and consequently addresses the following research questions:

- Is there a relationship between stress and either gender or age as suggested by the literature and if so, is it significant?
- Is there a relationship between stress and the age of full-time/part-time students and if so, is it significant?
- Is there a relationship between stress and the independent psychosocial variables of academic motivation, student expectations and self-esteem and if so, is it significant?
- When the relationship of stress is examined in relation to all the stated independent variables which variables will most likely be impacted by stress?

A key object of this study is to examine stress and how it relates to aspects of the student population. As there is very little research on stress in relation to all the variables combined the following hypotheses (at .05 level) were formulated for testing:

Hypothesis 1: It is hypothesised that there will be a significant difference between stress and gender among students.

Hypothesis 2: It is hypothesised that there will be a significant correlation between stress and age among students.

Hypothesis 3: It is hypothesised that there will be a significant correlation between stress and age of part-time and full-time students.

Hypothesis 4: It is hypothesised that there will be a significant negative correlation between stress and intrinsic motivation among students.

Hypothesis 5: It is hypothesised that there will be a significant negative correlation between stress and extrinsic motivation among students.

Hypothesis 6: It is hypothesised that there will be a significant negative correlation between stress and self-esteem among students.

Hypothesis 7: It is hypothesised that there will be a significant correlation between stress and student expectations on exam grades among students.

Hypothesis 8: It is hypothesised that there will be a significant correlation between stress and gender, age, intrinsic motivation, extrinsic motivation, self-esteem, student expectations among students.

Method

Participants

In total 436 participants took part in this study. The participants were drawn from cohorts of Level 1 undergraduate degree students at Dublin Business School (DBS) enrolled between 2010 and 2013 inclusive. Both full-time (n=251) and part-time (n=185) students were included in the study. Data were collected online from the student cohorts at one point each year two weeks into the semester. Participants were selected through convenience non-probability sampling. Of these participants there were 31.4% (n=137) male and 68.6% (n=299) female. The age range for male participants was 39 the mean age was 26.73 (M=26.73, S.D.= 9.17) and the age range for female participants was 43 and the mean age of was 25.14 (M= 25.14, S.D.= 8.03). The age range for full-time students was 34 with the mean age 21.24 (M=21.24, S.D. = 5.45), the mean range for part-time students was 42 with the mean age 31.73 (M=31.73, S.D. = 8.15). Full-time students were in Year 1, however, due to the nature of part-time education the part-time participants were in Year 2. Of the 436 students who completed the online questionnaires no cases were excluded due to missing data. Participation was voluntary and there was no incentive to take part in the study.

Design

The study was between groups. cross-sectional, quantative, correlation study using pre-existing data collected as part of an ongoing study. The use of the pre-existing data was approved by Ethics Review Committee, DBS. The data was gathered through participants completing an online self-report questionnaire which examined demographic and psychological factors. The demographic factors extracted as predictor variables from this pre-existing data for the current study were gender, age and mode of study. The

psychological factors extracted as predictor variables from this pre-existing data for the current study were intrinsic motivation, extrinsic motivation, student expectations and self-esteem. General stress and academic stress were extracted as criterion variables. The predictor variables of intrinsic motivation and extrinsic motivation combined as academic motivation as interpreted from Shia, 1998. The criterion variables and the relationship to each predictor variable were explored. In doing so the criterion variable of stress was further divided into general stress and academic stress which were examined in two multiple regressions against the predictor variables.. The interrelationship of stress to the predictor variables was also explored.

Materials

Participants had access to individual computers within computer laboratory. The online questionnaire, facilitated through kwiksurveys.com, requested participants to self-report on demographic factors; student number, level of course, mode of study, previous university education, gender and age. Also incorporated into the questionnaire were items relating to psychological factors. These items were intrinsic and extrinsic motivation, general stress, academic stress, student expectations and self-esteem.

Full Student Questionnaire (Appendix 1)

The following measures were incorporated in the above questionnaire.

Academic Intrinsic and Extrinsic Motivation Questionnaire (Shia, 1998)

The Academic Intrinsic and Extrinsic Motivation Questionnaire (**Appendix 2**) was utilised to evaluate participants' self-reports on academic intrinsic and extrinsic motivation on academic tasks. The questionnaire consists of 60 items which are sub-divided into two intrinsic sub-sets and four extrinsic sub-sets. Intrinsic motivational sub-sets are: 1. Mastery (10 items), 2.

The need for achievement (10 items). Extrinsic motivational sub-sets are: 1. Power motivation (10 items), 2. Fear of failure (10 items), 3. Authority expectations (9 items), 4. Peer acceptance (11 items).

Each set of items associated with the relevant factor was scored on a 7-point Likert scale where participants were asked to choose a response that best described them from strongly disagree to strongly agree (1 = strongly disagree and 7 = strongly agree). Each set was summed, after reversed scoring of relevant items, with higher scores indicating greater levels of that type of intrinsic or extrinsic motivation. The range of possible scores for intrinsic motivation is 13-91 and the range for extrinsic motivation is 11-77. Good internal consistency reliability ($\alpha=.77$) and construct validity was found for this questionnaire (Shia, 1998).

Academic Stressors in Academic Work Questionnaire (Angolla & Ongori, 2009)

The Academic Stressors in Academic Work Questionnaire (**Appendix 3**) was utilised to elicit the self-report sources of stress for students while on campus. This questionnaire consists of 13 items relating to academic stressors including poor performance, workload, poor facilities, competition, parents' expectations, poor performance and conflict with fellow students and lecturers. All the items are scored on 5-point Likert scale (strongly disagree to strongly agree) and summed. The range of possible scores is 13-58 where higher scores indicate greater levels of academic stress. Good internal consistence reliability ($\alpha=.81$) and content validity have been reported for the scale (Agolla & Ongori, 2009).

Perceived Stress Scale (Cohen, Kamarck & Mermelstein, (1983)

The Perceived Stress Scale Questionnaire (PSS) (**Appendix 4**) was utilised to measure the self-report perception of stress (general). This questionnaire consists of 14 items

relating to the degree to which situations in one's life are appraised as stressful in the last month. Items relate to situations perceived as unpredictable, uncontrollable and overload. Items are scored on a 5-point Likert scale on a 0 to 4 basis 0 meaning "you never do this" up to a 4 meaning "you would very often do this", and summed after the relevant reverse scoring has been carried out. The overall scores can range from 0 to 56, the higher the score on the scale the higher the perceived stress. The Cronbach's alpha assessed internal validity is $\alpha = .75$ (Cohen et al., 1983).

Self-Esteem Scale (Rosenberg, 1965)

The Rosenberg Self-Esteem Scale (RSES) (**Appendix 5**) is one of the most widely used unidimensional measure for global self-esteem in the social sciences. The questionnaire consists of 10 items measured on a 4-point Likert scale – from "1 = strongly agree" to "4 = strongly disagree". Items for example include "At times, I think I am no good at all"; "I take a positive attitude toward myself". After reversing of relevant scores, the scores are summed. Possible self-esteem scores range from 0-30. Individuals who score at 22 or over are considered to have a high self-esteem. Those who score at 21 or less are considered to have a low self-esteem. The scale's internal consistency is high $\alpha = .89$.

Procedure

The self-report questionnaire was completed by participants online during lecture time when fifteen minutes were set aside to allow for completion. Consent to participate was given by participants. Participants were told that the survey related to students expectations and was part of ongoing research. Participants were advised that participation was voluntary and they could withdraw at any time. Participants were informed that all data collected from

the survey would be treated sensitively and no identifiers (i.e. student number) would be used in-class or in any other publications. This information was also included at the beginning of the online questionnaire. The lecturer remained in the room while participants completed the survey. Following completion of survey participants were debriefed and advised to contact the lecturer if they had any problems regarding the survey.

Results

The aim of the study was to establish if there was a relationship between stress and the predictor variables gender, age, intrinsic motivation, extrinsic motivation, student expectations and self-esteem. In addition the relationship of stress to age of full-time and part-time students was analysed. The data was analysed by using SPSS ver. 21. Descriptive statistics were drawn to analyse the characteristics of the data and inferential statistics were drawn to analyse the data for assessing relationships and significance. Two multiple regressions were conducted using stress and academic stress as criterion variables. In these multiple regressions the predictor variables of gender, age, intrinsic motivation, extrinsic motivation student expectations and self-esteem were used against each criterion variable to assess the interrelationships. A simple linear regression was used to examine the relationship between stress and age of full-time and part-time students.

Data Analysis

The total number of participants was 436. Of these 31.4% (n=137) male and 68.6% (n=299) female. The age range for male participants was 39 the mean age was 26.73 (M=26.73, S.D.= 9.17) and the age range for female participants was 43 and the mean age of was 25.14 (M= 25.14, S.D.= 8.03). The age range for full-time students was 34 with the mean age 21.24 (M=21.24, S.D. = 5.45), the mean range for part-time students was 42 with the mean age 31.73 (M=31.73, S.D. = 8.15) see **Table 1**.

Table 1 *Descriptive Statistics for Age*

Variable	Mean	Standard Deviation
Age Overall	25.74	8.46
Age Male	26.73	9.17
Age Female	25.14	8.02
Age Full-time students	21.24	5.45
Age Part-time students	31.73	8.15

Table 2 *Descriptive Statistics for Psychological Measures*

Variables	Mean	Standard Deviation
Stress	39.27	7.03
Academic Stress	33.95	7.79
Need for achievement (intrinsic motivation)	50.59	5.85
Mastery Goals (intrinsic motivation)	52.96	5.94
Power Motivation (extrinsic motivation)	37.02	6.42
Fear of failure (extrinsic motivation)	42.29	8.82
Authority expectations (extrinsic motivation)	38.16	6.78
Peer acceptance (extrinsic motivation)	37.87	7.02
What do you expect your average result after your first year in college. Give a specific percentage score between 0 and 100.	70.58	10.15
Self-esteem	37.30	6.93

Stress had a mean of 39.27 ($M = 39.27$, $S.D. = 7.03$), academic stress had a mean of 33.95 ($M = 33.95$, $S.D. = 7.79$), need for achievement had a mean of 50.59 ($M = 50.59$, $S.D. = 5.85$), mastery of goals had a mean of 52.96 ($M = 52.96$, $S.D. = 5.94$), power motivation had a means of 37.02 ($M = 37.02$, $S.D. = 6.42$), fear of failure had a mean of 42.29 ($M = 42.29$, $S.D. = 8.82$), authority expectations had a mean of 38.16 ($M = 38.16$, $S.D. = 6.78$), peer acceptance had a mean of 37.87 ($M = 37.87$, $S.D. = 7.02$) student expectation had a mean of 70.58 ($M = 70.58$, $S.D. = 10.15$) and self-esteem had a mean of 37.30 ($M = 37.30$, $S.D. = 6.93$) see **Table 2**.

Multiple regression was used to test whether age, intrinsic motivation, extrinsic motivation, student expectations and self-esteem were predictors of stress. The results of the regression indicated that the predictors explained 36% of the variance ($R^2 = .36$, $F(10,408) = 35.29$, $p < .001$). It was found that age significantly predicted stress ($\beta = -.126$, $p = .003$ 95% CI = $-.173 - .036$), need for achievement significantly predicted stress ($\beta = .208$, $p = .001$, 95% CI = $.137 - .364$) self-esteem significantly predicted stress ($\beta = -.521$, $p = .001$, 95% CI = $-.624 - -.423$).

Multiple regression was also used to test whether age, intrinsic motivation, extrinsic motivation, student expectations and self-esteem were predictors of academic stress. The results of the regression indicated that the predictors explained 44% of the variance ($R^2 = .44$, $F(10,408) = 9.95$, $p < .001$). It was found that need for achievement significantly predicted academic stress ($\beta = -.133$, $p = .015$ 95% CI = $.034 - .320$), as did fear of failure ($\beta = .194$, $p = .002$. 95% CI = $.063 - .279$) and authority expectations ($\beta = .187$, $p = .001$ 95% CI = $.089 - .341$), self-esteem also significantly predicted academic stress ($\beta = -.129$, $p = .018$ 95% CI = $-.266 - -.025$).

To determine if there were any significant differences in stress and age of full-time and part-time students a simple regression was conducted. The sample data file was split by full-time and part-time so each group could be analysed for stress in relation to age.

Using simple regression it was found that age significantly predicted stress for full-time students ($F(1,247) = 5.77, p = .017, R^2 = .02$) (age, $\beta = -.151, p < .001$). Confidence limits were narrow, showing that the population slope is between $-.352 - -.035$. The regression also found that age significantly predicted stress for part-time students ($F(1,177) = 13.00, p < .001, R^2 = .06$) (age, $\beta = -.262, p < .001$). Confidence limits were narrow, showing that the population slope is between $-.354 - -.103$).

To determine if there were any significant academic stress and age of full-time and part-time student a simple regression was conducted. The sample data file was split by full-time and part-time so each group could be analysed for academic stress in relation to age .

Using simple regression it was found that age significantly predicted academic stress for full-time students ($F(1,147) = 6.29, p = .004, R^2 = .02$) (age, $\beta = -.180, p = .004$). Confidence limits were narrow, showing that the population slope is between $-.480 - -.90$).

To determine if there were any significance difference between male and female in relation to stress an independent t test was conducted. The sample data was split by gender. The results supported the Hypothesis 1 that there would be a significant difference between male and female. Males ($M = 38.40, S.D. = .64$) were found to have a lower level of stress than females ($M = 38.40, S.D. = .39$). The 95% confidence limits shows that the population mean difference of the variables lies somewhere between 37.14 and 40.35. An independent samples t-test found that there was a statistically significant difference between stress level of males and females ($t(136,298) = 59.99, p, .001$).

The results supported Hypothesis 2 that there would be significant correlation between stress and age among students ($\beta = -.126$, $p = .003$) this was a weak negative correlation.

The results supported Hypothesis 3 that there would be a significant correlation between stress and age of full-time ($\beta = -.151$, $p = .017$) this was a weak negative correlation and part-time ($\beta = -.262$, $p = .001$) students, this correlation was a weak negative correlation. Hypothesis 4 that there would be a significant negative correlation between stress and intrinsic motivation was only partially supported in that need for achievement ($\beta = .208$, $p < .001$) had a weak positive correlation with stress while mastery of goals ($\beta = -.127$, $p = .009$) had a weak negative correlation. Additionally, need for achievement ($\beta = .133$, $p = .015$) had a weak positive correlation with academic stress.

Hypothesis 5 that there would be a significant negative correlation between stress and extrinsic motivation was not supported. However, fear of failure ($\beta = .194$, $p = .002$) and authority expectations ($\beta = .187$, $p = .001$) had significant weak positive correlations with academic stress.

The results supported Hypothesis 6 that there would be a significant negative correlation between stress and self-esteem ($\beta = -.521$, $p < .001$), the correlation was a strong negative correlation. Additionally, academic stress had a weak negative correlation with self-esteem ($\beta = .018$).

Hypothesis 7 that there would be significant correlation between stress and student expectations was not supported.

Hypothesis 8 that there would be a significant correlation between stress and gender, age, intrinsic motivation, extrinsic motivation, self-esteem, student expectations was supported ($F(10.408)=25.08, p < .001$). Additionally, academic stress had a significant correlation between gender, age, intrinsic motivation, extrinsic motivation, self-esteem, student expectations was supported ($F(10.408) = 9.95, p < .001$).

Discussion

The study examined the relationship between stress (general stress and academic stress) to gender, age, academic motivation, student expectations and self-esteem among students. It was shown that females had a higher level of stress than males which was in line with previous studies (Day and Linvingstone, 2003; Kessler, 1984). There was a significant negative result in relation to general stress and age however, the relationship was weak. This finding may point to the SAVI theory (Charles, 2010) as a possible explanation which indicates that there are both strength and vulnerability towards stress throughout the aging process.

The complex finding in relation to stress and intrinsic motivation, found that students had a weak positive orientation towards need for achievement while mastery goals had a weak negative correlation. Coupled with the findings when looking at academic stress in relation to intrinsic motivation where there was no significant correlation with mastery of goals but there was a weak negative correlation with need for achievement; this may indicate that students can sometimes perceive need for achievement as a challenge. Findings were also mixed in relation to extrinsic motivation. While the hypothesis that there would be a significant negative correlation between stress and extrinsic motivation was not supported; within academic stress the two factors of fear of failure and authority expectations had a weak positive correlation with stress. These findings may indicate that students perceive failure as not obtaining the long-term reward of a career as a challenge. The finding for authority expectations could be construed as students working with, rather than working against, significant others.

The findings for stress and self-esteem were in line with previous research indicating that there is a negative relationship between stress and self-esteem (Dodgson and Wood, 1998; Brown and Dutton, 1995). While the findings in this current study for the strength of the correlation of academic stress and self-esteem showed a weaker relationship than that of general stress, nonetheless, educators would do well to consider the role implicit self-esteem (Greenwald and Banajii, 1995; Baccus et al. 2004) and perhaps consider putting in place measures to help students improve their self-esteem.

Limitations of current study

As with most psychological studies this current study has its limitations. The study was taken to look at stress and its relationship to a range of demographic and psychological aspects. The participants were drawn from undergraduates attending a private fee paying international college. The socio-economic background of participants may not mirror that of other institutions and therefore may limit the generalisation of the current study. When looking at stress the socio-economic factor may be significant, as culture and class backgrounds could influence levels of stress (Misra and Castillo, 2004). As the data are only a snap shot in time it is possible that how students experience stress changes as they mature throughout the college years (Rothotham, 2008), this current study, therefore, could have benefitted from a longitudinal design. However, the practicalities of the this current research project limited the design.

Conclusion

The aim of this study was to look at the relationship of stress to gender, age, academic motivation, student expectations and self-esteem among students. In reviewing the literature it was found that stress does have a relationship with the above variables when tested on their

own or together. This relationship can be either positive or negative but in the main most research relates to the negative aspects of stress (Baumeister et al. 2003). However, not all the variables have been combined as was done in this current study and in doing so a wider perspective on stress has been obtained. Future research would benefit from examining the referents of stress as suggested by Putwain (2007), furthermore, a more qualitative approach to the experience of stress would add to the richness of findings and would help to either support or deny findings from quantitative research (Robotham, 2008). Previous research has found that culture and financial pressure (Shafer, 1996; Misra and Castillo, 2004) effect stress. Future research when looking at a student population such as the population in the current study would do well to include nationality and socio-economic items in their data. Finally, while this current study has added to international research in the area of stress further research would benefit from a greater understanding of the individual's stress experience through qualitative data and stress changes across a sustained period of time by the use of longitudinal designed research.

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Appendices

Appendix 1 *Student Questionnaire*

Student expectations survey

kwiksurveys

All research data gathered from this survey will be treated sensitively and no identifiers (i.e. student number) will be used in-class or in any other publications. Please feel free to address any questions regarding this research to Dr. Garry Prentice, Dublin Business School.

Please answer the following questions by choosing the options provided. In order to keep track of who completes the survey you must type in you student number in the space provided. As indicated above, the student number will not be included in any in-class practicals or other publications using the data. Thank you for your assistance in completing this survey.

1) Student Number:	

2) What level of course are you undertaking?	
Undergraduate Degree	
Postgraduate Degree	

3) Is the course you are registered for Full-time or Part-time?	
Full-time	
Part-time	

4) Have you undertaken any other university course(s) in the past? Please tick the relevant box(es) below.	
None	
Higher Diploma	
Undergraduate Degree	
Postgraduate Certificate	
Postgraduate Diploma	
Other (Please Specify):	

5) Gender	
Male	
Female	

6) Age

7) During this academic year at university, approximately how many hours a week do you plan to work in paid employment?	
(0) none; I won't have a job	
(1) 1 - 10 hours a week	
(2) 11 - 20 hours	
(3) 21 - 30 hours	
(4) 31 - 40 hours	
(5) more than 40 hours	

8) Approximately how much of your university expenses this year will be provided by a parents, family or significant other?	
(1) None or very little	
(2) Less than half	
(3) More than half	
(4) All or nearly all	

9) During the time this academic year at university, approximately <u>HOW MANY HOURS A WEEK</u> do you expect to spend outside of class on activities related to your academic program, such as studying, writing, reading, lab work, rehearsing, etc.?	
(1) 5 or fewer hours a week	
(2) 6-10 hours a week	
(3) 11-15 hours a week	
(4) 16-20 hours a week	
(5) 21-25 hours a week	
(6) 26-30 hours a week	
(7) more than 30 hours a week	

10) Read each question carefully and choose the number that best describes you. There are no right or wrong answers.							
	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6) Agree	7 (7)

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree		Strongly Agree
1. I want to learn everything I need to learn.(Need)							
2. Finishing an exam first leaves me afraid that I did something wrong or forgot something.(Fear)							
3. No matter how much I like or dislike a class, I still try to learn from it.(Mas)							
4. When faced with a difficult test, I expect to fail before I expect to do well.(Fear)							
5. I sign up for the same classes that my friends sign up for.(Peer)							
6. I feel that challenging assignments can be great learning experiences.(Mas)							
7. College helps me to gain valuable knowledge.(Mas)							
8. My quality of performance is dependent on my grade in the class.grade in the class.(Mas)-R							
9. Academics are the last thing that I want to talk about when hanging out with my friends. (Peer)-R							
10. When I receive a low grade on an exam, I try to hide it from others.(Peer)							

11) Read each question carefully and choose the number that best describes you. There are no right or wrong answers.

	1 (1) Strongly Disagree	2 (2) Disagree	3 (3) Slightly Disagree	4 (4) Neutral	5 (5) Slightly Agree	6 (6) Agree	7 (7) Strongly Agree
11. I feel good about myself when others do not understand material that is clear to me.(Pow)							
12. I learn simply for the sake of learning.(Mas)							

13. When I have to make an academic choice, I go to my parents for advice.(Auth)							
14. I prefer difficult tasks as opposed to moderate tasks. (Pow)-R							
15. I never boast about my grades.(Pow)-R							
16. I am not one of the smartest students in my class.(Pow)-R							
17. I am satisfied with an average grade, as long as I learn from my mistakes.(Pow)-R							
18. I sign up to take the easiest teacher so that my grades will be better.(Pow)							
19. I feel helpless about school after receiving a few bad grades.(Pow)							
20. I have no preference to impress "power figures".(Auth)-R							

12) Read each question carefully and choose the number that best describes you. There are no right or wrong answers.

	1 (1) Strongly Disagree	2 (2) Disagree	3 (3) Slightly Disagree	4 (4) Neutral	5 (5) Slightly Agree	6 (6) Agree	7 (7) Strongly Agree
21. Finishing an exam quickly makes me feel good.(Pow)							
22. I work best in a group environment. (Need)-R							
23. I do all that I can to make my assignments turn out perfectly.(Need)							
24. I feel more accepted by others when I receive a good grade on a test.(Peer)							
25. I sign up for the classes that will prepare me for the future.(Need)							
26. I have high							

expectations of myself.(Need)							
27. I see myself as well-informed in many academic areas.(Mas)							
28. I get frustrated when I find out that I did not need to study as much as I did for a test.(Need)							
29. Sometimes I do more than I have to for an assignment to help me understand the material better. (Mas)							
30. I find my ability to be higher than most of my peers. (Pow)							

13) Read each question carefully and choose the number that best describes you. There are no right or wrong answers.

	1 (1) Strongly	2 (2) Disagree	3 (3) Slightly	4 (4) Neutral	5 (5) Slightly	6 (6) Agree	7 (7) Strongly
31. I enjoy learning about various subjects.(Mas)							
32. Being in college gives me the opportunity to prove to my family that I can achieve something.(Auth)							
33. I wait till the last minute to complete my assignments. (Need)-R							
34. I would only sign up for a club if it helped me to reach a long-term goal.(Need)							
35. I feel ashamed when I receive a low grade.(Fear)							
36. I have no problem telling my parents when I receive a bad grade on an exam.(Auth)- R							
37. I feel that my ability is sufficient in the classroom. (Fear)-R							
38. Even when I have studied for hours, I don't							

feel that I have studied enough.(Fear)							
39. I get nervous when my professor begins to hand back tests.(Fear)							
40. I enjoy challenging tasks.(Fear)-R							

14) Read each question carefully and choose the number that best describes you. There are no right or wrong answers.

	1 (1) Strongly Disagree	2 (2) Disagree	3 (3) Slightly Disagree	4 (4) Neutral	5 (5) Slightly Agree	6 (6) Agree	7 (7) Strongly Agree
41. I get frightened that I will not remember anything when I take a test. (Fear)							
42. In my studies, I set short term goals.(Fear)							
43. I have no doubts that I will achieve my academic goals. (Fear)-R							
44. My academic interests are not influenced by anyone but myself. (Auth)-R							
45. It is important to complete assignments the way that my professor would want them completed.(Auth)							
46. It does not bother me when others perform better than I on a test.(Pow)-R							
47. When I do poorly on an exam, I feel that I let my professor down.(Auth)							
48. I feel good about myself when I finish a difficult project.(Need)							
49. I like to spend time reading about things that interest me.(Mas)							
50. I try to live up to what my professor expects out of me in the classroom.(Auth)							

15) Read each question carefully and choose the number that best describes you. There are no right or wrong answers.							
	1 (1) Strongly Disagree	2 (2) Disagree	3 (3) Slightly Disagree	4 (4) Neutral	5 (5) Slightly Agree	6 (6) Agree	7 (7) Strongly Agree
51. I try to do my best on every assignment.(Mas)							
52. I like to be one of the most recognized students in the classroom.(Peer)							
53. I sign up for the same classes that my friends sign up for.(Peer)							
54. I have the same attitude toward college as my friends.(Peer)							
55. I study best when I am alone.(Peer)							
56. I still want to go to class even when my friends don't go.(Peer)-R							
57. I feel that the smarter I am, the more accepted I will be by other students.(Peer)							
58. My grade point average is no where near the grade point average as my friends.(Peer)-R							
59. I feel that I should be recognized when I demonstrate my abilities in the classroom.(Auth)							
60. I set high goals for myself.(Need)							

16) For me to perform well at the end of semester (exams & assessments) at my university/college would be:	
(1) Extremely difficult	
(2) Difficult	
(3) Slightly difficult	
(4) Neither easy or difficult	
(5) Slightly easy	
(6) Easy	

(7) Extremely easy	
--------------------	--

17) **Most people who are important to me _____ perform well at the end of semester (exams & assessments) at my university/college** (fill in the blank using one of the statements below that best describes how you feel)

think that I definitely should	
think that I should	
think that I maybe should	
do not care either way whether I should or not	
think that I maybe should not	
think that I should not	
think that I definitely should not	

18) **For me to perform well at the end of semester (exams & assessments) at my university/college would be:**

(1) Extremely good	
(2) Good	
(3) Slightly good	
(4) Neither good or bad	
(5) Slightly bad	
(6) Bad	
(7) Extremely bad	

19) **For me to plan to perform well at the end of semester (exams & assessments) at my university/college would be:**

(1) Extremely likely	
(2) Likely	
(3) Slightly likely	
(4) Neither likely or unlikely	
(5) Slightly unlikely	
(6) Unlikely	
(7) Extremely unlikely	

20) **Whether or not I perform well at the end of semester (exams & assessments) at my university/college is completely up to me:**

(1) Strongly disagree	
(2) Disagree	

(3) Slightly disagree	
(4) Neither agree or disagree	
(5) Slightly agree	
(6) Agree	
(7) Strongly agree	

21) Most people with whom I am acquainted would want me to perform well at the end of semester (exams & assessments) in my university/college:

(1) Definitely true	
(2) True	
(3) Slightly true	
(4) Neither true or false	
(5) Slightly false	
(6) False	
(7) Definitely false	

22) For me to perform well at the end of semester (exams & assessments) at my university/college is:

(1) Extremely valuable	
(2) Valuable	
(3) Slightly valuable	
(4) Neither valuable or worthless	
(5) Slightly worthless	
(6) Worthless	
(7) Extremely worthless	

23) I am confident that I will perform well at the end of semester (exams & assessments) at my university/college:

(1) Definitely true	
(2) True	
(3) Slightly true	
(4) Neither true or false	
(5) Slightly false	
(6) False	
(7) Definitely false	

24) It is expected of me that I should perform well at the end of semester (exams & assessments) at my university/college:	
(1) Definitely true	
(2) True	
(3) Slightly true	
(4) Neither true or false	
(5) Slightly false	
(6) False	
(7) Definitely false	

25) For me to perform well at the end of semester (exams & assessments) at my university/college is:	
(1) Totally achievable	
(2) Achievable	
(3) Maybe achievable	
(4) Uncertain	
(5) Maybe unachievable	
(6) Unachievable	
(7) Totally unachievable	

26) I _____ make an effort to perform well at the end of semester (exams & assessments) at my university/college (fill in the blank using one of the statements below that best describes how you feel)	
(1) definitely will	
(2) will	
(3) might	
(4) might or might not	
(5) might not	
(6) will not	
(7) definitely will not	

27) For me to perform well at the end of semester (exams & assessments) at my university/college would be:	
(1) Completely impossible	
(2) Impossible	
(3) Maybe impossible	

(4) Uncertain	
(5) Maybe possible	
(6) Possible	
(7) Completely possible	

28) I expect that a university lecturer should:

	1 (1) Very Unimportant	2 (2) Unimportant	3 (3) Neutral	4 (4) Important	5 (5) Very Important
1. Be expert in the subject matter/content area being taught					
2. Show an interest in individual learners					
3. Structure the learning process					
4. Show enthusiasm for the subject matter being delivered					
5. Show warmth and humour					
6. Keeps learners interested					
7. Be credible and believable					
8. Set appropriate and relevant assessment					
9. Grades assessment fairly and according to set criteria					
10. Marks assignments in an appropriate timeframe					
11. Provide quality and timely feedback					
12. Provide critical and sometimes negative feedback					
13. Be flexible with students					
14. Exercise control of learning situations					
15. Be an effective communicator (both verbal and non-verbal)					

29) I expect that a university lecturer should:

	1 (1) Very Unimportant	2 (2) Unimportant	3 (3) Neutral	4 (4) Important	5 (5) Very Important
16. Be responsive to learners					
17. Support learners where necessary					
18. Be an effective record keeper and administrator					
19. Use relevant examples from own experience					

20. Be able to link theory to workplace practice					
21. Be professionally dressed					
22. Be friendly and approachable					
23. Use an effective presentation style					
24. Have an awareness of time frames					
25. Know when to finish the session (even when early)					
26. Know when to encourage the learners to be autonomous					
27. Provides opportunities for questions and/or classroom discussion					
28. Gives clear instruction					
29. Provides linkages between topics and subject					
30. Responds to needs and expectations of students					
31. Be clear and consistent with module learning outcomes					

30) The list below are possible sources of stress while you attend university. Indicate how strongly you agree or disagree with the idea that they would be a major sources of stress for you.

	1 (1) Strongly Disagree	2 (2) Disagree	3 (3) Neutral	4 (4) Agree	5 (5) Strongly Agree
Continuous poor performance					
Unfair treatment by boyfriend/girlfriend					
Workload					
Inadequate resources to do assignments					
Uncertainty about getting job after graduating					
Competition with fellow students					
Overcrowded lecture halls					
High expectations from my parents					
Not attending lectures					
Conflict with my fellow students					
Poor performances					
Low motivation					
Conflict with my lecturers					

Lack of available learning resources to support modules					
---	--	--	--	--	--

31) Based on the choices in the list above in question 30, which stressor would give you the most stress.

32) Read each question carefully and choose the number that best describes you. There are no right or wrong answers.

	1 (1) Strongly Disagree	2 (2) Disagree	3 (3) Neutral	4 (4) Agree	5 (5) Strongly Agree
1. I feel that I am a person of worth, at least on an equal plane with others.					
2. I feel that I have a number of good qualities.					
3. All in all, I am inclined to feel that I am a failure.					
4. I am able to do things as well as most other people.					
5. I feel I do not have much to be proud of.					
6. I take a positive attitude toward myself.					
7. On the whole, I am satisfied with myself.					
8. I wish I could have more respect for myself.					
9. I certainly feel useless at times.					
10. At times I think I am no good at all.					

33) 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 by circling how often you felt or thought a certain way.

	1 (1) Never	2 (2) Almost never	3 (3) Sometimes	4 (4) Fairly often	5 (5) Very often
In the last month, how often have you been upset because of something that happened unexpectedly?					
In the last month, how often have you felt that you were unable to control the important things in life?					
In the last month, how often have you felt nervous and stressed?					
In the last month, how often have you dealt with irritating life hassles?					
In the last month, how often have you felt that you were effectively coping with important					

changes that were occurring in your life?					
In the last month, how often have you felt confident about your ability to handle your personal problems?					
In the last month, how often have you felt that things were going your way?					
In the last month, how often have you found that you could not cope with all the things you had to do?					
In the last month, how often have you been able to control irritations in your life?					
In the last month, how often have you felt that you were on top of things?					
In the last month, how often have you been angered because of things that happened that were outside of your control?					
In the last month, how often have you found yourself thinking about things that you have to accomplish?					
In the last month, how often have you been able to control the way you spend your time?					
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?					

34) If a student emailed a lecturer at 9am in relation to support and/or guidance, what would be a reasonable amount of time for the lecturer to reply to the email?

(1) Within the hour	
(2) 1 - 3 hours	
(3) 4 - 6 hours	
(4) Within the day	
(5) 1 day later	
(6) 2 days later	
(7) 3 days later	
(8) Within 5 days	

35) After a piece of coursework has been submitted (for example, a 2,000 to 3,000 word essay), what would be a reasonable time for the lecturer to provide feedback to the whole class?

	1 1 day	2 2 - 3 days	3 4 - 6 days	4 Within 1 week	5 Within 2 weeks	6 Within the month	7 Within 2 months
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A class of 30 students							
A class of 60 students							
A class of 100 students							

36) What is a reasonable amount of feedback a lecturer should provide for a typical 2,000 - 3,000 word essay (outside of general comments regarding spelling and grammar)?

(1) Individual marks only

(2) Individual marks and general comments to the whole class

(3) Individual marks and general comments at the end of the essay (3 or 4 lines)

(4) Individual marks and specific issues highlighted within the essay

(5) Individual marks and specific issues highlighted within the essay plus general comments at the end

37) If a student in your class submits coursework late (without acceptable extenuating circumstances), what would be a reasonable response from the university?

(1) Provide full mark with no late penalty

(2) Reduce the mark by between 10 to 20%

(3) Reduce the mark by between 21 to 30%

(4) Reduce the mark by between 31 to 40%

(5) Reduce the mark by between 41 to 50%

(6) No mark provided

38) What do you expect to be your average result after your first year in college? Give a specific percentage score between 0 and 100 (enter a number only in the box below).

39) What do you expect to be your DATA ANALYSIS AND COMPUTING 1 result after your first year in college? Give a specific percentage score between 0 and 100 (enter a number only in the box below).

Appendix 2 Academic Motivation Questionnaire

Academic Motivation Measurement Instrument (*Integrated into Section 10 of Student Expectation Survey*)

Academic Motivation

Regina M. Shia

Wheeling Jesuit University

Read each question carefully and choose the number that best describes you. There are no right and wrong answers, simply choose 1, if the sentence does not describe you at all; 7, if the sentence strongly describes you. If you describe yourself as somewhere in the middle, please rate yourself accordingly.

Does not Strongly describe me / describes me

- | | |
|---|---------------|
| 1. I want to learn everything I need to learn.(Need) | 1 2 3 4 5 6 7 |
| 2. Finishing an exam first leaves me afraid that I did something wrong or forgot something.(Fear) | 1 2 3 4 5 6 7 |
| 3. No matter how much I like or dislike a class, I still try to learn from it.(Mas) | 1 2 3 4 5 6 7 |
| 4. When faced with a difficult test, I expect to fail before I expect to do well.(Fear) | 1 2 3 4 5 6 7 |
| 5. I sign up for the same classes that my friends sign up for.(Peer) | 1 2 3 4 5 6 7 |
| 6. I feel that challenging assignments can be great learning experiences.(Mas) | 1 2 3 4 5 6 7 |
| 7. College helps me to gain valuable knowledge.(Mas) | 1 2 3 4 5 6 7 |
| 8. My quality of performance is dependent on my grade in the class.(Mas)-R | 1 2 3 4 5 6 7 |
| 9. Academics are the last thing that I want to talk about when hanging out with my friends.(Peer)-R | 1 2 3 4 5 6 7 |
| 10. When I receive a low grade on an exam, I try to hide it from others.(Peer) | 1 2 3 4 5 6 7 |
| 11. I feel good about myself when others do not understand material that is clear to me.(Pow) | 1 2 3 4 5 6 7 |
| 12. I learn simply for the sake of learning.(Mas) | 1 2 3 4 5 6 7 |
| 13. When I have to make an academic choice, I goto my parents for advice.(Auth) | 1 2 3 4 5 6 7 |
| 14. I prefer difficult tasks as opposed to moderate tasks.(Pow)-R | 1 2 3 4 5 6 7 |
| 15. I never boast about my grades.(Pow)-R | 1 2 3 4 5 6 7 |
| 16. I am not one of the smartest students in my class.(Pow)-R | 1 2 3 4 5 6 7 |
| 17. I am satisfied with an average grade, as long as I learn from my mistakes.(Pow)-R | 1 2 3 4 5 6 7 |
| 18. I sign up to take the easiest teacher so that my grades will be better.(Pow) | 1 2 3 4 5 6 7 |
| 19. I feel helpless about school after receiving a few bad grades.(Pow) | 1 2 3 4 5 6 7 |
| 20. I have no preference to impress "power figures".(Auth)-R | 1 2 3 4 5 6 7 |
| 21. Finishing an exam quickly makes me feel good.(Pow) | 1 2 3 4 5 6 7 |
| 22. I work best in a group environment.(Need)-R | 1 2 3 4 5 6 7 |

23. I do all that I can to make my assignments turn out perfectly.(Need)	1 2 3 4 5 6 7
24. I feel more accepted by others when I receive a good grade on a test.(Peer)	1 2 3 4 5 6 7
25. I sign up for the classes that will prepare me for the future.(Need)	1 2 3 4 5 6 7
26. I have high expectations of myself.(Need)	1 2 3 4 5 6 7
27. I see myself as well-informed in many academic areas.(Mas)	1 2 3 4 5 6 7
28. I get frustrated when I find out that I did not need to study as much as I did for a test.(Need)	1 2 3 4 5 6 7
29. Sometimes I do more than I have to for an assignment to help me understand the material better.(Mas)	1 2 3 4 5 6 7
30. I find my ability to be higher than most of my peers.(Pow)	1 2 3 4 5 6 7
31. I enjoy learning about various subjects.(Mas)	1 2 3 4 5 6 7
32. Being in college gives me the opportunity to prove to my family that I can Achieve something.(Auth)	1 2 3 4 5 6 7
33. I wait till the last minute to complete my assignments.(Need)-R	1 2 3 4 5 6 7
34. I would only sign up for a club if it helped me to reach a long-term goal.(Need)	1 2 3 4 5 6 7
35. I feel ashamed when I receive a low grade.(Fear)	1 2 3 4 5 6 7
36. I have no problem telling my parents when I receive a bad grade on an exam.(Auth)-R	1 2 3 4 5 6 7
37. I feel that my ability is sufficient in the classroom.(Fear)-R	1 2 3 4 5 6 7
38. Even when I have studied for hours, I don't feel that I have studied enough.(Fear)	1 2 3 4 5 6 7
39. I get nervous when my professor begins to hand back tests.(Fear)	1 2 3 4 5 6 7
40. I enjoy challenging tasks.(Fear)-R	1 2 3 4 5 6 7
41. I get frightened that I will not remember anything when I take a test.(Fear)	1 2 3 4 5 6 7
42. In my studies, I set short term, goals.(Fear)	1 2 3 4 5 6 7
43. I have no doubts that I will achieve my academic goals.(Fear)-R	1 2 3 4 5 6 7
44. My academic interests are not influenced by anyone but myself.(Auth)-R	1 2 3 4 5 6 7
45. It is important to complete assignments the way that my professor would want them completed.(Auth)	1 2 3 4 5 6 7
46. It does not bother me when others perform better than I on a test.(Pow)-R	1 2 3 4 5 6 7
47. When I do poorly on an exam, I feel that I let my professor down.(Auth)	1 2 3 4 5 6 7
48. I feel good about myself when I finish a difficult project.(Need)	1 2 3 4 5 6 7
49. I like to spend time reading about things that interest me.(Mas)	1 2 3 4 5 6 7
50. I try to live up to what my professor expects out of me in the classroom.(Auth)	1 2 3 4 5 6 7
51. I try to do my best on every assignment.(Mas)	1 2 3 4 5 6 7
52. I like to be one of the most recognized students in the classroom.(Peer)	1 2 3 4 5 6 7
53. I sign up for the same classes that my friends sign up for.(Peer)	1 2 3 4 5 6 7
54. I have the same attitude toward college as my friends.(Peer)	1 2 3 4 5 6 7

55. I study best when I am alone.(Peer)-R	1 2 3 4 5 6 7
56. I still want to go to class even when my friends don't go.(Peer)-R	1 2 3 4 5 6 7
57. I feel that the smarter I am, the more accepted I will be by other students.(Peer)	1 2 3 4 5 6 7
58. My grade point average is no where near the grade point average as my friends.(Peer)-R	1 2 3 4 5 6 7
59. I feel that I should be recognized when I demonstrate my abilities in the classroom.(Auth)	1 2 3 4 5 6 7
60. I set high goals for myself.(Need)	1 2 3 4 5 6 7

Scoring

Lickert scale

1	Strongly disagree
2	Disagree
3	Slightly Disagree
4	Neutral
5	Slightly Agree
6	Agree
7	Strongly Agree

Items with an R are reverse scored, that is, SA=1, A=2, SD=3, N=4,SD=5, D=6, SD=7. Sum the scores for the 60 items.

The higher the score on intrinsic statements and low on extrinsic statements will have high intrinsic motivation

The higher the score on extrinsic statements and low on intrinsic factors will have low intrinsic motivation

Appendix 3 Academic Stress Questionnaire

(Integrated into Section 30 Student Expectation Survey)
Academic Stress Measurement Instrument

The list below are possible sources of stress while you attend university. Indicate how strongly you agree or disagree with the idea that they would be a major sources of stress to you.

Strongly Disagree (SD)

Disagree (D)

Neutral (N)

Agree (A)

Strongly Agree (SA)

	SD	D	N	A	SA
Continuous poor performance	0	0	0	0	0
Unfair treatment by boyfriend/girlfriend	0	0	0	0	0
Workload	0	0	0	0	0
Inadequate resources to do assignments	0	0	0	0	0
Uncertainty about getting job after Graduation	0	0	0	0	0
Competiton with fellow students	0	0	0	0	0
Overcrowded lecture halls	0	0	0	0	0
High Expectations from my parents	0	0	0	0	0
Not attending lectures	0	0	0	0	0
Conflict with my fellow students	0	0	0	0	0
Poor performances	0	0	0	0	0
Low motivation	0	0	0	0	0
Conflict with my lecturers	0	0	0	0	0

Scoring: Scores are summed the higher scores indicate higher levels of academic stress

Appendix 4 Rosenberg Self-esteem questionnaire

(Integrated into Section 32 of Student Expectation Survey)

Rosenberg Self-Esteem Scale (Rosenberg, 1965)

The scale is a ten item Likert scale with items answered on a four point scale - from strongly agree to strongly disagree. The original sample for which the scale was developed consisted of 5,024 High School Juniors and Seniors from 10 randomly selected schools in New York State. Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle **SA**. If you agree with the statement, circle **A**. If you disagree, circle **D**. If you strongly disagree, circle **SD**.

1.	On the whole, I am satisfied with myself.	SA	A	D	SD
2.*	At times, I think I am no good at all.	SA	A	D	SD
3.	I feel that I have a number of good qualities.	SA	A	D	SD
4.	I am able to do things as well as most other people.	SA	A	D	SD
5.*	I feel I do not have much to be proud of.	SA	A	D	SD
6.*	I certainly feel useless at times.	SA	A	D	SD
7.	I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
8.*	I wish I could have more respect for myself.	SA	A	D	SD
9.*	All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
10.	I take a positive attitude toward myself.	SA	A	D	SD

Scoring: SA=3, A=2, D=1, SD=0. Items with an asterisk are reverse scored, that is, SA=0, A=1, D=2, SD=3. Sum the scores for the 10 items. The higher the score, the higher the self esteem.

The scale may be used without explicit permission. The author's family, however, would like to be kept informed of its use:

The Morris Rosenberg Foundation
c/o Department of Sociology
University of Maryland
2112 Art/Soc Building
College Park, MD 20742-1315

References

References with further characteristics of the scale:

Crandal, R. (1973). The measurement of self-esteem and related constructs, Pp. 80-82 in J.P. Robinson & P.R. Shaver (Eds), **Measures of social psychological attitudes. Revised edition.** Ann Arbor: ISR.

Appendix 5 Perceived Stress Scale

(Integrated into Section 33 of Student Expectation Survey)

PPS Scale

PERCEIVED STRESS SCALE

Perceived Stress Scale

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 by circling *how often* you felt or thought a certain way.

Name _____ Date _____

Age _____ Gender (Circle): **M** **F** Other _____

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?..... **0 1 2 3 4**
2. In the last month, how often have you felt that you were unable to control the important things in your life? **0 1 2 3 4**
3. In the last month, how often have you felt nervous and "stressed"? **0 1 2 3 4**
4. In the last month, how often have you felt confident about your ability to handle your personal problems? **0 1 2 3 4**
5. In the last month, how often have you felt that things were going your way?..... **0 1 2 3 4**
6. In the last month, how often have you found that you could not cope with all the things that you had to do? **0 1 2 3 4**
7. In the last month, how often have you been able to control irritations in your life?..... **0 1 2 3 4**
8. In the last month, how often have you felt that you were on top of things?.. **0 1 2 3 4**
9. In the last month, how often have you been angered because of things that were outside of your control?..... **0 1 2 3 4**
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? **0 1 2 3 4**

Sheldon Cohen

The *Perceived Stress Scale* (PSS) is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful. Items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. The scale also includes a number of direct queries about current levels of experienced stress. The PSS was designed for use in community samples with at least a junior high school education. The items are easy to understand, and the response alternatives are simple to grasp.

Moreover, the questions are of a general nature and hence are relatively free of content specific to any subpopulation group. The questions in the PSS ask about feelings and thoughts during the last month. In each case, respondents are asked how often they felt a certain way.

Scoring: PSS scores are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items. A short 4 item scale can be made from questions 2, 4, 5 and 10 of the PSS 10 item scale.