Title: Student Performance and Motivation: Investigating Relationships, Identifying Potential Areas for Concentration of Scarce Resources.

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# Table of Contents

<table>
<thead>
<tr>
<th>Acknowledgements</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>5</td>
</tr>
<tr>
<td>1. Introduction</td>
<td>6</td>
</tr>
<tr>
<td>a. Purpose of the Current Research</td>
<td>6</td>
</tr>
<tr>
<td>b. What is Motivation</td>
<td></td>
</tr>
<tr>
<td>c. Why is Motivation Important in Education</td>
<td>7</td>
</tr>
<tr>
<td>d. A Brief History of Motivation Theory and its Relevance to Education</td>
<td>9</td>
</tr>
<tr>
<td>i. Scientific Management and Education</td>
<td>9</td>
</tr>
<tr>
<td>ii. The Hawthorne Studies and Education</td>
<td>10</td>
</tr>
<tr>
<td>e. Contemporary Theories of Motivation and their Relevance to education</td>
<td>13</td>
</tr>
<tr>
<td>i. Content Theories of Motivation and Education</td>
<td>13</td>
</tr>
<tr>
<td>ii. Process Theories of Motivation and Education</td>
<td>15</td>
</tr>
<tr>
<td>iii. Goal Setting Theory of Motivation and Education</td>
<td>16</td>
</tr>
<tr>
<td>f. Relevance of Motivation to Education</td>
<td>19</td>
</tr>
<tr>
<td>i. Introduction</td>
<td>19</td>
</tr>
<tr>
<td>ii. Current Approaches to Motivation in Education</td>
<td>20</td>
</tr>
<tr>
<td>iii. Motivation and Self Directed Learning</td>
<td>22</td>
</tr>
<tr>
<td>g. Motivation and Academic Performance</td>
<td>23</td>
</tr>
<tr>
<td>h. Hypotheses</td>
<td>24</td>
</tr>
<tr>
<td>2. Methodology</td>
<td>25</td>
</tr>
<tr>
<td>a. Materials</td>
<td>25</td>
</tr>
<tr>
<td>b. Participants</td>
<td>26</td>
</tr>
<tr>
<td>c. Design</td>
<td>26</td>
</tr>
<tr>
<td>d. Procedure</td>
<td>27</td>
</tr>
<tr>
<td>e. Data Analysis</td>
<td>28</td>
</tr>
<tr>
<td>3. Results</td>
<td>29</td>
</tr>
<tr>
<td>a. Descriptive Statistics- all measures</td>
<td>29</td>
</tr>
</tbody>
</table>
4. Discussion
   a. Sample 
   b. Class Interaction and Grades 
   c. Age and Grades 
   d. Self Esteem, Self Efficacy and Grades 
   e. Perception of Parents and Grades 
   f. Adapted Task Evaluation Questionnaire and Grades 
   g. Future Research and Conclusion 

References

Appendix: Questionnaire Booklet
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Abstract

This study discusses why motivation is important, and briefly examines the history of motivation theory, contemporary motivation theory, and how these theories of motivation are relevant to education and academic performance. Self directed learning is also discussed as it relates to the motivation to learn. The study aims to help provide a focus for allocation of scarce resources in order to improve outcomes in education. Participants in this study provided demographic information on age and gender and on their academic performance in the previous semester. Participants completed measures of classroom interaction, Self Esteem, General Self Efficacy, Perception of Parents, and an adapted Task Evaluation Questionnaire. Analyses of the data using Spearman’s rho and Pearson’s r tests of correlation revealed significant positive relationships between age and academic performance, and between perceived competence as measured by the adapted Task Evaluation Questionnaire and academic performance. Expectations of a significant positive correlation between levels of classroom interaction and academic performance were surprisingly contradicted with a finding of a significant negative correlation between these measures. None of the other subscales of the adapted Task Evaluation Questionnaire were significant predictors of academic performance. Scores on the Perceptions of Parents Scale were not a significant predictor of academic performance, nor were scores on Self Esteem or General Self Efficacy. Improved research design could provide further insight into the relationships found.
**Introduction**

**Purpose of the Current Research**

The purpose of this research is to examine whether there is a significant relationship between Task Evaluation of college (as a component of intrinsic academic motivation), self esteem, self efficacy, perceived parenting styles, and academic performance in third level students in order to further examine motivation in education, and to provide empirical data to aid in a potential future meta study examining correlation between these measures. A secondary purpose is to examine whether there is a significant relationship between academic performance and the level of perceived interaction in the classroom experience, to attempt to evaluate the efficacy of the interactive classroom in enhancing student academic performance.

The value of this research is in its potential to help identify areas in education where resources, which are usually scarce and which always have an opportunity cost, may be concentrated so best as to maximise the outcomes for the students individually and collectively, and by extension wider society which of which they and educational their institutions are a part.

**What is Motivation?**

One definition of motivation is *"The processes that account for an individual’s intensity, direction and persistence of effort towards attaining a goal"* (Robbins, Judge & Campbell 2010). According to Westwood it is *“an internal state experienced by the individual. Whilst external factors including other people can affect a person’s motivational state, it develops within the individual, and is unique to the individual”* (Furnham, 2005 p. 278).

Robbins et al define motivation in terms of how it affects the effort of an individual towards a goal. Westwood attempts to provide a definition which does not rely on external references, and appears to consider motivation to be an emotional state. These definitions illustrate the inherent difficulty of defining motivation, but also show that it can have broad effects on the behaviour of an individual.
Why is Motivation Important in Education?

Implicit in Robbins et al’s definition of motivation is the fact that much of human behaviour is goal oriented- people do things “to” something: a typical day for many people would involve getting up “to” go to work, going to work “to” earn money “to” buy some good or service. One goes into the kitchen “to” get a cup of tea, or “to” make a sandwich- so on and so forth. “To-ness” is a fundamental part of a person’s life, it drives us in many of the simplest behaviours, such as getting a glass of water, as well as in the most complex sequence of behaviours, such as studying for years to obtain a PhD. Motivation might also be described as the strength of “to”; in getting a cup of tea it might cause a person to go into the kitchen and boil an electric kettle, but insufficient powerful to cause them to walk two kilometres to get teabags in the shop, for example.

Research assumes a positive correlation between motivation and performance, and focuses on measuring and improving motivation, rather than examining its value in enhancing performance. Measuring motivation and identifying motivators is troublesome (Shia, undated), with low convergent validity between measures of motive (Schonbrodt & Gerstenberg, 2012). Measuring performance in a workplace setting is difficult, as often measures which are in place— such as rating by superiors— are highly subjective (Keijzers, 2010 p14).

The relationship between motivation and academic performance is also unclear. One study finds that students with higher average grades were more likely to be unmotivated (Matei & Abrudan), which suggests that the presumption of a positive correlation between motivation and performance may be flawed. However, a possible explanation for Matei & Abrudan’s findings may be that students with higher ability are less motivated to work hard in their studies because they are also less challenged in many academic settings— but having an advantage in ability, they may nevertheless achieve higher grades with a less effort.

On the other hand, numerous studies show the correlation between attendance and academic achievement and other outcomes (Lyubartseva 2012)(John Hopkins,
It is not clear that having a higher attendance rate at school in and of itself causes higher academic performance however—it is likely that during primary and secondary education, high attendance rates reflect, at least partially, both parental views on the value of education and their expectations of their children academically, which may have a much greater impact on a child’s academic performance than the mere number of hours spent in a classroom.

In any event, the general belief in the importance of school attendance is reflected in the fact that it is a statutory requirement of the boards of management of schools in Ireland to adopt “strategies and measures” “for the purposes of fostering an appreciation of learning among students attending that school and encouraging regular attendance at school on the part of those students” (Education Welfare Act 2000 S.22(1)).

In third level education, attendance is not monitored or, where it is monitored, it is not routinely communicated to the parents of the student, for data protection reasons. In third level, attendance at class may more accurately reflect the students own views on the value of education, as well as the utility of attendance in higher academic achievement. There is evidence of correlation between attendance and performance at third level (Caska & Prentice, 2009).

Other factors may also motivate higher attendance at third level. For non-EEA students at Irish institutions, regular attendance is required by the Garda National Immigration Bureau to validate student visas. Many students also attend under various social welfare schemes—low attendance may endanger their entitlement to continuing payment. Finally, some modules have mandatory attendance, where failure to attend will require repetition of the module. Making attendance compulsory may inflate performance, but a more effective method of academic performance enhancement may be to increase motivation, effort and (incidentally) voluntary attendance.

This study does not examine attendance as an indirect measure of motivation, but will measure academic performance, as a measure found to be positively correlated with attendance.
A Brief History of Motivation Theory and its Relevance to Education

Scientific Management and Education

Motivation Theory has its origins in Taylorism (Taylor, 1911) which sets forth the position that people are motivated only by direct, tangible, and immediate rewards. This has limited applicability in second level education, as (with the exception of students who benefit from free school meals, and possibly the provision of shelter from inclement weather) there are no direct, immediate and tangible benefits associated with attending school or academic achievement. However, it ought not to be discounted entirely.

School attendance is compulsory in law in Ireland for many students, from the ages of 6 to 16 (education.ie). In practice, although attendance is taken, there is relatively little enforcement of this legal obligation. Although second level pupils miss an average of 13 days per school year- suggesting high absenteeism by tens of thousands of second level pupils- enforcement action was taken in less than two hundred cases in 2011, despite the National Education Welfare Board having engaged with more than 8,700 children who had missed more than 20 days (Donnelly, 2012). Compulsory attendance is de jure, but school attendance is de facto optional.

Inclement weather certainly has an adverse effect on school attendance where students are unable to reach their school, and higher air pollution predicts higher absenteeism (Chen et al, 2000). Students (particularly third level students) might, during more pleasant weather, choose to spend more time outside and less time in the classroom. The author is unable to locate research related to establishing whether there is a correlation between weather conditions and academic absenteeism, but there is research which supports the suggestion that work absenteeism is positively correlated with weather quality (Shi & Skuterud, 2011).

There is therefore some basis for considering that the Tayloristic perspective of motivation has some relevance to academic motivation, as measured indirectly through attendance and performance. There is evidence that deprivation decreases attendance rates at school (RSM McClure Watters, 2012). There is further evidence that providing universal and free breakfasts increases attendance at school, and by extension academic achievement, by
providing parents with an incentive to ensure that their children attend school daily, and arrive on time. It is also theorised that adequate nutrition and energy levels among schoolchildren, encouraged and facilitated by such a program, may result in pupils being more alert, and therefore better able to gain from their attendance (Leos-Urbañ et al, 2013).

Direct comparison between second level and third level attendance is difficult from a Scientific Management perspective. However, it is the case that many, if not all, third level colleges provide subsidised or low cost food and beverages at student canteens, and typically provide free wi-fi and computing, services which often otherwise come with a cost. While such benefits may not directly accrue from attendance in class, they accrue from attendance on campus, which make it easier, and therefore more likely, to attend class.

**The Hawthorne Studies and Education**

An alternative view of motivation arose from the Hawthorne Studies (Weber 2002) which led to the view that people are motivated by a desire for recognition of their contributions, and other factors. In these studies, Elton Mayo found that participation in something they believed was important, combined with allowing them to effectively manage themselves, led to a 25% increase in productivity in a group of six female workers. Research at a number of schools in the Basque region of Spain supports the suggestion that the Hawthorne Effect may translate well into the academic realm, which found that students at co-operative/democratic schools perform best, as compared with public schools and subsidised schools (Basque Research, 2012).

Another study (Durham University, 2011) examined peer tutoring by and of Scottish primary school students. In 128 schools, cross-age tutoring in Maths and English, using paired reading for English and Duolog Maths for maths. This study showed that academic gains in children as young as seven years old through this interactive learning method were equivalent to approximately three months of instruction. This suggests that the lessons of the Hawthorne Studies relevant to academia, and that learning will be enhanced by active participation in the teaching/learning relationship, such as through choosing the books to be read in the paired reading tutoring in this study.
The alternative views of motivation arising from Scientific Management and the Hawthorne Studies are compared and contrasted by McGregor as Theory X and Theory Y styles, where management of performance is authoritative and participative respectively (Economist, 2008). In Irish academia, it remains the case that the teaching and learning experience is far more oriented towards Scientific Management perspectives rather than applying the lessons of the Hawthorne Studies over eighty years on, despite its promise. In Ireland, the tendency remains that most teachers at secondary and third level expect all students to remain silent or near silent during class time, and perform on demand, whether in response to in class questions, delivering homework or essays according to deadlines set by the instructor, and reproducing knowledge in timed exams.

This approach can be contrasted with, for example, the German Abitur (school leaving certificate), where classes may be organised in subjects such as philosophy in response to student demand, and where in contrast to the Irish position where the majority or the entire grade in a subject depends on terminal examinations, the majority of the grades are awarded for work during the previous two years, often including assignments similar to the papers produced by university students (Goethe.de). Further, in contrast with the Irish system where each school is expected, and legally obliged, to cater to all students regardless of ability or vocation, German secondary schools are divided, so that a particular school may cater only to those seeking an academic path, or those who are likely to progress to apprenticeships, or those who may take either route and obtain a broader education. German comprehensive schools also cater to all of these academic tracks (Goethe 2).

It is inappropriate to draw the conclusion that Germany’s relative stability over several decades, including absorbing the economically underdeveloped former East Germany and its long standing status as the economic giant of Europe and low unemployment rate, is as a result of its education system. It is also inappropriate to draw the conclusion that Ireland’s oscillation between prosperity and austerity, between high unemployment and full employment is a consequence of its system of education. However, it would also be irresponsible to refrain from suggesting that Germany’s education system, which facilitates choice on many levels from an early stage has an influence on the state of that nation, and it
would also be an irresponsible omission not to suggest that Ireland’s single track, universal education path has not had an impact in the formation of Irish economic and political conditions.

There is much to discuss in this regard, and this is not a focus of this paper. However, the level of Hawthorne-like freedom of expression in the education systems of the two countries can be readily, if very roughly, assessed by highlighting that while the vast majority of Irish pupils are obliged to wear uniforms, and very often restricted in their use of cosmetics, jewellery and even hairstyles (Byrne, 2013) school uniforms in Germany are rare. It may be the case that placing such strict requirements on most of the population at a very young age, and for an extended period, may inhibit in the longer term the expression of individual choice in a manner which the Hawthorne studies suggest is so beneficial to an organisation.

The Hawthorne Studies and other studies above would suggest that the more perceived choice, and the more interest/enjoyment students have in their studies, the more they feel able to express themselves in the academic environment, and the more involved they believe themselves to be in their education, the more motivated they ought to be, and the better their academic performance ought to be. For these reasons, this study will measure the students perceived level of classroom interaction, and also their evaluation of college using the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory.
Contemporary Theories of Motivation and Their Relevance to Education

Contemporary theories of motivation may be broadly assigned to Content (which attempt to understand what motivates people) and Process Theories of motivation (which attempt to understand how and why people are motivated) (Lussier, 2008 p 331).

Content Theories of Motivation and Education

Content theories include Maslow’s Hierarchy of Needs, Adfer’s ERG (Existence Relatedness & Growth) Theory, Herzberg’s Two Factor Theory and McLelland’s Manifest Needs Theory (Lussier, 2008 p324-330). Generally speaking, Content Theories of motivation suggest that up to a people are motivated to a certain level by survival needs (food, shelter, security) and thereafter by social needs and esteem needs.

A systematic review of existing research (Cooper & Stewart, 2013), which sought to establish whether limited resources ought to be spent on service providers (ie, in schools and on related educational supports) or directly on families with children, concluded that children from lower income households “have worse cognitive, behavioural and health outcomes in part because they are poorer”. The same study suggests that providing income supports to such households to bring their income up to the average would eradicate half of the performance gap between those children entitled to free school meals, and those who are not. This study further suggests that a marginal increase (or decrease) in income for those at the bottom of the income ladder has an effect which is disproportionately larger than the same increase or decrease, in absolute terms, has on those with higher incomes.

It is well established internationally that people from lower socioeconomic backgrounds are less likely to go to university, and to have lower educational achievement generally, by studies conducted in Australia (O'Shea et al, 2011), the United States (Rouse & Barrow, 2006) and South Africa (UNISA, 2012). Irish students from low socioeconomic backgrounds are also almost two and a half times more likely to be low performers than those with high socioeconomic backgrounds (OECD, 2012).

There is evidence that even where poorer students obtain as high grades as those achieved
by students from more affluent backgrounds, they are less likely to go to college, or at least less likely to go to those colleges which are considered “top tier”. In the United States some of these top tier colleges, which are also more likely to be private colleges, have a policy of giving preference to financially advantaged students before poorer students when making offers (Weissman, 2013); students in the US are also less likely to apply to such top tier universities because of their perceptions that they will be unable to gain acceptance, and to afford to study at such institutions, even where this perception is in conflict with reality (Radford, 2013). Statistics from the United Kingdom show, without explanation, that richer students “are three times more likely to go to top universities than working class pupils, even if they have the same grades” (Burns, 2013).

As applied to academia, it can be clearly understood that the homeless, the starving, and those under threat of attack are rarely concerned with or able to go to school or university. Therefore, the absolute minimum objective of any programme which seeks to improve educational attainment and performance in the general population must be to ensure adequate housing, food and security for all.

In this context, a South African study (Paton, 2013) illustrates the value of supporting those with limited means in attending university. This study shows that students receiving means tested support were more likely to complete tertiary education, and less likely to drop out of university altogether than even those other students with higher income who did not qualify for such support.

However, caution needs to be used in designing a scheme to assist disadvantaged students in attending university. The Irish scheme for disabled students allows students with lower grades who meet the qualifying criteria to be accepted for university courses with lower grades- however, of such students almost a quarter were attending private schools, while only 11% were attending schools designated as disadvantaged (Irish Examiner, 2014). This suggests that more affluent students are in a better position to take advantage of access schemes and supports, thereby draining resources and possibly displacing students who are more disadvantaged in terms of accessing and attending third level in Ireland. The author is unable to locate information relating to reckonable income of those who receive financial or
other support to attend college in Ireland. However, anecdotal evidence suggests that such information might reveal that those in the lowest income brackets—those who are intended to benefit most from such supports—remain relatively unrepresented in applying for and obtaining grants to attend college, and that very many applicants are very near the income limits. News reports (Reilly, 2012) certainly suggest that many self-employed and farmers are suspected of manipulating their accounts to ensure entitlement to such supports, while having a high value of net assets.

Regardless of the intricacies involved in designing supports for students to attend third level, from a content theory perspective of academic motivation, the first priority is to satisfy basic needs, and thereafter to seek ways to make educational achievement as a satisfier of higher level needs, thus making it a motivator driving effort in terms of attendance, study and other academic activities.

**Process Theories of Motivation and Education**

Process Theories of motivation include Vroom’s Expectancy Theory, Adam’s Equity Theory, and Skinner’s Reinforcement Theory (Lussier, 2008 p 331-335). Broadly speaking, Process Theories of motivation are concerned with how the perceived value of outputs to be gained (salary and benefits, promotion, praise, grades and so forth) affect the level of inputs (effort).

Process theories need not necessarily be viewed as separate or isolated from content theories—indeed, content theories may explain how the perceived value of an output is assessed, and how it may change over time. The process theory adds in other factors.

Vroom’s Expectancy Theory for example equates Motivation as being the product of the perceived value of the output, the perceived likelihood of achieving a particular level of performance, and the perceived likelihood of that level of performance leading to the outcome. In academic terms, the motivator, that is the perceived high value outcome, is often not the academic grade or qualification itself, but rather the opportunity that grade or qualification obtains for the student. Motivation is then a factor of perceived academic
ability and perceived instrumentality of academic achievement in obtaining the valued outcome.

To be highly motivated, the student must believe in themselves, and also in the instrumentality of their performance in achieving their personal valued objective. One might assume that a student wishes to obtain an interesting and quite well paid job through their studies. In applying Expectancy Theory to motivating the student to work hard in their studies, or to freely pursue a course of studies in the first place, they ought to be encouraged as to their ability to successfully do so, and that their doing so will assist in achieving their valued outcome.

In terms of academic self efficacy in particular, this often becomes a self fulfilling prophecy for the student; the student who believes they cannot succeed in an exam studies far less than one who believes a high grade is the reward for hard work. Usually the latter performs much better than the former, with the predictable result that both students have their beliefs regarding their academic self efficacy reinforced.

One intervention suggested by Expectancy Theory, both in academia and generally, is to increase self efficacy to increase motivation, effort and performance. Theoretical discussion suggest that self efficacy is a significant predictor of student performance, and that interventions to improve self efficacy combined with the provision of training to do the specific task result in significant improvement in the performance of the task (Schunk, 1991). Qualitative research also indicates that self-efficacy is a predictor of academic achievement (Nilsen, 2009).

**Goal Setting Theory and Education**

Goal setting theory is an emerging theory of motivation. It is centred upon the view that goals have a wide influence on employee behaviour and performance in organisations. It is also suggested that goal setting is the underlying motivation of all other theories of motivation- the desired outcome (whether ascension to a higher level need in Maslow’s hierarchy, obtaining higher pay in Taylor’s model, achieving equality in Equity Theory and so
forth) is the relevant goal. Goals are set both to measure performance, and to motivate improvement. It is recommended that goals be SMART: Specific, Measurable, Achievable, Relevant and Timed (Lunenberg, 2011).

Goal Setting Theory is highly applicable to academia, particularly third level academics. Students at second level in Ireland typically aim for a particular number of CAO points in the Leaving Certificate, while students at third level generally aim for a level of award in their studies, whether pass, second class honour or first class honours. The level of performance required to achieve each level is very clear, and very specific. Such goals are measurable, particularly as the National Qualifications Authority of Ireland has specific requirements for achieving a grade in a particular range at any particular level of award (www.nqai.ie).

Such goals are achievable, in that a number of students do achieve the highest grades each year. But it is questionable whether the goals are achievable by all students. In fact, it seems evident that there will always be a number of students who are incapable to achieving the highest goals. Certainly in second level education, as admittance is universal and most schools will have students with varying levels of learning difficulties including students with forms of brain damage and other biological developmental conditions or syndromes, there will always be students who will never be capable of achieving at the highest levels. The response to this in Irish education has been the introduction of courses of studies such as the Leaving Certificate Applied, which allow the setting of achievable goals for students who would otherwise be without such achievable goals— allowing them to continue, motivated in their studies to achieve such levels of education, where they might otherwise leave the education system completely.

Goal setting theory also suggests that goals must be accepted (Lunenberg, 2011), and that acceptance of, and commitment to, the goals is made easier by allowing the individual to contribute towards setting their own goals. There is an element of weakness in applying this facet of goal setting theory to Irish academics, particularly for younger students. In Irish second level students are permitted, to a greater or lesser degree depending on the particular school and parental attitudes, to choose a large proportion of their subjects, which ought in theory to produce higher commitment and acceptance. However,
attendance at school is legally required until the age of sixteen, and subject choices are usually limited, and students are therefore making choices within a very limited framework—presuming they are permitted any choice at all by their parents.

In theory, students are entirely free in their choosing of third level courses (and whether to study at third level at all) and acceptance and commitment should theoretically be maximised. In practice though, many students are given little choice but to progress to third level—whether due to parental pressure, or by reason of third level studies offering a route to exit the family home or otherwise. Third level students will also be limited in their choice of third level courses—most if not all students will remain financially dependent on their parents to some extent until at least the completion of their studies. They are therefore vulnerable to pressure from their parents as to which and course of studies to attend. This places further limits on the choices of most students, which may weaken their acceptance of and commitment to the educational goals of their course.

The reality is that, even free of parental, financial and geographical constraints, the CAO application system places further limits on choice of third level routes on all but a few. Clearly choice of third level studies is only very rarely completely free for the student.

Relevance of goals in academia can also be lacking where commitment or acceptance are lacking. A student attending a course entirely of their choice may be entirely committed, and achieving a first class honours degree may be of paramount importance— if there are no competing demands on their time. A student who feels that college is a compulsory extension of schooling may feel that completion of the course is the only relevant goal. All other factors being equal, these two students are likely to make substantially different levels of effort, and obtain very different overall grades in their degrees.

While Goal Setting Theory and SMART goals do not offer much in the way of explanation as to what motivators are likely to drive the individual student, it is a useful model to give a background to the other theories of motivation. They also suggest that older students, who are likely to be making a more independent choice of third level studies, may be more accepting of and committed to higher academic goals (ie, more driven to obtain a first class
honours degree rather than a pass). Referring again to Germany’s long-term relative stability, it is worth noting that in Germany, all students have the opportunity to pursue a degree of their choice, if they wait long enough, which results in students tending to be older when attending university (FU Berlin).

Relevance of Motivation to Education

Introduction

Motivation is usually discussed in terms of employee motivation, but the discussion of several theories above clearly illustrate that motivation is also a factor in determining the rate of attendance at school and the level of effort in academia. While motivation is a unique, subjective internal state and therefore cannot be measured directly, performance is the product of ability, motivation and resources (Lussier, 2008 p323) and therefore where average ability is, by definition, average and resources are known in terms of teacher qualifications, pupil-teacher ratios, time allotted, and textbooks, motivation may be estimated through the measurement of factors such as attendance and academic grades—the importance of which factors to individuals and society are mentioned above.

Irish research indicates that those with more positive attitudes to school have higher attendance rates, and in particular those students having higher absentee rates are more likely to feel that their teachers did not care about them, that they could not talk to their teachers about a problem, and were less likely to feel that teachers listened to their views (ESRI/NEWB 2007 pp22-24).

The importance of performance in second and third level education, measured in terms of both attendance and academic achievement, being largely settled, the performance formula should be examined as it pertains to education: ability is average by definition, although measured ability may be increased through intervention (Cassidy, Roche & O’Hora, 2010). This paper does not deal with teaching strategies, or interventions to increase measured ability—rather it examines the relationship between measured motivation as a predictor of academic performance, and the predictive value of other measures in terms of academic motivation and performance.
Current Approaches to Motivation in Education

Generally, motivation to actively participate in education and to achieve well academically is oriented towards achieving prosperity through career success. It is assumed by many that the most desired outcome of academic achievement is placing oneself in a position to obtain secure, well paid employment. Current advice to Leaving Certificate students is broadly to seek out specialist third level courses graduates of which are highly employable, such as Science, Computer Science, Engineering, Medicine, Nursing and so forth. The presumed reward for excellence in academic performance is opulence in later years, and little emphasis is placed has historically been placed on the student as a person.

There are of course exceptions to this generality, and many people do pursue education, at all levels, for its own sake and in the pursuit of knowledge rather than financial gain. Others pursue education at various levels in order to satisfy esteem needs, whether self esteem or in order to impress persons in their environment. However, the preponderance of articles in the online section education of the Irish Times are related to financial and career aspects of going to college, whether the cost or the benefits of doing so. While this is not scientific and may not be representative, analyses of CAO applications in 2013 strongly suggests that perceived future career prospects are a strong predictor of course preference (Ahlstrom & Mooney, 2013).

Much of the proposed reform in Irish second level education effectively seeks to obtain the Hawthorne Effect (The Economist, 2011) in an educational setting- by paying attention to students mental and emotional wellbeing, and by encouraging student participation in decision making through Student Councils (for example) secondary schools implicitly seek to satisfy higher level needs of their students, with a consequent increased motivation to academic performance, including the social interaction with their peers which forms a large and largely unattended part of adolescent learning activity. Indeed, social interaction in school should properly be viewed as both a motivator and performance: social interaction satisfies needs of the students, and quality social interaction is an expression of desired behaviour, which is one of the non-academic outcomes sought from the education system.

The proposed new Junior Cycle Student Award seeks to explicitly place the student at the
centre of education (NCCA, 2011 p.9), as compared to grades. The goal of such placement is, presumably, to obtain commitment by the student to the education system, with the objective of improving their performance.

This attendance to the needs and motivators of second level students is also seen in almost all institutions of higher level in Ireland; students may generally access free counselling, as well as subsidised or discounted GPs, sports and student societies.

The various theories of motivation suggest a significant positive relationship between motivation and performance, and also suggest a significant positive relationship between motivation, self esteem and self efficacy- as the motivating process should act to satisfy higher level needs (content theory). Icek Ajzen’s Theory of Planned Behaviour suggests that self efficacy is a major factor in performance (as performing is a behaviour). The model of TPB states that behaviour is a combination of attitude, subjective norm and perceived behavioural control (Ajzen). Under this model, a student with a positive attitude towards study, who believes most people do well in their class, but who believes themselves unable to study effectively is less likely to study and will consequently underachieve.

Given the importance of parenting in self esteem and self efficacy, and the adverse effect that experiencing problems during childhood and adolescence has on brain development (University of East Anglia, 2014) it is also to be expected under motivation theories that there would be a significant relationship between perception of parenting and motivation/performance.
Motivation and Self Directed Learning

An intriguing perspective on academic motivation among children and also minimal resource interventions to increase participation in education comes from the work of Sugata Mitra (Newcastle University, 2014). Mitra’s work in minimally invasive education inspired the multi Academy Award winning movie Slumdog Millionaire. One experiment involved making a computer freely available to street children in Delhi in India by placing it in a hole in the wall. This experiment proved successful in that the street children immediately began to use the computer, and taught themselves how to use it and access the internet through it. There are now many such Hole In The Wall computers in rural India, and this approach to educating those for whom education is otherwise unattainable is the original system of minimally invasive education.

Mitra’s work progressed to a “Granny Cloud” which allowed children to interact with online “Grannies” (often but not exclusively retired teachers) to engage in a wide range of informal learning.

More recently, Mitra seeks to develop a “School in the Cloud” which integrates his previous research, which includes the finding that children participating in these minimally invasive education projects are likely to benefit from improved reading comprehension. The goal of the School in the Cloud project is to extend the reach of education in India, and also to investigate what other benefits accrue to the children participating in it.

What makes Mitra’s work on minimally invasive education intriguing is that it suggests that people and particularly children are intrinsically motivated to learn, and will readily take advantages of the opportunity to do so when given a free choice. While such conclusions might be drawn from observation of children who commonly desire to join in activities in which other children or adults are participating, and to learn and master new skills relevant to such activities, minimally invasive education by its nature requires participants to commence the learning process in the absence of peer or adult role modelling or reinforcement for so doing. This in turn suggests that freely participating in learning provides a reward which strengthens motivation to continue participation. For street children, the reward is unlikely to be tangible, which raises the question as to the nature of
such reward— the lack of material reward or outcome suggests a satisfaction of a higher level need in Maslow’s model of the Hierarchy of Needs.

While there may not seem to be any lessons learned from marginally improving the reach of education to poverty stricken youths in India which might be applied to the Irish context, the insight provided by Mitra’s experiments suggest that whether a freer, more democratic way of covering the curricula of primary, secondary and third level courses would improve learning outcomes warrants further investigation at the very least. There may be benefits to allowing classes to partially self select portions of the course to be covered in a particular class, the assignments and homework which is to be done, and even to have a say in the setting of an academic calendar.

**Motivation and Academic Performance**

Existing research suggests that there may be a relationship between academic performance and each of parenting styles, self efficacy and motivation (Turner Chandler & Heffer, 2009) (Chowdury & Shahabuddin, 2007) but the research evidence is mixed (Vialle, Heaven & Ciarrochi, 2000s), with some studies implying that other factors are better predictors of academic achievement, or mediate the effect of those factors listed above (Leung, Lau & Lam, 1998). The studies reviewed for this proposal are cross cultural, and taken collectively the research on whether there is a significant relationship between the four variables must be said to be inconclusive (in the absence of a meta-study to the contrary, of which the author is unaware).

Models of motivation further suggest that the level of involvement in the learning experience should correlate positively with motivation and academic performance, as positive reinforcement of such involvement in the learning experience should provide a boost to both perceived self efficacy (where a student’s views helps shape the classroom experience) and self esteem.
Hypotheses

1. It was predicted that there would be a significant positive correlation between the perceived average level of classroom interaction during the semester and grade averages obtained.

2. It was predicted that there would be a significant positive correlation between age of the participants and grade averages obtained.

3. It was predicted that there would be a significant positive correlation between Self Esteem and grade averages obtained.

4. It was predicted that there would be a significant positive correlation between Self Efficacy and grade averages obtained.

5. It was predicted that there would be a significant positive correlation between scores on the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory and grade averages obtained.

6. It was predicted that there would be a significant correlation between scores on Perception of Parents Scales and Grade averages obtained.
Methodology

Materials
A self-administered anonymous questionnaire advertised on a number of Facebook groups set up to connect researchers with potential participants, which contained link to web-based (SurveyMonkey.com) questionnaires. A convenient sample was also obtained which completed paper questionnaires. The questionnaire combined a number of psychological instruments. Testing indicated that the entire questionnaire could be completed in approximately ten minutes, or less.

The questionnaire included:

a) Demographic information on age and gender
b) A multiple choice question which sought to indicate the average level of interaction between students and teachers in the classroom in the previous semester
c) The participants grade average for the previous semester
d) Rosenberg Self Esteem Scale Questionnaire (from Dublin Business School’s bank of psychological measures). A 10 item questionnaire with a 4 point Likert scale, designed to measure self esteem, with good internal reliability.
e) General Self Efficacy Scale Questionnaire (from Dublin Business School’s bank of psychological measures) A 10 item questionnaire with a 4 point Likert scale, designed to measure self esteem, with good internal reliability.
f) Perception of Parents Scale (sourced at http://www.selfdeterminationtheory.org/questionnaires) A 42 item questionnaire with a 7 point Likert scale, designed to measure the participants perception of both their mother and their father (or significant female or male adult figure where a parent is not present) in terms of
   a. Involvement
   b. Autonomy Support
   c. Warmth

g) Adapted Intrinsic Motivation Inventory Task Evaluation Questionnaire (sourced at http://www.selfdeterminationtheory.org/questionnaires) A 22 item questionnaire
with a 7 point Likert scale, designed to measure the participants perception of their relationship with their studies in terms of

a. Their interest in/ enjoyment of their studies
b. Their perceived competence in their studies
c. Their perceived choice in their course of study
d. The pressure/ tension felt by the participant due to their course of study

Participants
The participants in this study were 76 adults who, at the time of participation were current or recent students at a institute of education at third level (female = ___, male = ___; aged between 18-24 to 45-54). The sample was convenient, and largely self selecting through internet social networks and online discussion boards. Demographic information collected did not include country of residence, or institution of higher learning, or whether the respondent was pursuing undergraduate or postgraduate studies, or the course of studies being pursued by the participants. However, the sample is presumed to be international in nature, with the large majority of respondents being native English speakers. The questionnaire did not seek to ascertain whether the participant was a part-time or full time student, and it is presumed that the sample consists of a number from both modes of study.

Due to the fact that the online advertisements were placed primarily on websites catering to students of Psychology and the convenient sample consisted of Psychology students, the very large majority of participants are believed to be pursuing studies in the field of psychology.

Participation was anonymous, voluntary and on consent of the participant.

Design
The study used a correlational design. Mean and standard deviations of each variable were calculated for each measure, and sub-measure in the case of Perception of Parents Scale and Adapted Intrinsic Motivation Inventory Task Evaluation Questionnaire. The relationship
between the measures were analysed to examine the correlations between the grade average obtained by the participant during the semester and a number of predictor variables:

- The level of interaction between students and teachers in the classroom
- The age of the participant
- Rosenberg Self Esteem Score
- Perceived Self Efficacy Score
- Perception of Parents Scale Score of each parents or significant adults, including sub-scales of
  - Involvement
  - Autonomy Support
  - Warmth
- Adapted Intrinsic Motivation Inventory Task Evaluation Questionnaire including sub-scales of
  - Interest in/ enjoyment of their studies
  - Perceived competence in their studies
  - Perceived choice in their course of study
  - Pressure/ tension felt by the participant due to their course of study

**Procedure**

Between 8 February 2014 and 15 March the measures used in this study were available online on the website [www.surveymonkey.com](http://www.surveymonkey.com). A convenient sample was sought and advertised for through a number of means including online social networks, online discussion forums and academic and personal contacts, and encouraged to complete these measures. The cover page of the questionnaire bundle informed the potential participant that the aim of the present study was to explore motivation, and that participation was entirely anonymous, confidential and voluntary. The cover page explained that by completing the questionnaires, they were giving consent to participate in the study, and that as anonymity was guaranteed, it would be impossible to withdraw from the study after submitting the questionnaire.
A total of 84 people completed the questionnaire used in this study, 47 of whom completed the study on www.surveymonkey.com, and a further 37 who completed a paper version of the questionnaire. The responses to the paper version of the questionnaire were input by the researcher into SurveyMonkey, and the paper records then destroyed. On 15 March 2014, the study was closed to new responses.

The data was downloaded from Survey Monkey and imported into SPSS for analysis. 76 Usable responses were obtained, after elimination of responses which omitted vital data.

**Data Analysis**

Data was analysed using IBM’s Statistical Package for Social Science, Version 21. Relationships between the measures were tested for using Spearmann’s rho and Pearson’s r tests of correlation as appropriate.
## Results

### Descriptive Statistics

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<td>6.85</td>
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Rosenberg Self Esteem Scores Total

Mean = 13.92
Std. Dev. = 5.666
N = 72

General Self Efficacy Scale Total

Mean = 30.43
Std. Dev. = 4.081
N = 70
Total Score for Mother Perception of Parents

Mean = 111.76
Std. Dev. = 25.437
N = 68

Total Score for Father Perception of Parents

Mean = 109.40
Std. Dev. = 27.143
N = 62
Total Scare for Task Evaluation Questionnaire- total of pressure subscale subtracted from sum of other three subscales

Mean = 56.21
Std. Dev. = 22.257
N = 52
**Inferential Statistics**

1. To test Hypothesis 1, that there would be a significant positive correlation between the perceived average level of classroom interaction during the semester and grade averages obtained, a Spearman’s Rho (non-parametric, as the level of interaction was an ordinal variable while grade averages were scale variable) correlation test was used.

   A Spearman’s Rho correlation test found that there was a significant, negative correlation between perceived classroom interaction and grade averages obtained in the previous semester ($rs(74) = -0.310$, $p=0.007$).

2. To test Hypothesis 2, that there would be a significant positive correlation between age of the participants and grade averages obtained, a Spearman’s Rho (non-parametric, as the participants’ ages were ranked as an ordinal variable while grade averages were scale variable) correlation test was used.

   A Spearman’s Rho correlation test found that there was a significant, positive correlation between the age of the participants and the grade averages obtained in the previous semester ($r s(74) = 0.23$, $p=0.048$).

3. To test Hypothesis 3, that there would be a significant positive correlation between Self Esteem and grade averages obtained, a Pearson’s R correlation test was used. The mean score for Grade Average was 70.22 (SD=9) and the mean score on the Rosenberg Self Esteem Scale was 19.92 (SD=5.66). A Pearson correlation coefficient found there was no significant relationship between Grade Average obtained and Self Esteem ($r(72)= 0.089$, $p=0.459$).

4. To test Hypothesis 4, that there would be a significant positive correlation between Self Efficacy and grade averages obtained, a Pearson’s R correlation test was used. The mean score for Grade Average was 70.22 (SD=9) and the mean score on the General Self Efficacy Scale was 30.43 (SD=4.08). A Pearson correlation coefficient found there was no significant relationship between Grade Average obtained and General Self Efficacy ($r(70)= 0.009$, $p=0.944$).

5. To test Hypothesis 5, that there would be a significant positive correlation between the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory and grade averages obtained, a Pearson’s R correlation test was used.
The mean score for Grade Average was 70.22 (SD=9) and the mean score on the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory was 58.21 (SD=22.26). A Pearson correlation co-efficient found there was no significant relationship between Grade Average obtained and scores on the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory (r(62)= 0.111, p=0.390).

a. The mean score for Grade Average was 70.22 (SD=9) and the mean score on the Interest/Enjoyment subscale of the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory was 32.13 (SD=9.66). A Pearson correlation co-efficient found there was no significant relationship between Grade Average obtained and scores on the Interest/Enjoyment subscale of the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory (r(62)= -0.002, p=0.987).

b. The mean score for Grade Average was 70.22 (SD=9) and the mean score on the Competence subscale of the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory was 24.69 (SD= 5.84). A Pearson correlation co-efficient found there was a significant relationship between Grade Average obtained and scores on the Interest/Enjoyment subscale of the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory (r(62)= 0.322, p=0.011).

c. The mean score for Grade Average was 70.22 (SD=9) and the mean score on the Choice subscale of the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory was 24.66 (SD= 9.81). A Pearson correlation co-efficient found there was no significant relationship between Grade Average obtained and scores on the Interest/Enjoyment subscale of the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory (r(62)= 0.034, p=0.796).

d. The mean score for Grade Average was 70.22 (SD=9) and the mean score on the Pressure/Tension subscale of the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory was 23.27 (SD= 6.85). A Pearson correlation co-efficient found there was no significant relationship between Grade Average obtained and scores on the Interest/Enjoyment subscale of
the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory ($r(62) = -0.061, p=0.638$).

6. To test Hypothesis 6 that there would be a significant correlation between scores on Perception of Parents Scales and grade averages obtained, a Pearson’s R correlation test was used to test for correlation between grade averages and the overall scores for both mother and father, and also for relationships between grade averages and the subscales for both mother and father.

The mean score for Grade Average was 70.22 (SD=9) and the mean overall score on the Perception of Parents Scale for the **Mother** was 111.76 (SD= 25.44). A Pearson correlation co-efficient found there was no significant relationship between Grade Average obtained and scores on the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory ($r(68)= -0.065, p=0.596$).

a. The mean score for Grade Average was 70.22 (SD=9) and the mean overall score on the Involvement subscale of the Perception of Parents Scale for the **Mother** was 31.37 (SD= 7.88). A Pearson correlation co-efficient found there was no significant relationship between Grade Average obtained and scores on the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory ($r(68)= 0.025, p=0.842$).

b. The mean score for Grade Average was 70.22 (SD=9) and the mean overall score on the Autonomy Support subscale of the Perception of Parents Scale for the **Mother** was 46.44 (SD= 11.76). A Pearson correlation co-efficient found there was no significant relationship between Grade Average obtained and scores on the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory ($r(68)= -0.95, p=0.439$).

c. The mean score for Grade Average was 70.22 (SD=9) and the mean overall score on the Warmth subscale of the Perception of Parents Scale for the **Mother** was 33.96 (SD= 7.58). A Pearson correlation co-efficient found there was no significant relationship between Grade Average obtained and scores on the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory ($r(68)= -0.094, p=0.444$).

The mean score for Grade Average was 70.22 (SD=9) and the mean overall score on
the Perception of Parents Scale for the **Father** was 109.4 (SD= 27.14). A Pearson correlation co-efficient found there was no significant relationship between Grade Average obtained and scores on the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory (r(62)= 0.153, p=0.234).

d. The mean score for Grade Average was 70.22 (SD=9) and the mean overall score on the Involvement subscale of the Perception of Parents Scale for the **Father** was 30.26 (SD= 8.42). A Pearson correlation co-efficient found there was no significant relationship between Grade Average obtained and scores on the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory (r(62)= 0.212, p=0.099).

e. The mean score for Grade Average was 70.22 (SD=9) and the mean overall score on the Autonomy Support subscale of the Perception of Parents Scale for the **Father** was 46.18 (SD=12.14). A Pearson correlation co-efficient found there was no significant relationship between Grade Average obtained and scores on the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory (r(61)= 0.071, p=0.587).

f. The mean score for Grade Average was 70.22 (SD=9) and the mean overall score on the Warmth subscale of the Perception of Parents Scale for the **Father** was 33.72 (SD= 7.88). A Pearson correlation co-efficient found there was no significant relationship between Grade Average obtained and scores on the adapted Task Evaluation Questionnaire of the Intrinsic Motivation Inventory (r(62)= 0.128, p=0.321).
Discussion of Results

Sample

A preamble to the discussion of the results of the statistical analyses concerns the sample obtained. Participants were divided roughly equally between those who self selected through links on online discussion boards and social media, and first year students studying the Higher Diploma in Psychology part-time in Dublin Business School who completed a paper questionnaire during class.

Both online and paper based questionnaires were submitted anonymously, and no demographic information concerning country of residence was obtained. However, given the geographic focus of the websites where the online survey was advertised, it can be estimated that a majority of the participants were Irish, with minorities from the UK, India and the United States. This places an immediate question over the grade averages submitted, given that different percentage grades would reflect differing levels of performance in different education systems- a grade of 70% representing first class honours under Ireland’s HETAC/QQAI grading system may be equivalent to an A grade, requiring 90% in the United States for example. Differences in grading systems may therefore have had an effect in skewing the raw data.

Class Interaction and Grades

While the online surveys were entirely anonymous, it was observed when inputting the data from the paper survey that although the students had been in all of the same classes, with the same instructors for the previous semester, the perceived level of classroom interaction varied from little interaction to very highly interactive. This would suggest that perceived interaction in the classroom is more a factor of how involved the individual student felt in the learning experience, rather than the actual level of interaction involved. However, it ought to be noted in this respect that the measure of classroom interaction was crude, and the paper questionnaires were completed almost three months after the end of the previous semester, which may have had the effect of distorting the memories of the respondents as to the level of interactivity in the classroom, particularly if classes in the current semester were particularly more or less interactive than the previous one.
Of findings of the present study, the existence of a negative correlation between perceived classroom interaction and grade average obtained is the most surprising. The theoretical work and limited research findings discussed in the introduction suggested that a positive correlation would be found, while an analysis of the data revealed the opposite—a significant, negative correlation between perceived classroom interaction and grade averages. This is all the more surprising if perceived interaction were in fact reflective of a student’s perceived level of involvement in the classroom rather than actual interaction.

Given that the level of interaction in the classroom was subjectively reported rather than objectively measured, one possible reason for the negative correlation may be related to the significant relationship between age and grade averages. Potentially, younger students might have been contrasting the level of interaction in their first semester of the Higher Diploma in Psychology with low levels of interaction in the undergraduate degrees, and perceiving it as higher than the older students, who may have been contrasting it with their workplaces. However, a Spearmann’s Rho test of correlation found no significant relationship between perceived interaction and age ($r_s (74)= -0.126, p= 0.283$).

Another explanation for negative correlation between levels of classroom interaction and grade averages is that it is not the amount of interaction which positively influences performance, but the quality, with some research evidence suggesting that interaction ought to be measured across Emotional Support, Classroom Organisation and Instructional Support (University of Virginia). The use of a more refined measure such as the CLASS system (University of Virginia) to assess interaction in the classroom would also allow for parametric testing of relationships.

**Age and Grades**

The hypothesis that older students would tend to obtain higher grades was confirmed in this study. This is in line with previous research discussed above, and may be related to older students making a more careful and independent choice in whether and what to study at third level. Such students might be seeking to satisfy higher level needs through higher education, and may attach more valence to higher grades.
Festinger’s theory of Cognitive Dissonance would suggest that a younger student, who might be pressurised into attending university and who is less likely to be making personal sacrifices to pay any tuition fees, might be less personally committed to obtaining higher grades, and therefore less motivated to work hard to obtain them. An older student is less likely to be under any pressure to pursue higher education, and may be more susceptible to suffering from dissonance if they do not translate their personal commitment to their studies in terms of time and money into higher grades. The older student may therefore be more motivated to work harder.

It should be noted that age bands (18-24, 25-34 etc) rather than ages were used in this study, which ruled out parametric testing for relationships. A refinement might be the conduction of a study using ages rather than bands, which would also have allowed for parametric testing.

**Self Esteem, General Self Efficacy and Grades**

The lack of a significant relationship between self esteem/self efficacy and grades obtained is somewhat surprising. However, it may be the case that some of those with lower self esteem and self efficacy are motivated to study harder to compensate for the weaknesses they perceive in themselves, resulting in their obtaining grades not related to their beliefs about themselves.

**Perception of Parents Scales and Grades**

The lack of any significant correlation between the Perception of Parents Scales, or any of the subscales, and grades received is also very surprising, especially given the research findings which suggest that participation in family routines- which one would expect would increase scores reported on the POPS- results in higher Socio-Emotional health, which is in turn correlated with higher academic achievement (Montefiore Medical Center, 2014).

There is a possibility that the scores reported on POPS reflect current relationships with parents, which may have improved in many cases since the participants entered third level, and presumably in a large number or majority of cases left the family home.
Possibly academic achievement is dictated by POPS scores which might have been reported earlier in life and is more stable and less susceptible to improvement over time than the POPS scores themselves. A longitudinal study might be the appropriate method to examine this question further. However, a Spearmann’s Rho correlation test found no significant relationship between age and Mother’s POPS Score ($rs(68)= 0.033$, $p= 0.792$) or Father’s POPS score ($rs (62)= 0.119$, $p= 0.356$).

Adapted Task Evaluation Questionnaire and Grades
It is again surprising that interest/enjoyment, choice and pressure/tension appear to have no bearing whatsoever on grades obtained, and that the only predictor of grades seems to be perceived competency at college work. This would appear to contradict the general thrust of some of the theories of motivation discussed earlier—perception of choice in pursuing a course of studies at least ought to predict higher valence attaching to the academic grades which are the outcome of academic pursuits, thus increasing motivation to work harder and achieve more highly.

A contrary interpretation of this lack of correlation might also be that those who are pursuing third level education more freely are more free in their choice because they are financially secure enough that they do not require higher qualifications to improve their earnings potential. For such students, as higher grades are not required for career development reasons, less valence might indeed be attached to higher grades.

It is interesting that there is a significant relationship between perceived competency at college and grades obtained, but that general self efficacy is not itself a predictor. Possibly people are less capable of recognising their efficacy in general, but are adept at recognising their efficacy in specific areas.

Future Research and Conclusion
A weakness in this study may be a lack of depth and focus. The participants may have been too widely drawn geographically to compare as a group, and the results may have been
distorted to some extent by cultural differences. The participants were also drawn from an unknown number of third level institutions, with unknown differences in grading criteria.

In terms of interaction in the classroom at least, the unreliability of this measure was evident in the range of responses by the group of students who completed the paper questionnaires, all of whom had attended the same classes the previous semester. In terms of the adapted Task Evaluation Questionnaire, this was of necessity completed after semester results had been obtained, and while there was significant correlation between grades and perceived competence, it is likely that perceived competence was affected by the grades actually received, whether positively or negatively.

For these reason, the only unambiguous conclusion from the current study is that academic achievement is positively correlated with age. For future research in this area, access to a large class over time would be preferred, in order that several questionnaires might be distributed over the semester, and later collated with grades achieved. Such a grouping could also be divided into classes with tutorials, and those without, in order to better assess how an interactive classroom affects academic achievement. More demographic information should also be obtained, in order to control for variables such as socio-economic status and age. A much more refined measure of classroom interaction should also be used.

It is said that research is the act of going up alleys to see if they are blind. The present study corroborates the lack of correlation between several variables and academic performance, thus providing indicators as to which alleys are more and less likely to be blind. The longer term goal of this study was and is to help provide focus for the allocation of scarce resources to improve outcomes in education, and in narrowing the focus, should increase the intensity and effect of resources so allocated.
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http://www.theatlantic.com/business/archive/2013/10/george-washington-university-rejected-students-simply-because-they-were-too-poor/280769/
My name is Laurence Cleary and I am conducting research in Dublin Business School’s Department of Psychology that explores academic motivation. 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 questionnaires. While the questionnaires ask some questions that might cause some minor negative feelings, they have all 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

Laurence Cleary

My supervisor can be contacted at

Thank you for taking the time to complete this survey.
Please answer the following questions. All questionnaires are completed anonymously. If you experience any discomfort in answering these questions, you may withdraw from participation in this study at any time.

**General Data**

1. Please circle one answer.

   Are you        Male  Female

2. Please give your age at your last birthday   _____ years

3. How would you rate, on average, the level of class involvement in your teaching/learning experience last semester. Please tick the box opposite the description which best matches your typical experience last semester in this regard

<table>
<thead>
<tr>
<th>Students were expected to sit quietly in the classroom, taking notes as the teachers/lecturers presented the material on powerpoint slides. The teachers/lecturers did not answer questions, and responded to any question from students about the subject being taught by instructing them to find the answer themselves. Students had no choice in relation to the continuous assessment aspects of the modules. Students were not asked for any feedback on the modules during the semester.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Some teachers/lecturers allowed students to ask and answer some questions, but the teachers/lecturers were primarily focused on presentation of the material on the powerpoint slides. Some teachers/lecturers gave choices between two or more options in continuous assessment. Feedback forms were completed with respect to some or all modules.</td>
<td></td>
</tr>
<tr>
<td>Students were allowed ask and answer some questions. Students were sometimes asked for their ideas on the subject. Students were sometimes permitted to choose between two or more options for continuous assessment. Students were asked to fill in one feedback form per module per semester.</td>
<td></td>
</tr>
<tr>
<td>Students allowed to ask and answer questions, and give opinions in a structured way, controlled by the teacher/lecturer. Students were usually permitted to choose between two or more options for continuous assessment. Students were asked to complete more than one feedback form per module per semester, and verbal feedback was occasionally sought.</td>
<td></td>
</tr>
<tr>
<td>Students were expected to participate actively in the classes, asking and answering questions on the material, and discussing the subject openly in class. Students were asked to suggest topics for in-class focus, and continuous assignment. Students were regularly asked for feedback on the module, the lecturer, the learning experience and the assessment process.</td>
<td></td>
</tr>
</tbody>
</table>
4. Please give your grade average for the last college semester _____ % or _____ GPA

Below is a list of statements dealing with your general feelings about yourself.

If you **strongly agree** with the statement circle **SA**.
If you **agree** with the statement circle **A**.
If you **disagree** with the statement circle **D**.
If you **strongly disagree** with the statement circle **SD**.

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<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>On the whole, I am satisfied with myself.</td>
<td>SA</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>At times, I think I am no good at all.</td>
<td>SA</td>
<td>A</td>
</tr>
<tr>
<td>3</td>
<td>I feel that I have a number of good qualities.</td>
<td>SA</td>
<td>A</td>
</tr>
<tr>
<td>4</td>
<td>I am able to do things as well as most other people.</td>
<td>SA</td>
<td>A</td>
</tr>
<tr>
<td>5</td>
<td>I feel I do not have much to be proud of.</td>
<td>SA</td>
<td>A</td>
</tr>
<tr>
<td>6</td>
<td>I certainly feel useless at times.</td>
<td>SA</td>
<td>A</td>
</tr>
<tr>
<td>7</td>
<td>I feel that I’m a person of worth, at least on an equal plane with others.</td>
<td>SA</td>
<td>A</td>
</tr>
<tr>
<td>8</td>
<td>I wish I could have more respect for myself.</td>
<td>SA</td>
<td>A</td>
</tr>
<tr>
<td>9</td>
<td>All in all, I am inclined to feel that I am a failure.</td>
<td>SA</td>
<td>A</td>
</tr>
<tr>
<td>10</td>
<td>I take a positive attitude toward myself.</td>
<td>SA</td>
<td>A</td>
</tr>
</tbody>
</table>
Please answer the following questions as follows:
If you think the statement is not at all true, please write 1 in the box opposite
If you think the statement is hardly true, please write 2 in the box opposite
If you think the statement is moderately true, please write 3 in the box opposite
If you think the statement is exactly true, please write 4 in the box opposite

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can always manage to solve difficult problems if I try hard enough</td>
<td></td>
</tr>
<tr>
<td>If someone opposes me, I can find the means and ways to get what I want</td>
<td></td>
</tr>
<tr>
<td>It is easy for me to stick to my aims and accomplish my goals.</td>
<td></td>
</tr>
<tr>
<td>I am confident that I could deal efficiently with unexpected events</td>
<td></td>
</tr>
<tr>
<td>Thanks to my resourcefulness, I know how to handle unforeseen situations</td>
<td></td>
</tr>
<tr>
<td>I can solve most problems if I invest the necessary effort.</td>
<td></td>
</tr>
<tr>
<td>I can remain calm when facing difficulties because I can rely on my coping abilities.</td>
<td></td>
</tr>
<tr>
<td>When I am confronted with a problem, I can usually find several solutions.</td>
<td></td>
</tr>
<tr>
<td>If I am in trouble, I can usually think of a solution.</td>
<td></td>
</tr>
<tr>
<td>I can usually handle whatever comes my way.</td>
<td></td>
</tr>
</tbody>
</table>

Format
1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true
Please answer the following questions about your mother and your father. If you do not have any contact with one of your parents (for example, your father), but there is another adult of the same gender living with your house (for example, a stepfather) then please answer the questions about that other adult. If you have no contact with one of your parents, and there is not another adult of that same gender with whom you live, then leave the questions about that parent blank.

**First, questions about your mother.**

Please use the following scale:

1- Not at all true
2- 
3- 
4- Somewhat true
5- 
6- 
7- Very True

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1. My mother seems to know how I feel about things.</td>
<td></td>
</tr>
<tr>
<td>2. My mother tries to tell me how to run my life.</td>
<td></td>
</tr>
<tr>
<td>3. My mother finds time to talk with me.</td>
<td></td>
</tr>
<tr>
<td>4. My mother accepts me and likes me as I am.</td>
<td></td>
</tr>
<tr>
<td>5. My mother, whenever possible, allows me to choose what to do.</td>
<td></td>
</tr>
<tr>
<td>6. My mother doesn't seem to think of me often.</td>
<td></td>
</tr>
<tr>
<td>7. My mother clearly conveys her love for me.</td>
<td></td>
</tr>
<tr>
<td>8. My mother listens to my opinion or perspective when I've got a problem.</td>
<td></td>
</tr>
<tr>
<td>9. My mother spends a lot of time with me.</td>
<td></td>
</tr>
<tr>
<td>10. My mother makes me feel very special.</td>
<td></td>
</tr>
<tr>
<td>11. My mother allows me to decide things for myself.</td>
<td></td>
</tr>
<tr>
<td>12. My mother often seems too busy to attend to me.</td>
<td></td>
</tr>
<tr>
<td>13. My mother is often disapproving and unaccepting of me.</td>
<td></td>
</tr>
<tr>
<td>14. My mother insists upon my doing things her way.</td>
<td></td>
</tr>
<tr>
<td>15. My mother is not very involved with my concerns.</td>
<td></td>
</tr>
</tbody>
</table>
16. My mother is typically happy to see me.

17. My mother is usually willing to consider things from my point of view.

18. My mother puts time and energy into helping me.

19. My mother helps me to choose my own direction.

20. My mother seems to be disappointed in me a lot.

21. My mother isn't very sensitive to many of my needs.

**Now questions about your father.**

Please use the following scale:

1- Not at all true  
2- _  
3- _  
4- Somewhat true  
5- _  
6- _  
7- Very True

22. My father seems to know how I feel about things.

23. My father tries to tell me how to run my life.

24. My father finds time to talk with me.

25. My father accepts me and likes me as I am.

26. My father, whenever possible, allows me to choose what to do.

27. My father doesn't seem to think of me often.

28. My father clearly conveys his love for me.

29. My father listens to my opinion or perspective when I've got a problem.

30. My father spends a lot of time with me.

31. My father makes me feel very special.
<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>32. My father allows me to decide things for myself.</td>
<td></td>
</tr>
<tr>
<td>33. My father often seems too busy to attend to me.</td>
<td></td>
</tr>
<tr>
<td>34. My father is often disapproving and unaccepting of me.</td>
<td></td>
</tr>
<tr>
<td>35. My father insists upon my doing things his way.</td>
<td></td>
</tr>
<tr>
<td>36. My father is not very involved with my concerns.</td>
<td></td>
</tr>
<tr>
<td>37. My father is typically happy to see me.</td>
<td></td>
</tr>
<tr>
<td>38. My father is usually willing to consider things from my point of view.</td>
<td></td>
</tr>
<tr>
<td>39. My father puts time and energy into helping me.</td>
<td></td>
</tr>
<tr>
<td>40. My father helps me to choose my own direction.</td>
<td></td>
</tr>
<tr>
<td>41. My father seems to be disappointed in me a lot.</td>
<td></td>
</tr>
<tr>
<td>42. My father isn’t very sensitive to many of my needs.</td>
<td></td>
</tr>
</tbody>
</table>

Please use the following scale:

1- Not at all true
2-   
3-   
4- Somewhat true
5-   
6-   
7- Very True
For each of the following statements, please indicate how true it is for you, on a scale of 1 to 7 where:

1: Not at all true  4: Somewhat true  7: Very True

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>While doing college work last semester I was thinking about how much I enjoyed it.</td>
</tr>
<tr>
<td>2.</td>
<td>I did not feel at all nervous about doing college work last semester.</td>
</tr>
<tr>
<td>3.</td>
<td>I felt that it was my choice to go to college last semester.</td>
</tr>
<tr>
<td>4.</td>
<td>I think I am pretty good at college work.</td>
</tr>
<tr>
<td>5.</td>
<td>I found college work last semester very interesting.</td>
</tr>
<tr>
<td>6.</td>
<td>I felt tense while doing college work last semester.</td>
</tr>
<tr>
<td>7.</td>
<td>I think I did pretty well in college last semester, compared to other students.</td>
</tr>
<tr>
<td>8.</td>
<td>Doing college work last semester was fun.</td>
</tr>
<tr>
<td>9.</td>
<td>I felt relaxed while doing college work last semester.</td>
</tr>
<tr>
<td>10.</td>
<td>I enjoyed doing college work last semester very much.</td>
</tr>
<tr>
<td>11.</td>
<td>I didn’t really have a choice about doing college work last semester.</td>
</tr>
<tr>
<td>12.</td>
<td>I am satisfied with my performance at college last semester.</td>
</tr>
<tr>
<td>13.</td>
<td>I was anxious while doing college work last semester.</td>
</tr>
<tr>
<td>14.</td>
<td>I thought college last semester was very boring.</td>
</tr>
<tr>
<td>15.</td>
<td>I felt like I was doing what I wanted to do while doing college work last semester.</td>
</tr>
<tr>
<td>16.</td>
<td>I felt pretty skilled at college work.</td>
</tr>
<tr>
<td>17.</td>
<td>I thought college work last semester was very interesting.</td>
</tr>
<tr>
<td>18.</td>
<td>I felt pressured while doing college work last semester.</td>
</tr>
<tr>
<td>19.</td>
<td>I felt like I had to do college work last semester.</td>
</tr>
<tr>
<td>20.</td>
<td>I would describe doing college work last semester as very enjoyable.</td>
</tr>
<tr>
<td>21.</td>
<td>I did college work last semester because I had no choice.</td>
</tr>
<tr>
<td>22.</td>
<td>After doing college work last semester for awhile, I felt pretty competent.</td>
</tr>
</tbody>
</table>
Helplines & Support Services

AHEAD (Association for Higher Education, Access and Disability)
(01) 4752386

Association for Children and Adults With Learning disabilities (& Dyslexic Association)
(01) 6790276

Aware
01 661 7211

Bereavement Counselling Service
(01) 8391766

Bodywhys
(01) 2835126

Cari Foundation - Children At Risk in Ireland
1890 924 567

Cherish (Pregnancy support service)
(01) 6629212

Console
(Low-cost one-on-one counselling service for anyone affected by suicide. Also run therapeutic support groups and courses.)
1800 201 890

Crime Victims Helpline
Crime Victims Helpline is a National Helpline which offers support to victims of crime in Ireland.
If you are a victim of crime support is available by contacting:
Free Phone 116 006
Text on 085 1 33 77 11
Email: info@crimevictimshelpline.ie

Drugs Helpline
1800 459 459

Dublin Rape Crisis Centre
1800 77 88 88

Gingerbread Ireland (Lone Parents and Children)
(01) 6710291

HIV Helpline
1800 459 459

Samaritans
1850 60 90 90

Suicide Bereavement Support Group
(01) 8484789

Victim Support
1800 661 771

Women's Aid National Freephone Helpline
1800 341 900
<table>
<thead>
<tr>
<th>Organisation</th>
<th>Location</th>
<th>Contact Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEREAVED BY SUICIDE FOUNDATION</td>
<td>Dublin</td>
<td>1800 201 890</td>
</tr>
<tr>
<td>CHERISH (advice, information &amp; support single</td>
<td>Dublin</td>
<td>1890 662 212</td>
</tr>
<tr>
<td>parents)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRISIS PREGNANCY AGENCY</td>
<td>Dublin</td>
<td>01 8146292</td>
</tr>
<tr>
<td>GINGERBREAD (one parent families)</td>
<td>Dublin</td>
<td>01 6710291</td>
</tr>
<tr>
<td>IACP (Irish Assc.for Counselling &amp; Psychotherapy)</td>
<td>Dublin</td>
<td>01 2300061</td>
</tr>
<tr>
<td>LIVING LIFE CENTRE (Low cost / voluntary</td>
<td>Dublin</td>
<td>01 2866729</td>
</tr>
<tr>
<td>counselling)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RELATIONSHIPS IRELAND (formerly MARRIAGE &amp;</td>
<td>Dublin</td>
<td>01 6785256</td>
</tr>
<tr>
<td>RELATIONSHIP COUNSELLING SERVICE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATER HOSPITAL SOCIAL ANXIETY GROUP</td>
<td>Dublin</td>
<td>01 8032855</td>
</tr>
<tr>
<td>MENTAL HEALTH ASSOCIATION OF IRELAND</td>
<td>Dublin</td>
<td>01 2841166</td>
</tr>
<tr>
<td>NOVA (National office for Victims of Abuse)</td>
<td>Dublin</td>
<td>1800 252 524</td>
</tr>
<tr>
<td>OandA (out and about association – sufferers of</td>
<td>Dublin</td>
<td>01 8338252/3</td>
</tr>
<tr>
<td>agoraphobia)</td>
<td></td>
<td>01 6234040</td>
</tr>
<tr>
<td>ONE IN FOUR</td>
<td>Dublin</td>
<td>01 6624070</td>
</tr>
<tr>
<td>PARENTLINE</td>
<td>Dublin</td>
<td>1890 927 277</td>
</tr>
<tr>
<td>RAPE CRISIS CENTRE DUBLIN</td>
<td>70 Lwr Leeson St,</td>
<td>01 6617911</td>
</tr>
<tr>
<td></td>
<td>Dublin 2</td>
<td>1800 778 888</td>
</tr>
<tr>
<td>SEXUAL ASSAULT TREATMENT UNIT</td>
<td>Rotunda Hospital</td>
<td>01 8171736</td>
</tr>
<tr>
<td></td>
<td>Dublin</td>
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</tbody>
</table>

**Freephone Numbers for National Counselling Service**

*Details of your local freephone number for the HSE National Counselling Service*

<table>
<thead>
<tr>
<th>Area</th>
<th>Freephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dublin North County/Dublin North Central &amp;</td>
<td>1800 234 110</td>
</tr>
<tr>
<td>Dublin North West</td>
<td></td>
</tr>
<tr>
<td>South East Dublin/Dun Laoghaire &amp; East</td>
<td>1800 234 111</td>
</tr>
<tr>
<td>Wicklow</td>
<td></td>
</tr>
<tr>
<td>Dublin South Central/ Dublin South West/</td>
<td>1800 234 112</td>
</tr>
<tr>
<td>Kildare &amp; West Wicklow</td>
<td></td>
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<tr>
<td>Midlands</td>
<td>1800 234 113</td>
</tr>
<tr>
<td>West</td>
<td>1800 234 114</td>
</tr>
<tr>
<td>Mid-West</td>
<td>1800 234 115</td>
</tr>
<tr>
<td>Kerry &amp; Cork</td>
<td>1800 234 116</td>
</tr>
<tr>
<td>North East</td>
<td>1800 234 117</td>
</tr>
<tr>
<td>South East</td>
<td>1800 234 118</td>
</tr>
<tr>
<td>North West</td>
<td>1800 234 119</td>
</tr>
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</table>