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The Factors Related to Performance in a First Year Commerce Academic Development
Programme: Matriculation Result, Self-Efficacy, Goal-Setting Orientation and Locus of Control.

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COMPULSORY DECLARATION:

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works of other people has been attributed, cited and referenced.

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Abstract

The purpose of this dissertation is to investigate the factors related to performance in a first year Commerce Academic Development (AD) Programme at the University of Cape Town (UCT), South Africa. The independent variables (factors) chosen for this study were Matriculation result, self-efficacy, goal-setting orientation and locus of control. These factors and their impact on the academic performance of students within this Commerce AD programme were investigated. The results from the study will be useful to the Educational Development Unit (EDU) at the university for the purpose of assessing which psychological variables are having the most influence on their student population. The results will also assist in explaining why, in several cases, these AD students are outperforming the mainstream students academically. A non-experimental research design, following the quantitative tradition was used in pursuit of the research objectives. Data were collected by means of a questionnaire and the results analysed using quantitative statistical methods. The sample consisted of 116 first year Commerce AD students. The measuring instruments included the College Academic Self-Efficacy Scale (CASES), Roedel, Schraw and Plake's Goals Inventory and the Internal Control Index (ICI) of Duttweiler. Limited statistically significant relationships were found between the independent variables and academic performance. The research design was critiqued and deemed to be problematic; therefore changes would need to be made for future research in a similar area. Practical implications of these findings are discussed.

Keywords: Academic performance; Matriculation result; self-efficacy; locus of control; goal-setting orientation; mean percentage score

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ABBREVIATIONS

Academic Development	(AD)
Accounting Post Graduate Programme	(PGDA)
College Academic Self-Efficacy Scale	(CASES)
Commerce Academic Development Programme	(CADP)
Bachelor of Business Science	(B.Bus.Sci)
Bachelor of Commerce	(B.Com)
Eco	(Economics)
Economics first semester course	(ECO111F)
Economics half year course	(ECO1110H)
Educational Development Unit	(EDU)
Grade Point Average	(GPA)
Internal Control Index	(ICI)
LOC	(locus of control)
Pharmacy College Admission Test	(PCAT)
Mastery	(mastery subscale items)
National Benchmark Test	(NBT)
National Senior Certificate	(NSC)
Performance	(performance subscale items)
SE	(self-efficacy)
Sem1Aggr	(mean percentage score)
University of Cape Town	(UCT)

There has been a steady increase in Academic Development (AD) programmes in South Africa over the past decade (Howard, 2002; Scott, Yeld & Hendry, 2007). AD programmes are designed to help students from disadvantaged backgrounds develop the necessary competencies to successfully complete university degrees (Eastmond, 1997; Educational Development Unit Commerce, 2010; Lockett & Lockett, 2009). This study investigated the factors related to performance in a first year Commerce Academic Development programme (CADP) at the University of Cape Town (UCT). After an extensive examination of the literature pertaining to which factors had previously been found to be related to academic performance at university in mainstream programmes, four independent variables (factors) were selected; Matriculation result, self-efficacy, goal-setting orientation and locus of control. Cognitive and non-cognitive factors have previously been found to predict first year students' performance at university level (Ayiku, 2005; Maggard, 2007). Limited topical research has been conducted in South Africa regarding the factors that impact the academic performance of students who are enrolled in academic development programmes. The majority of the research has been conducted within mainstream programmes. Understanding the factors that contribute to success in AD programmes is important as South Africa has suffered deep racial divides that have affected scholars' and students' educational opportunities (Scott et al., 2007; Van Tonder, 2002).

Since the eradication of apartheid, traditionally White universities have been admitting an increasing number of Black students into their student body (Agar, 1990; Bangeni & Kapp, 2006; Council on Higher Education, 2004). Due to the massive differential in the quality of education, many of these Black students experience adjustment difficulties, which have led to a high drop-out and failure rate at university (Macgregor, 2007). This reality is particularly apparent in faculties that require strong mathematics backgrounds such as the Commerce and Science faculties. Approximately 40% of South African students drop out of university in their first year (Macgregor, 2007). Financial difficulties experienced amongst South Africa's large pool of poor Black students and which result in impoverished education are largely to blame. First generation students who originate from low-income, less educated families are the most likely to drop out of university (Macgregor, 2007).

The validity of traditional, unitary educational processes such as mainstream higher education programmes are challenged by the diversity of student intake, especially in respect of inequalities in education background (Scott et al., 2007). Therefore, the notion of a “one size fits all” academic programme (such as the university *only* offering a mainstream education programme) is inappropriate in this context due to students originating from unequal education systems and positions of social, economic and political inequality (Porteus, 2003). Where there is substantial diversity in the student body, a unitary process will not be able to address the potential of the full spectrum of the intake of a diverse group of students in a programme that inadvertently favours one group over another group (Scott et al., 2007). Black students comprise the largest proportion of students with low income status, with 73% of these students originating from low income families compared to only 12% of White students originating from these low-income backgrounds (Macgregor, 2007). Hence, there has been an increasing need for interventions to assist in closing the ‘articulation gap’, which has manifested in students due to the lack of a sound foundation for tertiary education. These interventions address the educational dissimilarities experienced by these students from disadvantaged backgrounds in South Africa (Scott et al., 2007).

Although it will take decades to eradicate past imbalances in South Africa’s education system, AD programmes have been identified as the key intervention in this regard (Eastmond, 1997). For this reason there is a need to investigate the factors that are related to the performance of students within the Commerce AD programme at UCT in order to address the under-preparedness of these students for higher education studies as a result of a disjuncture regarding their home and tertiary environments (Van Tonder, 2002). Higher education institutions need to come to terms with the diverse profile of the student body and these institutions need to cater effectively for the difference in student education levels resulting from unequal educational circumstances (Scott et al., 2007). The AD programme at UCT is one medium through which this disparity in students’ educational opportunities and the lack thereof can be ameliorated as a way to facilitate these students’ learning (Scott et al., 2007).

Previous research pertaining to the specified independent variables (Matriculation result, self-efficacy, goal-setting orientation and locus of control) and their contribution in predicting

academic performance at university was reviewed. There is sufficient research to suggest that these variables predict academic performance in mainstream academic programmes (Albaili, 1998; Astin, 1971; Bouffard, Boisvert, Vereau & Larouche, 1995; Carroll & Garavalia, 2004; Choi, 2005; Elias & MacDonald, 2007; Eppler & Harju, 1997; Fincher, 1986; Gore, 2006; Hendrich & Schepers, 2004; McKenzie & Schweiter, 2001; Miller, Beherens, Greene & Newman, 1993; Schraw, Horne, Thorndike-Christ & Bruning, 1995; Sellers, 1992; Stupnisky et al., 2007; Win & Miller, 2005).

Given the increasing number of AD programmes in the South African context over the past decade, it would be valuable to understand these programmes and the psychological factors that they are believed to cultivate in students. The understanding of cognitive as well as non-cognitive factors is imperative in order to comprehend the AD programmes in a holistic sense (Ayiku, 2005; Maggard, 2007). It is important to investigate the cognitive variable, Matriculation result, as well as, the psychological variables: self-efficacy, goal-setting orientation and locus of control, and to investigate whether or not these factors influence students' performance specifically in the Commerce AD programme at UCT. This study aims to supplement the limited previous research conducted on what factors predict academic performance specifically within AD programmes.

Literature Review

This review will begin by providing a contextual description of the case at hand, being the particular Commerce AD programme offered at UCT. Thereafter, previous research pertaining to the independent and dependent variables will be summarised and presented. Previous reports on research that sought to investigate the factors that are related to performance at university are presented. Matriculation result is included as a factor as this is a proven predictor of success in mainstream but this is more complicated in the case of AD programmes because some students who enter these programmes do so with lower Matriculation results than their mainstream counterparts. The specific factors included in this study are Matriculation result, self-efficacy, goal-setting orientation and locus of control. These factors constitute the independent variables, while academic performance constitutes the dependent variable. Overwhelming evidence was found that led to the development of the hypotheses presented at the end of this review. This Commerce AD programme attempts to foster these independent psychological variables. In previous studies of mainstream students, these factors have been shown to predict performance, hence the need to investigate whether this is similarly the case regarding this Commerce AD programme.

As demonstrated by the references cited and evidence presented from studies conducted in mainstream programmes, it is evident that very limited research has been carried out in AD programmes. After an exhaustive research process, it was established that most previous findings indicated that the independent variables chosen for this study predict, to varying degrees, the academic performance of first year university students in mainstream programmes (Albaili, 1998; Astin, 1971; Bouffard et al., 1995; Carroll & Garavalia, 2004; Choi, 2005; Elias & MacDonald, 2007; Eppler & Harju, 1997; Fincher, 1986; Gore, 2006; Hendrich & Schepers, 2004; Locke & Locke, 1990; McKenzie & Schweiter, 2001; McWhaw & Abrami's, 2001; Miller et al., 1993; Schraw et al., 1995; Sellers, 1992; Stupnisky et al., 2007; Win & Miller, 2005; Zimmerman, 1989; Zimmerman & Schunk, 1989). A contextual description of the case at hand will be provided and the Commerce AD programme at UCT, as the site of the study, will be described.

Academic Development in the South African Context: A Brief Background

The separation and inequality of the South African tertiary education system is largely a consequence of the apartheid policy of the former South African government (Agar, 1990; Howard, 2002; Scott et al., 2007). Since the eradication of apartheid, traditionally White universities have been admitting an increasing number of Black students into their student body (Agar, 1990; Bangeni & Kapp, 2006; Council on Higher Education, 2004). Many of these students have adjustment difficulties, which has led to a high drop-out and failure rate at university (Macgregor, 2007). The drop-out rate of Black students at university is disproportionately high when compared to the drop-out rate of White students at the same universities (Agar, 1990; Letseka & Maile, 2008; Swartz & Foley, 2006). This raises questions about these students' readiness to enter university and their academic potential (Malekele, 1994). Given these educational inequalities, it is unfair to use the typical Matriculation result as the sole admission criterion for university for these students who originate from disadvantaged backgrounds.

The notion of a separate academic programme has inherent issues and challenges that must not be ignored. There is the obvious issue involving a separate academic programme based on 'disadvantage' (Pym, 2006). Participation in these AD programmes could possibly expose students to racial discrimination from outsiders, as well as, entrench the identity of being on the 'fringe' (Pym, 2006). The danger exists that these different programmes can contribute to new forms of segregation and discriminations (Sayed, 2003). The students are aware of the rationale for this programme, in that the focus is on addressing the historical and political circumstances that have given rise to the programme (Pym, 2006). They are aware of the value-added aspects of participating in this programme and the notable benefits that are associated therewith. A description of the Commerce AD programme at UCT, the purpose and the benefits, will follow.

Case under Study

The specific academic programme considered for this study was the Commerce AD programme at the University of Cape Town (UCT). The Educational Development Unit (EDU) Commerce is the home of the AD Bachelor of Commerce (B.Com) and Bachelor of Business Science (B.Bus.Sci) programmes (Educational Development Unit Commerce, 2010). The purpose of the

AD programme is to address the university policy of promoting both equity and excellence. The aim of the programme is to attract and retain previously disadvantaged students of equity status who have experienced 'articulation gaps' and discrepancies in both education and life experiences but who have the potential to achieve at university (The Educational Development Unit Commerce, 2010). This programme is geared to this aim in the Commerce faculty but other initiatives exist throughout the university in other faculties. The 'articulation gap' is manifested in students due to a lack of sound foundations for tertiary learning experiences and this 'gap' has overwhelming effects on students' ability to respond competently to higher education programmes, regardless of how talented they actually are (Scott et al., 2007). The EDU has shifted from a deficit model to a value added model. One of the ways of doing this has been to allow students to apply to the AD programme, rather than being placed because they did not receive sufficient Matric points. This means that a range of students who have achieved or not achieved mainstream admission points are able to apply to the AD programme. This perception has shifted all the concomitant stereotypes that were previously associated with a programme for Black students who *didn't make it* (J. Pym, personal communication, December 11, 2010). There is a careful screening process of student applications for entrance into the programme. This specific group of students is given the option to complete a three-year B.Com degree over a three or four-year period or a four-year B.Bus.Sci degree over a four or five-year period. The AD programme provides the students with a variety of academic support that is designed to enhance a comprehensive range of education and life skills, which endeavours ultimately to enrich the students' learning experiences.

The majority of the students who have been admitted into the AD programme in Commence at the university choose to focus on the accounting discipline, with the intention of completing the Post Graduate Diploma in Accounting (PGDA) together with the mainstream accountancy students. Students are assessed to assure that they do in fact have gaps in their education or general life experiences, before they are admitted into the AD programme (Educational Development Unit Commerce, 2010). The first year Commerce AD programme, the population utilised during this study, is currently comprised of 212 students in total; the B.Com programme is comprised of 120 students and the B.Bus.Sci programme is comprised of 92 students (S. Stuart, personal communication, April 8, 2010). The entire Commerce AD programme, for all

years, consists of approximately 500 B.Com students and 235 B.Bus.Sci students (S. Solomons, personal communication, November 16, 2010).

A South African higher education case study exploring the possibility of defining the barriers to learning was written by Pym (2006). This case study addressed the current issues of transformation in the South African context. The context of the case study was the Commerce Academic Development Programme (CADP) at UCT. Porteus (2003) strengthened the case for an AD model insofar as students have different cultural ‘capitals’ and only some of these are recognised or acknowledged in Higher Education in South Africa. The notion of having one mainstream programme suited to all students is inappropriate in this context due to students originating from unequal positions socially, economically and politically (Porteus, 2003). While designing the structure of an AD programme for engineering students at a South African university, staff were mindful of the wide gap that exists between where the students are when they enter the programme and where they need to be if they wish to leave the programme to enter mainstream tertiary education (Van Tonder, 2002). Van Tonder (2002) identified that these students from disadvantaged backgrounds have specific needs in the following areas; cognitive, environmental, emotional, social and psychological areas of development. Van Tonder’s finding is relevant here as the current study is attempting to investigate some of the psychological areas that have been identified as relevant in understanding performance in the AD context.

The benefits for students who participate in the AD programme. There are numerous benefits in being admitted into the Commerce AD programme which involves close monitoring of student’s academic progress. The students have regular contact with an AD officer and they have a range of opportunities to interact with fellow students on the programme with the aim of developing and practicing collaborative learning and communication skills. Specific support is offered in all the major disciplines, such as language development and mathematics, as well as there being dedicated teaching staff (Educational Development Unit Commerce, 2010). Examples of this additional support include presentation skills, academic workshops, personal advice and support, mentoring, commerce skills, small lending library, language and communication skills and the support of a writing consultant.

Students remain part of the AD programme (registered separately as CB011) throughout the degree. After first year, all students automatically attend mainstream lectures and tutorials. Students who originally registered to do the degree over four years can, depending on how they perform, ‘accelerate’ and complete the degree in three years, as mainstream students are meant to do (J. Pym, personal communication, March 5, 2010). Therefore, the Commerce AD programme does not hinder students from progressing in the planned degree time (into mainstream), it rather supports this move. Many students who enter into this programme are often able to complete their degree of choice in the same amount of time as the mainstream students.

The AD programme offers their students a sense of place and belonging (J. Pym, personal communication, March 5, 2010). A learning community is created where the students are able to develop their own identities as participants in such a programme, hence they speak of the “EDU family”. After initiation into the AD programme, students find that they do not want to leave as they feel deeply proud of and loyal to the programme and the group of students with whom they study (Pym, 2006). The camaraderie and support provided by the programme and participation therein are instilled in the students and form part of their identities (Pym, 2006).

The proven success of the Commerce AD programme. The Commerce AD programme at UCT has been in existence for a decade with a proven success rate. Students who participate in this programme often enter university with low Matriculation results yet they are outperforming mainstream students in many cases. These superior results suggest that the various components of the programme ensure that students succeed academically in their courses of study. Academic workshops and awards evenings characterise what the AD programme stands for. There is much social, emotional and academic support provided to the students. This programme centres on personal agency, capacity building and adjusting to life at UCT, that is, finding a place (J. Pym, personal communication, March 5, 2010). There are specific interventions in the first part of first year such as mentoring, personal advice/support, academic workshops, AD induction and bursary connections which are designed to help students fortify their self-efficacy beliefs, locus of control beliefs and goal-setting orientations (Educational Development Unit Commerce, 2010). While the programme has attempted to foster these, limited research has been conducted

to see if they are empirically related to the students' actual performance and hence, this then becomes an interesting area for further investigation and the rationale for this study.

The UCT Commerce AD programme has been identified by sources external to the university as an example of best practice in this field (J. Pym, personal communication, March 5, 2010). Success in this context is measured by academic results and throughput rates (Scott et al., 2007). As mentioned previously, in a number of instances, these students outperform or achieve higher academic results than mainstream students completing the same course (J. Pym, personal communication, March 5, 2010). For example, AD students taking Financial Accounting 1A outperformed mainstream students for the years 2003, 2005, 2006, 2007 and 2008. Similarly, students who completed Microeconomics 1 outperformed mainstream students in the years 2001, 2002, 2005, 2006, 2007, 2008 and 2009 and those students who completed Statistics 1001 outperformed their mainstream counterparts consistently from 2005 to 2009 (J. Pym, personal communication, March 5, 2010). All Commerce AD students who were admitted into the PGDA passed their Board examination for the years 2006, 2007, 2008 and 2009. The number of students who were accepted into this post graduate programme increased by 15 students between the years 2006 and 2007. AD student acceptance into the PGDA programme continues to increase (J. Pym, personal communication, March 5, 2010).

The objective of this dissertation is to assess whether the chosen independent variables; Matriculation result, self-efficacy, goal-setting orientation and locus of control are related to the dependent variable; academic performance. Academic performance served as the dependent variable for this study and will subsequently be discussed.

Dependent Variable

Academic performance. The dependent variable, academic performance, was defined in terms of the aggregate of each student's academic results for all of their first semester courses. These scores are referred to as the student's mean percentage scores. In addition to the overall mean percentage score, an economics course (ECO111F and ECO1110H) was chosen for further analysis. While this economic result is also included in the overall mean percentage score, it will be looked at independently as a common course across all first year. UCT uses the information

management software programme, PeopleSoft, for the purpose of calculating the students' mean percentage scores. This score is calculated by the PeopleSoft student records application. PeopleSoft uses the term Grade Point Average (GPA) when referring to these scores. GPA is calculated from the actual performance of students in their courses (Oracle PeopleSoft Enterprise, 2006). The courses have a weighting in terms of units and the performance is shown as the percentage scored for each course multiplied by the units to give one the cumulative grade points. This result will be referred to as the students' mean percentage scores throughout this dissertation. GPA is thus calculated based on units taken (A. Schlechter, personal communication, April 7, 2010). Students' first year, first semester mean percentage scores have been found to be one of the major factors responsible for early drop out from university (McGrath & Braunstein, 1997).

The subsequent section of the literature review aims to illustrate the findings of previous authors, who explored the impact of the specified independent variables on students' academic performance. After an exhaustive search, it is evident that limited research has been conducted on the academic performance of students in AD programmes, with authors focussing on mainstream programmes in their studies. The cognitive variable, Matriculation result, is a leading measure used to predict university performance and hence a valuable variable to look at here (Zheng, Saunders, Shelley & Whalen, 2002). However, while research shows that Matriculation result is a predictor of success in mainstream programmes, it is assumed that it will *not* and should not predict success in the AD context.

Independent Variables

Matriculation result. Numerous studies have supported Matriculation result as a predictor of academic performance in mainstream tertiary education (Astin, 1971; Bronson, 2007; Carroll & Garavalia, 2004; Elias & MacDonald, 2007; Fincher, 1986; Maggard, 2007; McKenzie & Schweiter, 2001; Sellers, 1992; Win & Miller, 2005; Zulu, 2005). Academic achievement measures, such as Matriculation result, are used to predict whether prospective students will, in fact, be successful in the university classroom (Noble & Sawyer, 2004). Matriculation or final year results have been consistently shown to predict performance at university, specifically in

studies of first year students (Astin, 1971; Carroll & Garavalia, 2004; Elias & MacDonald, 2007; Fincher, 1986; McKenzie & Schweiter, 2001; Sellers, 1992; Win & Miller, 2005;).

Support for Matriculation result as a predictor of academic performance. Fincher (1986) and Astin (1971) explored Matriculation result as a predictor of academic performance. In a thirteen-year study to assess the incremental effectiveness of the SAT exam for admission into the University System of Georgia, Fincher (1986) found that the single best predictor of university performance was a student's Matriculation result. Fincher (1986) affirmed what previous studies had reported in that Matriculation result stands out as the primary means of predicting academic performance at university. In a study with a sample of 36 581 students, correlations between Matriculation result and first year university results were .51 and .52 for men and women respectively (Astin, 1971). Astin (1971) concluded that of all the information available about a high school student, Matriculation result is the best single indicator of how well the individual will perform at university level. It has been found that universities which are more selective with regard to admissions based on Matriculation results, will receive greater achievement and retention amongst first year students (DeBerad, Julka & Spielmans, 2004).

A study conducted amongst a sample of 3301 first year students enrolled in Adama University, Ethiopia for the years 2007/2008 was conducted by Olani (2009) in order to investigate the predictors of first year students' academic success. The effectiveness of cognitive predictors of university performance, such as Matriculation result, have been found to have consistently high correlations with a university student's mean percentage scores, with Matriculation result accounting for 17% of the variance in students' first year university results (Olani, 2009). Kuncel, Hezlett and Ones' (2001) finding was in agreement with the previous findings as they found that Matriculation result appeared to have comparatively high criterion-related validities with students' mean percentage scores, with correlations between .44 and .62. Whilst investigating the factors that predict academic performance, McKenzie and Schweitzer (2001) found Matriculation result to be the most significant predictor of first year university performance. The sample consisted of 197 first year university students in Australia and academic performance was assigned as the dependent variable. It was established that students

with a high Matriculation result were likely to continue to perform at a high level in their first year at university (McKenzie & Schweitzer, 2001).

Bronson's (2007) article titled 'In Defense of the SAT' illustrated that Matriculation result is an accurate predictor of future academic performance. It was previously found that Matriculation result scores correlate with university GPA (mean percentage scores) at around 67% in the social sciences. Bronson (2007) stated that it has been commonly claimed that Matriculation results have only about a 40% correlation with a student's first year university mean percentage score. He also alleged that this 40% correlation is a significant underestimate. A scholar's Matriculation result has been found to account for between approximately 44% and 62% of the variance in university academic results (Bronson, 2007). Berry and Sackett (2009) maintained that this predictor of academic performance has been underestimated in the past because of previous studies' reliance on flawed performance indicators, such as university mean percentage scores, that are contaminated by the effects of individual differences in course choice. The contamination was controlled for throughout Berry and Sackett's study by predicting individual course grades, instead of mean percentage scores, using a data set containing in excess of 5 million university grades for 167 816 students (Berry & Sackett, 2009). The results of this study mirror that of Bronson's (2007) conjecture that the 40% correlation previously and commonly suggested is a considerable underestimate. Maggard's (2007) finding that Matriculation result is a significant predictor of future academic performance echoes the findings of Berry and Sackett (2009).

Win and Miller (2005) determined a strong positive relationship between Matriculation result and university mean percentage scores. Prior performance measured as a student's Matriculation result, was found to serve as a significant predictor of university performance amongst a sample of 202 university students enrolled in introductory psychology courses at a university in the United States of America (Elias & MacDonald, 2007). Ninety-five per cent of the student sample was White and the sample was a mix of first, second, third and final year students with the majority, 67.3%, being first year students (Elias & MacDonald, 2007). The study carried out by Win and Miller (2005) differs from the studies conducted by McKenzie and Schweitzer (2001) and Elias and MacDonald (2007). Win and Miller's (2005) study investigated Matriculation

result and other social variables (such as student background and school factors) as predictors of academic performance, whereas the other two studies, examined the effects of Matriculation result and psychological variables, such as self-efficacy, on academic performance. This indicates that social, as well as, psychological variables may impact on an individual's ability to achieve results at university level. This differentiation regarding cognitive and non-cognitive predictors of first year university performance echoes what Olani (2009) was attempting to investigate in the Ethiopian context. This current study seeks to investigate the scholastic and psychological variables with Matriculation result being the cognitive or traditional measure of academic performance.

An opportunity to look at Matriculation result as a predictor of academic performance for particular groups in particular contexts presented itself in Maggard's (2007) study of student-athletes enrolled at the University of Missouri in North America. The aim of this study was to identify academic variables that could possibly explain the variance in GPA scores among the aforementioned student-athlete population, at the end of the first semester. This study affirms past research that Matriculation result is, in fact, a predictor of academic performance, but it differs from other studies in that the sample that Maggard (2007) used was not solely the first year students, but rather students who were admitted to the university during the years 2002–03, 2003–04, and 2004–05. The results of this study demonstrate that Matriculation result accounted for 21% of the variance in student-athletes' first semester college GPA. Matriculation result was recognised as the best predictor of first semester university GPA for the population studied.

Another study focussing similarly on student-athletes was conducted by Sellers (1992). The study established that Matriculation result was the only significant predictor for academic performance at university. The finding by Sellers (1992) was consistent for *both* Black and White student-athletes while Maggard's (2007) study found that Matriculation result proved to be more effective in predicting the academic performance of White students and less effective in predicting the academic performance of Black students. These findings suggest that one should perhaps consider and examine social factors such as race and socio-economic status when attempting to understand completely Matriculation result as a predictor of academic performance. This is important because the sample of students used in the current study are all

Black and they all originate from previously disadvantaged backgrounds and therefore external social factors such as family income may be useful in understanding their academic performance.

Matriculation result found to differentiate between high and low performers. Carroll and Garavalia (2004) went a step further to demonstrate that Matriculation result was not *only* a statistically significant predictor of academic performance, but that it also differentiated the performance of lower and higher-performing students at university. Science/mathematics GPA before university admission was identified as a statistically significant factor differentiating the performance of lower-and higher-performing students. Low-performing students at university had a lower science/mathematics GPA on admission comparative to the higher-performing students. Low performers also had substantially lower chemistry scores on the Pharmacy College Admission Test (PCAT) than the higher-performing students. This study established that high-performing students can be distinguished from their low-achieving counterparts through ability measures such as mathematics/science GPA at school level.

A South African study. The research described thus far is international, but a study located at the North-West University (Makifeng Campus), South Africa, concluded that students with upper Matriculation symbols (e.g. A, B, C) performed at a higher level during their first year of university than did students who attained middle to lower grades (Zulu, 2005). This was found whilst investigating the Matriculation results of 97 first year Law students at the University. Zulu (2005), as well as, Win and Miller (2005) drew conclusions similar to those of McKenzie and Schweitzer (2001) while conducting a study investigating whether high school performance impacted on students' performance in their first year of university. The difference between the studies conducted by McKenzie and Schweitzer (2001) and by Zulu (2005) is that the former distributed questionnaires to only *one* sample of first year students, whereas the latter used *two* groups (Group A; first-time first year entrants and Group B; repeat and re-entry students). Students' Matriculation result was found to account for the statistically significant difference in the students' academic performance. This was also true for the McKenzie and Schweitzer (2001) study which suggests that Matriculation result, is a strong predictor of academic performance at university since it was a positive predictor for all three samples of students. Although

Matriculation results may be linked to cognitive ability, in the South African context, this concept is certainly shaped and influenced by various other issues on a micro and macro level.

Studies that did not establish Matriculation result to be a predictor of academic performance.

Although there is extensive support for Matriculation result as a predictor of future academic success at university, not all studies found this to be true. Numerous students perceive university as a low control environment, which can be explained as students feeling out of their depth and attempting to understand an entirely new environment (Perry, 2003). During the transition from school to university, students may experience an increased amount of anxiety. Hembree (1988) found that anxiety impairs academic performance on complex tasks (such as academic tasks) that require cognitive resources, and correlates negatively with academic achievement across age groups and academic areas. Rego and Sousa (1999) were interested in exploring whether students with the best entrance grades would continue to perform optimally at university level. The question was thus whether Matriculation result is a relevant criterion for selection to a university course of study (Rego & Sousa, 1999). Their study concerning performance in higher education was carried out in Portugal on three independent samples of undergraduate students at university. Matriculation result only explained 12–28% of the degree performance variance, which is very low (Rego & Sousa, 1999). The findings in the study conclude that Matriculation result has a low predictive value for performance at university level. The study, even though restricted to Portugal, suggests that Matriculation result is not appropriate as the sole selection criterion for students intending to enter university (Rego & Sousa, 1999).

Despite the overwhelming evidence, some researchers have argued that cognitive tests, such as Matriculation results used in isolation, are inadequate for predicting which students will succeed at university level (Anastasi, 1997; Le, Casillas, Robbins & Langley, 2005; Robbins et al, 2004; Wolfe & Johnson, 1995). These researchers contended that Matriculation result, and other cognitive tests, were necessary, but not sufficient, markers of academic success at university level (Olani, 2009). The value of using a student's Matriculation result as the sole entrance criterion for university is therefore questionable. The review of the literature conducted by Olani (2009) at the University of Adama in Ethiopia, informs the reader that cognitive variables alone, such as Matriculation result, provide limited information for the prediction of mean percentage

scores at university. Findings by Olani (2009) have suggested that both cognitive and non-cognitive variables are related to the prediction of mean percentage scores at university. A more reliable prediction of mean percentage scores was found to occur when academic and key non-academic variables were combined (Olani, 2009). Hence the rationale for this research paper's selection of four psychological independent variables for analysis; one cognitive variable and three non-cognitive variables.

Within the literature reviewed, there is a strong trend indicating that a student's past performance or Matriculation result serves as a significant predictor of their academic performance at university level. The studies that have been discussed range from the 1970s to the 21st century. This trend validates the credibility of using Matriculation result in the selection process for university entrance. The findings have been consistent and therefore it would be expected that a student with a high Matriculation result will continue to achieve at a high level during their first year at university in mainstream.

In multiple studies, using numerous student bodies, the same results were found, all which established Matriculation result as being a significant predictor of academic performance at university. Therefore in mainstream, it is relatively well established that Matriculation result is a predictor of future academic performance, but when looking at Matriculation result and performance in an AD programme we would expect that Matriculation result is not found to be a predictor of future performance given that the majority of these AD students enter the programme with lower Matriculation scores and then, in many cases, outperform their mainstream counterparts. This is a positive realisation and it is thus necessary to investigate Matriculation result and academic performance at university utilising a sample of students from an AD programme, such as in the context of this study.

Hypothesis 1: Matriculation result is not related to students' academic performance in a first year Commerce AD programme.

The Matriculation score is also a complex predictor in the context of the AD programme. In the South African context, the National Senior Certificate (NSC) is becoming a less accurate

predictor; hence the need for other ability tests such as the National Benchmark Tests (NBT). While UCT has implemented compulsory NBTs for all students, access to the NBT data was denied and therefore was omitted from this current study.

Self-efficacy, goal-orientation and locus of control serve as the three independent psychological variables of this study. Given that most prior research pertains to students in mainstream academic programmes at university and that extensive research has been carried out in an international but not in a South African context, there is, therefore, a need to examine these variables in order to determine whether they influence first year students' academic performance in an AD programme in South Africa. The AD programme at UCT endeavours to foster all three of these psychological variables.

Self-efficacy. Self-efficacy refers to an individual's perceived capability in performing necessary tasks to achieve goals (Bandura, 1997). According to Bandura (1986), self-efficacy beliefs develop as a result of an individual's personal performance achievements, explicit learning, persuasion and the understanding of psychological states. The nature of self-efficacy is largely cognitive. It is primarily a cognitive appraisal of one's capabilities to carry out a prospective performance based on past performances (Bong & Clarke, 1999). Self-efficacy perceptions are judgments regarding one's capability to perform certain tasks and behaviours in a successful manner (Saks, 1995). When faced with a difficult situation, students with a strong sense of self-efficacy will devote more attention and effort to the task at hand. They will be more persistent and try harder than their counterparts with lower levels of self-perceived competency (self-efficacy) (Lee & Babko, 1994). Numerous studies have demonstrated that self-efficacy is a predictor of academic performance at university (Chemers, Hu & Garcia, 2001; Estrom, 1996; Jing, 2007; Lent, Brown & Larkin, 1984; Multon, Brown & Lent, 1991; Pajares, 2002; Wood & Locke, 1987). Previous literature differentiates between different types of self-efficacy, these being, general self-efficacy and academic self-efficacy and explores how these constructs impact on students' academic performance at university (Choi, 2005; Elias & MacDonald, 2007; Gore, 2006).

General self-efficacy simply refers to the belief that one is capable of performing in a certain manner to achieve certain goals (Ormrod, 2006). Thus, general self-efficacy refers to how one

feels about oneself. Academic self-efficacy refers specifically to a student or a learner's judgment about their ability to successfully accomplish scholastic or university goals (Bandura, 1977). Academic self-efficacy was defined by Schunk (1991) as an individuals' confidence in their capability to successfully perform academic duties at a designated level.

Researchers studying academic self-efficacy have developed instruments that measure individuals' levels of confidence in their ability to perform a wide range of tasks (Gore, 2006). At the most specific level of measurement these academic self-efficacy items are attached to specific course content, for example students' confidence in their ability to respond correctly to items assessing course content knowledge (Gore, 2006). Examples that measure these are the mathematics and verbal self-efficacy scales used by Zimmerman and Martinz-Pons (1990) or the geometry or advanced algebra self-efficacy scales developed by Lopez, Lent, Brown and Gore (1997). Therefore academic self-efficacy refers to how one feels about oneself in an academic context. The majority of the studies speak about general self-efficacy, and fewer speak about academic self-efficacy, which is what I used in this current study.

General self-efficacy. Students may experience academic difficulties when they enter university because they already perceive themselves as being unable to accomplish academic work, and not because of an actual intelligence or physical problem (Estrom, 1996). Psychologists are therefore paying closer attention to individuals' self-efficacy beliefs and how these beliefs relate to the ways in which these students learn and behave. Pajares (2002) came to the same conclusion as Estrom (1996). It was found that many students experience difficulty at university because they are incapable of believing that they can perform successfully, not because they are actually incapable of performing successfully (Pajares, 2002). The students that both Estrom (1996) and Pajares (2002) described have low self-efficacy beliefs. These studies conducted by Pajares (2002) and Estrom (1996) similarly state that self-efficacy is associated with the ability to perform in an academic discipline.

Bandura (1986) incorporated both previous academic performance and self-efficacy into his study. Bandura (1986) established that in self-efficacy theory, a student's previous academic record serves as an influential source of self-efficacy information, whereby if a student has

performed poorly in school they will almost certainly continue to perform poorly in university. This is consistent with the previously mentioned findings of Estrom (1996) and Pajares (2002). Estrom (1996) confirmed that students experience difficulty in school because they have already perceived themselves as being unable to do the academic work, not because of an intelligence or physical problem. Le et al. (2005) ascertained that academic self-efficacy beliefs account for variance in both university performance and retention, beyond that accounted for by Matriculation result. Moving from school to university is a major transition for individuals' and their confidence level may have decreased during this transition period (Stupnisky et al., 2007). However, by the end of the first semester, students may be more confident about their abilities at university, thus their academic self-efficacy is higher than it was at the beginning of the university year. A similar finding was determined by Kahn and Nauta (2001) who found that stronger relationships existed between students' academic self-efficacy beliefs and university performance when measured during the second semester of university. This finding further supports the belief by Stupnisky et al., (2007) which states that first year university students experience a challenging transition from high school to university, which may result in a lower level of self-efficacy beliefs.

Further evidence to support this conclusion can be found in a study conducted by Wood and Locke (1987) in which a statistically significant relationship between self-efficacy and academic achievement at university for undergraduate students in North America was established. In this study it was found that self-efficacy contributed approximately 8% to academic performance. It must be observed that this 8% variance is the same as that found by McKenzie and Schweitzer (2001) in their study on undergraduate students in Australia. Pajares and Miller (1994) also reported a significant direct relationship between mathematics self-efficacy and the mathematics performance of university students. I have already mentioned a number of studies (McKenzie & Schweitzer, 2001; Pajares & Miller, 1994; Wood & Lock, 1987) that all consistently confirm that student self-efficacy beliefs are a positive predictor of academic performance at university. These trends assume that students who believe that they are able to achieve high results in school will continue to achieve high results in university because their self-efficacy belief, or their expectation of achievement, is high.

Only limited studies have been located which have been done in Africa regarding self-efficacy beliefs amongst the student population but, in a study conducted with 700 Nigerian university students, self-efficacy was found to successfully predict academic performance at university level. Participants were comprised of a mixture of both undergraduate and postgraduate students randomly drawn from seven departments in the faculty of education (Tella, Tella, Ayeni & Omoba, 2007). This study builds on the study conducted by Tella and Tella (2003) in which it was established that self-efficacy has a significant positive relationship with academic performance. It was concluded that self-efficacy was an accurate predictor of academic performance.

Andrew (1998) conducted a study on nursing students in Australia to determine whether self-efficacy is a predictor of academic performance in science. Nursing students have traditionally experienced difficulties with the science subjects in the nursing curricula and this trend appears to be continuing irrespective of the institution (Andrew, 1998). Andrew (1998) concluded that nursing students' self-efficacy was related to academic performance in the students' first-year subjects. Andrew (1998) found that students' self-efficacy beliefs could predict 24% of their academic performance. It was concluded that, due to the nature of self-efficacy and academic performance, an improvement in self-efficacy may result in a consequent improvement in academic performance (Andrew, 1998). Chacko and Huba (1991), like Andrew (1998), found that self-efficacy was related to academic performance in an introductory nursing course. They found that self-efficacy accounted for 8% of variance in students' academic performance. These similar findings indicate a trend that students who have high self-efficacy beliefs go on to perform at a higher level at university than those students who have lower self-efficacy beliefs. Students with low self-efficacy beliefs lack confidence in themselves to perform successfully.

Academic self-efficacy. In a study conducted using a sample of 197 first year students at the University of Queensland in Australia, the prediction that self-efficacy would be positively related to academic performance was confirmed. Self-efficacy was significantly related to academic performance at university level, accounting for 8% of the variance in university GPA (McKenzie & Schweitzer, 2001). Similarly, in a study conducted by Klomegah (2007) it was confirmed that academic self-efficacy was strongly correlated to academic achievement in

university students. However, Klomegah (2007) was interested in a combination of different variables, these being self-efficacy, self-set goals, assigned goals and ability. After examining these four variables, academic self-efficacy was found to have the strongest predictive power where academic performance was concerned.

While examining which factors contributed to the academic achievement of pharmacy students, Carroll and Garavalia (2004) concluded that the higher-achieving students appeared to have an increased sense of academic self-efficacy, which was indicated by expected grade. Self-efficacy was observed as being a factor that differentiated the performance of low and intermediate students. These findings translate into an understanding that students who believe in their ability to perform at a high level at university will, in fact, perform at a higher level compared to the students who do not believe that they will do well at university. Klomegah (2007), as well as, Carroll and Garavalia (2004) drew similar conclusions, that academic self-efficacy was a strong predictor of university students' academic performance.

In a study conducted by Choi (2005) both academic self-concept and specific self-concept were found to be accurate predictors of academic performance at university. Participants included 230 undergraduate students enrolled in four general education classes at a southeastern university in the United States of America. The sample consisted of 64% White students and 34% Black students with the students being spread over first, second, third and fourth year university courses. The results of this study conducted by Choi (2005) found that the closer the level of specificity of self-efficacy and self-concept, the stronger the relationship between these two constructs. Important background information to understand what Choi (2005) is trying to investigate can be acquired from Finney and Schraw (2003) who found that one factor that contributes to the high predictive strength of self-efficacy on performance is related to the measurement of the self-efficacy construct. In other words, self-efficacy is *task-specific*. Specific self-efficacy was found to be the only significant predictor of university grades in this study (Choi, 2005). The non-significance of academic self-efficacy in this study is counterintuitive when compared to studies which found academic self-efficacy to be a significant predictor of student academic performance at university (Elias & MacDonald, 2005; Gore, 2006; Lecompte, Kaufman & Rousseeuw, 1983). It is possible that academic self-efficacy was not found to have a

significant impact on academic performance because it was not measured at its specified level (Choi, 2005). It was further concluded that when students experience success through completing various academic tasks that are arranged at increasing difficulty levels, they will be more likely to experience increased self-efficacy as their confidence associated with academic tasks will gradually increase (Choi, 2005). This, in turn, serves to improve their overall academic performance at university because they would already have experienced high self-efficacy beliefs in their schooling.

Two incremental validity studies were conducted by Gore (2006) for the purpose of investigating academic self-efficacy as a predictor of university performance. Gore (2006) referred to his two studies as Study 1 and Study 2. A total of 629 first year students participated in Study 1 and a large sample of 7956 first year students participated in Study 2. The purpose of these two studies was to describe further the relationship between academic self-efficacy and academic performance for first year university students (Gore, 2006). Gore (2006) first assessed student performance at the beginning of the students' first year at university, then again at the end of the first semester. The abovementioned studies conducted by Choi (2005), Tella et al., (2007), Andrew (1998) and Elias and MacDonald (2007) only measured students' academic performance at *one* stage during their first year of university. Gore (2006) took his study a step further and measured his sample of students on two different occasions for comparable reasons, which enriched his study. Gore (2006) concluded that academic self-efficacy beliefs actually failed to account for a significant proportion of variance in university mean percentage scores when measured at the beginning of the first semester. A different finding emerged when academic self-efficacy beliefs were measured at the end of the first semester. When academic self-efficacy beliefs were measured at the end of the students' first semester at university, it was found that academic self-efficacy accounted for between 4% and 10% of the variance in students' mean percentage scores (Gore, 2006).

Academic self-efficacy was found to predict university performance amongst 202 students enrolled in an introductory psychology course. It was concluded that prior performance was predictive of both self-efficacy beliefs and university performance (Elias & MacDonald, 2007). Elias and MacDonald (2007) drew conclusions similar to those of Gore (2006) and Kahn and

Nauta (2001) who found that academic self-efficacy successfully predicted student academic performance during the *second* semester at university. Kahn and Nauta (2001) examined the effects of self-efficacy on academic performance utilising a sample of 400 first year students enrolled in a large midwestern university in the United States of America for the year 1998. This study agreed with Gore (2006) that, when measured at the beginning of the first semester of university, academic self-efficacy beliefs are comparatively weak predictors of academic performance when compared to the assessment thereof in the second semester (Kahn & Nauta, 2001). This finding was further supported by Elias and Loomis (2004), who also found academic self-efficacy to be a significant predictor of academic performance for 138 undergraduate university students.

Lecompte et al. (1983) found that an expectation of academic achievement (self-efficacy) has a significant positive relationship with *actual* academic achievement and with low student withdrawal (from university) rates. This means that students who had high academic self-efficacy beliefs were more likely to remain in university and be committed to their course of study, than students who held low self-efficacy beliefs. A strong sense of academic self-efficacy enhances academic achievement and a low sense of academic self-efficacy lowers academic achievement for students (Pajares, 1996).

Consistent and supportive relationships were established between academic self-efficacy in predicting academic performance during a study conducted by Brown, Lent and Larkin (1989) whose subjects included 105 students enrolled in a career planning course for science and engineering majors. Another earlier study conducted by Multon, Brown and Lent (1991) discovered that between 11% and 14% of the variance in academic performance was accounted for by students' academic self-efficacy beliefs. The degree of variance identified in this study, and the study conducted by Andrew (1998), is higher than the 8% revealed in the studies conducted by Wood and Locke (1987) and McKenzie and Schweitzer (2001). Gore (2006) found a moderately lower percentage of variance, between only 4% and 10%.

This section, concerning self-efficacy, is rich with literature that indicates that students' self-efficacy beliefs predict their academic performance at university level. An overview of the

literature thus far has presented information regarding the confirmation that both Matriculation result and self-efficacy beliefs predict academic performance at university in the vast majority of instances.

Hypothesis 2: Self-efficacy is positively related to students' academic performance in a first year Commerce AD programme.

The next independent psychological variable that will be examined is goal-setting orientation.

Goal-setting orientation. After an exhaustive review of the literature it has been found that less research has been carried out in the area of goal-setting orientation amongst students, consequently leading to a reliance on fewer authors in this section. However, there is strongly supported evidence that students who set *learning goals* achieve at a higher (academic) level at university than students who set *performance goals* (Albaili, 1998; Eppler & Harju, 1997; Miller et al., 1993; Bouffard et al., 1995; Schraw et al., 1995). A learning goal orientation is illustrated by willingness to accomplish a task, increased persistence when faced with obstacles and enjoyment of challenges (Dweck & Leggett, 1988). In contrast, Dweck and Leggett (1988) found that those students, who responded in a less optimistic manner, demonstrated a *performance goal orientation*. A performance goal orientation is illustrated by a desire to avoid negative evaluations of performance and to obtain positive judgments of one's behaviour (Dweck and Leggett, 1988).

Defining the construct. Students enter learning activities with goals and self-efficacy for goal achievement purposes (Schunk, 1990). A *goal* is what an individual is trying to accomplish, while *goal-setting* involves establishing a goal and adapting it as required (Bandura, 1986, 1988). Bandura (1988) maintained that the effects of goals on behaviour are reliant on their properties; specificity, proximity and difficulty level. *Specific goals* increase performance by greater specification of the amount of effort or number of attempts required for goal achievement. These specific goals are more likely to enhance learning than general goals, for example, 'do your best' (Schunk, 1990). *Proximal goals* produce greater motivation than distant goals (Schunk, 1990). It is also easier to measure one's progress toward a proximal goal. *Goal difficulty* influences the

effort learners employ to achieve a goal. Individuals were found to expend greater effort to achieve more difficult goals than more simple goals (Schunk, 1990). Working toward these difficult goals builds an individual's self-efficacy beliefs (Schunk, 1990).

Locke and Locke (1990) found that setting specific proximal goals resulted in higher levels of performance than setting general goals. It was also found that goals that are hard to attain are positively connected to performance (Latham & Locke, 1990). In a study that investigated achievement motivation goals in relation to academic performance in traditional and non-traditional college students, the authors' aim was to investigate why some students happily rolled up their sleeves ready to tackle the problem at hand, while other students succumbed to despair and defeat (Eppler & Harju, 1997). The authors utilised a sample of 262 undergraduate students enrolled in introductory courses at a southeastern university in the United States of America. It was established that a learning goal orientation was positively related to successful academic performance for both groups in the study (Eppler & Harju, 1997).

Carroll and Garavalia (2004) claimed that goal orientations are developed early on in childhood. Children who perceive themselves as being academically capable will generally develop an intrinsic goal orientation, otherwise known as "mastery". In their study, no differences in goal orientation were established between the lower and higher-performing students (Carroll & Garavalia, 2004). The relationship between goal-setting and academic performance can be illustrated further by the example of students who set effective goals. These students who utilise appropriate learning strategies to achieve their goals and who also evaluate the requirements of learning tasks tend to achieve at higher levels than other students who do not set effective goals (Latham & Locke, 1990; Zimmerman, 1989; Zimmerman & Schunk, 1989).

Assigned goals and self-set goals. While investigating the factors that contribute to the academic achievement of pharmacy students, Carroll and Garavalia (2004) employed the goal-efficacy framework. The Latham and Locke goal efficacy model describes two categories of goals that affect academic performance in students; assigned goals and self-set goals. Assigned goals reflect goals placed upon the individual by other people; an example being grading criteria. It was found that assigned goals do not influence performance directly, but rather have an indirect

effect on performance through the other variables that combine to make up the goal-efficacy framework. Self-set goals, on the other hand, directly influence an individual's performance (Carroll & Garavalia, 2004). These self-set goals were theorised to motivate action from the individual (given that the person has the necessary aptitude to reach the goal) (Carroll & Garavalia, 2004). Just as goals can be divided into self-set and assigned goals, the literature tends to speak about goal-setting in terms of learning goals and performance goals. The following section details previous studies that have focussed on these two types of goals.

Learning goal orientation and performance goal orientation. A more optimistic pattern of responding reflects students who have a *learning goal orientation*. Achievement goal theory has provided a valuable basis for this type of research around goal-setting orientations (Dweck & Leggett, 1988). Achievement goal theory predicts that individuals will engage in two seemingly mutually exclusive goals; *learning goals* or *performance goals* (Dweck & Leggett, 1988). Acquiring new skills or improving one's knowledge are constructs concerned with learning goals. Learning goals emphasise self-improvement and mastery (Albaili, 1998). On the other hand, performance goals are concerned with interest in obtaining positive feedback and evaluations from others and avoiding negative evaluations (Albaili, 1998). A number of studies have proved that these two different types of goal orientation can result in different patterns of cognitive engagement and performance. While investigating 262 undergraduate university students, Eppler and Harju (1997) found that a learning goal orientation was positively related to successful academic performance. The students who rated both goal orientations (learning and performance) as comparatively weak were found to have the lowest mean percentage scores at university (Eppler & Harju, 1997).

Albaili (1998) investigated goal orientations, cognitive strategies and academic achievement among United Arab Emirates College students. Two hundred and thirty-four undergraduate students from the United Arab Emirates University responded to two questionnaires. Students who scored higher on the learning goal orientation scale were much more likely to be cognitively engaged in organisational strategies (Albaili, 1998). However, the students who scored higher on the performance goal orientation scale were much more likely to use rehearsal strategies when learning and less likely to utilise organisational strategies. These results are similar to those

reported in another study. It was established that students who followed a learning goal orientation were more likely to use deeper processing strategies, such as connecting new information with prior knowledge (Kong & Hau, 1996). However, students who adopted a performance goal orientation were more likely to make use of surface-level cognitive strategies, such as rehearsing or memorising information (Kong & Hau, 1996).

The analysis of the relationships between academic performance and students' goal orientations and their use of cognitive strategies, suggests that students with high mean percentage scores are less performance goal orientated and use rehearsal strategies least when compared with students with middle and low mean percentage scores (Albaili, 1998). This suggests that students who achieve high mean percentage scores at university may be conscious of the cognitive factors which lead to success – namely being less performance goal orientated (Albaili, 1998). Albaili (1998) also concluded that the findings in the study suggest a possible link among students' goal orientations, their use of cognitive strategies and academic achievement at university level. Performance goal orientation was found to have a negative effect on students' mean percentage scores while learning goal orientation had a positive (indirect) effect on academic results, mediated by organisational strategies and elaboration (Albaili, 1998). Achievement goal theory could therefore be said to have an immense potential for improving teaching and student achievement at university.

There are a number of other studies that yield similar results to that of Albaili (Miller et al., 1993; Bouffard et al., 1995; Schraw et al., 1995). Firstly, Miller et al. (1993) found a significant positive correlation between students with a learning goal orientation and their use of goal-setting, self-monitoring and task-appropriate cognitive strategies. Bouffard et al. (1995) found that the students who set learning orientated performance goals achieved better results than the students who were weakly orientated toward learning. Schraw et al. (1995) found that students who were high on leaning goal orientation exhibited higher academic achievement than the students who were low on this orientation.

In a study conducted amongst a group of elementary education student teachers, self-efficacy beliefs, goal-setting orientations and hope were examined. Nietfeld and Enders (2003) argued

that goal-orientations and self-efficacy beliefs were probably the two most widely studied belief constructs related to the teaching and learning process. Their study examined the interrelationship between important affective beliefs of this group and the independent variables (Nietfeld & Enders, 2003). In order to measure goal orientations, they utilised the Goal Inventory that measures both mastery and performance goals (Roedel, Schraw & Plake, 1994). It was found that student teachers with higher levels of hope were more inclined to have higher levels of personal teaching efficacy and maintain a mastery goal orientation (Nietfeld & Enders, 2003). A surprising finding regarding this study concerns the hypothesised relationship between mastery goal orientation and self-efficacy. No relationship was established between mastery orientation and self-efficacy and this is counter to the existing self-efficacy literature (Bandura, 1977; 1997; Schunk & Pajares, 2002).

Elliot and Dweck (1988) described mastery goals as goals in which the emphasis in the learning process is placed upon achieving competence through persistence. Learners who adopt mastery goals have been shown to draw on numerous positive behaviours related to academic performance (Bruning, Schraw & Ronning, 1999). It has been found that university students who adopt a mastery orientation reported a higher frequency of using effective learning strategies (Archer, 1994). The goal-orientation individuals possess, will determine which corresponding learning strategy they have, and these are discussed in the following section.

Goal orientations and self-regulated learning strategies. McWhaw and Abrami (2001) investigated student goal orientation and interest and the effects thereof on students' use of self-regulated learning strategies. The study was designed to examine whether and how goal orientation (and interest combined) affected the students' use of meta-cognitive and cognitive learning strategies. Meta-cognitive strategies are learning strategies used by individuals while studying that include planning, monitoring and regulating while reading information (McWhaw & Abrami, 2001). Schiefele (1992) described goal orientation as a single motivational variable. The results of the study conducted by McWhaw and Abrami (2001) suggest that students might approach learning with independent motivational orientations. They inferred that students' learning strategies would be affected by the combination of interest and goal orientation. McWhaw and Abrami's (2001) concluded that learning goal-orientated students would use more cognitive and meta-cognitive learning strategies than performance goal-orientated students.

Two different types of goal orientation, a learning goal orientation and a performance (or extrinsic) goal orientation, were indicated by Pintrich and Schrauben (1992). They proposed that these two goal orientations are *not* mutually exclusive and that students can employ both orientations whilst learning. In this they differed from Dweck and Leggett (1988) who held the view that the two different types of goal orientations are mutually exclusive. Wolters, Yu and Pintrich (1996) established that students who are more learning orientated not only work harder and persist at academic tasks, but they also employ more cognitive and meta-cognitive strategies more often while learning than students who are more extrinsically orientated. Pintrich and Schrauben (1992) also found that students who exercise a learning goal orientation (and have high interest in a topic) would be more inclined to use more learning strategies than students (with high interest) but with an extrinsic or performance goal orientation. This previous research that has been drawn on, has been conducted in mainstream academic programmes and not in AD programmes, hence the need to explore students' goal-setting orientations on academic performance in an AD programme in the South African context.

Hypothesis 3: Goal-setting orientation is positively related to students' academic performance in a first year Commerce AD programme.

Locus of control serves as another psychological variable for this study and will subsequently be discussed.

Locus of control.

Defining the construct. Locus of control is considered to be an important psychological aspect of personality (Rotter, 1966). Locus of control refers to an individuals' perception about the underlying causes of events in life (Neill, 2006). A useful manner by which to assess one's locus of control is to ask oneself the question: "do I believe that my future is controlled by myself or by external factors, such as fate" (Neil, 2006). Locus of control was theorised as referring to a one-dimensional continuum, ranging from *external* to *internal* (Rotter, 1966). An internal locus of control pertains to an individual who believes that their behaviour is guided by their personal efforts or decisions whereas an external locus of control pertains to individuals who believe that

their behaviour is guided by fate, luck or other external circumstances (Neill, 2006). Findley and Cooper (1983) explained that locus of control refers to a person's beliefs about control over events in life. When people are labelled *internals* it means that they feel personally responsible for things that happen to them. When people are labelled *externals* it is said that they feel that their outcomes in life are determined by forces beyond their control (e.g. fate or luck). Locus of control has been understood to be a continuing dispositional attribute, which is certainly modifiable through experience (Findley & Cooper, 1983). Lefcourt (1976) defined perceived (locus of) control as a comprehensive expectancy for internal as opposed to external control of reinforcement. In essence, perceived control is just another term for locus of control. Stupnisky et al., (2007) conducted a study of 802 first year students whereby self-esteem and perceived control were compared as predictors of first year university academic performance. It was found that perceived control is a powerful predictor of first year university students' mean percentage scores.

The rationale for focussing on locus of control. Perceived locus of control has been found to predict significantly students' mean percentage scores even *after* accounting for the measure or Matriculation result (Stupnisky et al., 2007). First year university students experience a challenging transition from high school to university. This transition is considered a challenge as these students experience increased emphasis on performance, intensified competition and unfamiliar academic tasks. Students may tend to feel "out of control" as these novel events lead them to perceive university as a *low control environment* (Perry, Hall & Ruthig, 2005). It is thus especially important to look at locus of control among university students because students' responsibility for their academic success is increasingly emphasised as they progress through the education system.

The significance of internal locus of control beliefs and academic performance. Findley and Cooper (1983) concluded in their literature review on locus of control and academic achievement that internal locus of control beliefs are associated with higher levels of academic achievement. They affirmed in their review, in which they investigated locus of control and academic achievement, that it is naturally appealing to understand that a positive relationship between internal locus of control beliefs and achievement exists because, if success or achievement is

positively valued by an individual, then they will surely apply more effort if they feel that they are able to control their outcomes (Findley & Cooper, 1983). Thus, students who view themselves as “in control” of university tasks and situations will take initiatives to succeed, while those who feel unable to control these situations will take less responsibility to succeed. The latter group tends to be more vulnerable to failure, which will lead to their possibly dropping out of university (Perry, Hladkyi, Pekrun, Clifton & Chipperfield, 2005). In another study, it was discovered that externals tend to display less persistence at tasks than internals (Ducette & Wolk, 1972).

Weiner (1995) also provides insight into the importance of perceived control and university students’ academic achievement. Weiner (1995) found that a student with a high sense of control is likely to attribute any unexpected failures at university to controllable causes, such as “I didn’t try hard enough”. These controllable attributions contribute to increased perceptions of responsibility and motivation to study, which ultimately fosters successful performance. Conversely, when a student with low perceived control performs below his or her expectations, he or she is likely to attribute the failure to uncontrollable factors, such as “I’m not good enough” or “I’m not clever enough”. These attributions result in the student experiencing a decrease in motivation, which results in diminished academic performance (Weiner, 1995). Weiner (1995) thus manages to draw attention to the importance of perceived control to university students’ academic achievement. It is important for students in university to have high perceptions of control because it helps them sustain an appropriate level of motivation in order to strive in difficult (academic) situations (Weiner, 1995). The findings reached by Stupnisky et al. (2007) and by Weiner (1995) are consistent as both studies highlight the importance of perceived control for students in a university setting.

Perry, Hladkyi, Pekrun and Pelletier (2001) established that students with higher perceptions of control achieved superior grades at university. A three-year follow-up study on the *same* students (Perry et al., 2005) established that the students who were higher in perceived control achieved higher mean percentage scores, three years later, than students lower in control. This follow-up study demonstrates that internal locus of control may be a stable construct, as the sample of students was shown to have a high perception of control in first year, as well as, in third year.

Ruthwig et al. (2007) also provide additional support pertaining to the benefits of perceived control on academic performance. It was found that students who are high in perceived control perform more successfully; achieving higher mean percentage scores at university than their fellow students who were low in perceived control. The findings by Perry et al. (2001) and Ruthwig et al. (2007) are consistent with the findings by Stupnisky et al. (2007) in that perceived control is a significant predictor of first year university students' mean percentage scores.

A South African study. In one of the few local studies that was found and reviewed Hendrich and Schepers's (2004) objective was to determine whether statistically significant relationships exist between academic success, external locus of control and internal locus of control at the Vaal University of Technology and the Rand Afrikaans University. A number of hypotheses were tested using the Locus of Control Inventory (LCI), which Rademeyer and Schepers (1998) categorise as an inventory of personality. The LCI, amongst other measures, was employed on 66 first year university students. The External Locus of Control Scale established a statistically significant negative correlation with academic achievement, which means that students who did not feel personally responsible for their academic achievement also performed at a weaker level (Hendrich & Schepers, 2004). The authors found that by utilising the Internal Locus of Control Scale, a statistically significant positive correlation with academic achievement was not supported, which means that one cannot assume that students with an internal locus of control will perform at a higher level at university (Hendrich & Schepers, 2004).

Although the studies by Stupnisky et al. (2007) and Hendrich and Schepers (2004) yield similar results, it must be noted that there was a vast difference in their sample. Stupnisky et al. (2007) conducted their study on 802 students while Hendrich and Schepers (2004) utilised a sample of only 66 students for their study. This small sample may not be reflective of the greater population but, in this instance, it proves to be consistent with the previous findings. The study conducted by Hendrich and Schepers (2004) corresponds with Schepers's (1995) finding, when investigating first year university students' performance, that an internal locus of control was associated with academic achievement. This section, concerning locus of control, abounds with literature that indicates that students' locus of control beliefs predict their academic performance at university level.

Hypothesis 4: Locus of control is positively related to students' academic performance in a first year Commerce AD programme.

Having reviewed the prior literature regarding the variables Matriculation result, self-efficacy, goal-setting orientation and locus of control, it is clear that numerous previous research has been conducted into these. However, it should be noted that not one study has examined all of these independent variables. Nonetheless, in some studies, two or three of these variables were considered together. For example, Schunk (1990), Neitfeld and Enders (2003) and Carroll and Garavalia (2004) researched both goal-setting orientations and self-efficacy in one study. Jeng and Shih (2008) also conducted a study in which they examined both self-efficacy and goal-setting, and these two variables were found to correlate. Elias and MacDonald (2007) researched both Matriculation result and academic self-efficacy in one study.

The literature reviewed thus far is the result of an extensive literature review process that spanned 10 months. During this time I regularly repeated searches with key terms and experimented with alternative terms in order to ensure that I located as much of the published research in the field as possible. What is apparent from the results of this literature search is that there is a paucity of local published studies in this area and little published work internationally or locally in the context of AD programmes. Given these identified gaps, the present study presents a modest step towards exploring this relatively under-researched field.

Significance of the Research

This dissertation is designed to contribute to the literature surrounding the factors that relate to the academic performance of students in a Commerce AD programme at UCT. Limited research has been conducted into what factors are related to the academic performance of students who participate specifically in this programme. Therefore, the context of this research will focus on first year university students in this programme. Limited research has been conducted into students that come from previously disadvantaged backgrounds who participate in AD programmes. Thus, if we are able to understand this particular AD programme, other AD programmes can learn from the findings. Hence, this area of interest necessitates a

comprehensive investigation into the factors that are related to performance in a first year Commerce AD Programme at UCT.

University of Cape Town

Method

This chapter is comprised of four subsections. Firstly, the research approach is reviewed. Thereafter, a description of the participants in this study is provided. This is followed by a detailed description of the instruments that were employed to collect the data. Lastly, a description of the research procedure is provided.

Research Approach

A non-experimental design and questionnaire data collection method were used in pursuit of the research objectives. This study utilised a cross-sectional design whereby the data was collected at a single point in time (Hair, Babin, Money & Samouel, 2003; Shaughnessy & Zechmeister, 1997). Data were collected by means of a questionnaire and the results were analysed using quantitative statistical methods.

Research Participants

The population consisted of all 212 first year students enrolled in a first year Commerce AD programme at UCT for the year 2010. This population was comprised of 57% B.Com students and 43% B.Bus.Sci students. As the sample was 'pre-selected', according to external criteria as opposed to using techniques such as random selection, it can be described as a non-probability or convenience sample. Of all first year Commerce AD students, 141 students responded to the questionnaire. During the data cleaning process 25 student responses were removed as these were rendered useless because the questionnaires were either incomplete or an incorrect PeopleSoft identity number had been recorded. The latter meant that these students' results could not be identified. Therefore, after the data cleaning process was completed, the sample size was 116 first year Commerce AD students. The sample size was 55% of the total population of first year Commerce AD students. Table 1 provides demographic details of the sample.

Table 1

Demographic Details of the Sample (N=212)

Demographic variable	<i>n</i>	%
Gender		
Male	51	44%
Female	65	56%
Stream		
B.Com	90	78%
B.Bus.Sci	26	22%
Attendance		
First in family to attend	47	41%
Not the first in family to attend	69	59%
Total Sample	116	

The characteristics of the sample are predominantly heterogeneous with only the students' academic streams displaying some homogeneity, where 78% of students are enrolled in the B.Com stream and 22% of students are enrolled in the B.Bus.Sci stream. The gender and the university attendance characteristics are almost equally representative of each category and we therefore observe a balance of the different characteristics for these demographic variables. The age of the students ranged from 17 years to 21 years. The sample consisted of *only* Black students and this was expected given that being Black is a criterion for entry into the AD programme.

Measuring Instrument

The dependent variable, academic performance, was captured using the students' PeopleSoft identity numbers and acquiring their mean percentage scores and economics results from the university's student information management system, PeopleSoft. The independent variable, Matriculation result, was also recorded using the PeopleSoft system. The PeopleSoft information management software is used for the purpose of calculating the students' mean percentage scores. This score is calculated by the PeopleSoft student records application. PeopleSoft uses the term Grade Point Average (GPA) when referring to these scores. The PeopleSoft Academic application independently calculates the GPA values for the minimum and maximum GPA requirements based on those courses used to fulfil the requirements. These minimum and

maximum requirements are based on units earned. Regardless of whether units taken or units earned are equal, the PeopleSoft Academic Advertisement engine uses units *taken* to calculate minimum or maximum GPA requirements and uses units *earned* to calculate unit requirements. It must be observed that if the course used is split, which means that only a part of the course credit is used owing to the minimum and/or maximum unit requirement limitations, then the number of units earned (which counts toward unit requirements) is proportionately affected (Oracle PeopleSoft Enterprise, 2006).

Information on the other three independent psychological variables was obtained by administering a questionnaire to the student population. This questionnaire was initially distributed electronically and later hard copies were administered during lectures. This questionnaire was comprised of items pertaining to the measurement of the three psychological variables, self-efficacy, locus of control and goal-setting orientation.

The College Academic Self-Efficacy Scale (CASES), Roedel, Schraw and Plake's Goals Inventory and the Internal Control Index (ICI) of Duttweiler were used to construct the questionnaire. These scales have been widely used in previous research (Ayiku, 2005; Couthino, 2007; Jing, 2007; Olani, 2009; Nietfeld & Enders, 2003; Smith, 2003). Adjustments were made to the scales to suit the local South African context. The specific adjustments made and reasons as to why these adjustments were made are discussed below. A brief explanation of each scale, as well as, each instrument's reliability follows.

The College Academic Self-Efficacy Scale (CASES). The College Academic Self-Efficacy Scale (CASES), designed by Owen and Froman (1988) was used to measure the students' self-efficacy beliefs. This scale focuses on routine academic behaviours for university students, which makes it ideally suited for this research purpose as opposed to a general self-efficacy scale. This instrument is designed to measure the degree of confidence students have in performing typical academic behaviours (Choi, 2005; Jing, 2007). The scale was originally composed of 33 positively worded items that measured students' self-confidence in performing various routine academic behaviours at university (Olani, 2009). Not all 33 items were used for

the questionnaire due to some being irrelevant in this specific context. Therefore 22 items from the scale were used to measure the students' self-efficacy beliefs.

The items on this scale consist of phrases and students were instructed to rate themselves on a five-point Likert scale in response to the phrases. The item was a statement about the individual's capacity regarding their self-efficacy beliefs and they were required to rate their level of agreement or disagreement with the statement on a five-point Likert scale. The five-point Likert scale response format, ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). CASES is scored by calculating the mean score of the responses provided. Owen and Froman (1988) found the internal consistency reliability of the CASES, in two different trials, to be .9 and .92; Over an eight-week period the consistency was .85 (Owen & Froman, 1988).

Goals Inventory. Roedel, Schraw and Plake's (1994) Goals Inventory was used to measure students' goal-setting orientation. This is a seventeen-item inventory. This inventory was chosen because it provides separate scores for learning and performance goals which are termed Mastery and Performance goals throughout the paper. These subscales were conceptualised as two independent subscales by Dweck and Leggett (1988) and will therefore be analysed separately. The Goals Inventory consists of seventeen statements pertaining to attitudes and behaviours that reflect either learning or performance goals. This scale was selected because it has been used previously in research to assess mastery and performance goals (Coutinho, 2007). These previous studies reported that the scale demonstrated good reliability and validity for assessing goals. This inventory has been developed for use by students in universities making it ideally suited for this research purpose (Coutinho, 2007).

The learning goal subscale is made up of twelve Mastery Goal Items, such as, "I work hard even when I don't like a class" and "I work very hard to improve myself." The performance goal subscale includes five Performance Goal Items, such as, "I like others to think I know a lot" and "I feel angry when I do not do as well as others." Students were instructed to rate how strongly each statement applied to them on a five-point Likert scale. This five-point Likert scale response format ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

Not all 17 items were used for the questionnaire due to some being irrelevant and not pertaining to the academic context in which this research takes place. Ten items from the Mastery subscale were used in the questionnaire and four items from the Performance subscale were used in the questionnaire. Eppler and Harju (1997) reported a Cronbach's alpha of .85 for the learning goals subscale and a Cronbach's alpha of .75 for the performance goals subscale.

Internal Control Index (ICI). Duttweiler's Internal Control Index (ICI) was used to measure students' locus of control beliefs. The ICI is a twenty-eight item instrument designed to measure where a person looks for, or expects to attain, reinforcement. A person with an external locus of control believes that reinforcement is based on fate or chance, whereas a person with an internal locus of control believes that reinforcement is based on their own behaviour. The scale was originally composed of 28 positively and negatively worded items. Not all 28 items were used for the questionnaire due to some being irrelevant in this specific academic context. Twenty-three items from the scale were used to measure the students' locus of control beliefs. Duttweiler (1984) found that there are two factors contained in the ICI, one is called self-confidence and the other is called autonomous behaviour (behaviour independent of social pressure).

A factor analysis was performed to evaluate the suitability of the locus of control items to be summed together to produce one score. The factor analysis indicated that there were some poor performing items. A decision was therefore made to remove these poor performing items from the analysis, one by one, based on measures of sampling adequacy. After dropping these poor performing items, only one factor, locus of control, was present and not two factors as Duttweiler had originally stated. A five-point Likert scale response format was utilised which ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). In previous studies, the ICI was found to have a good internal consistency of .84 and .85 (Smith, 2003).

At the end of the survey a *demographics* section was included. The items requested were the students' gender, academic programme and whether the student was the first person in their family to attend university. These demographic variables were chosen because they have been referred to in previous studies surrounding performance. The reasoning behind including these demographic questions is that other authors, such as Bangeni and Kapp (2006), included such

demographics in their longitudinal study in which the subjects were 20 first-generation students at UCT. It was established that changes in students' identities during their undergraduate study years are intricately related to social boundaries, their desire to achieve individual success and their desire to belong to a social group (Bangeni & Kapp, 2006). Hence, the rationale for the inclusion of a demographic variable such as whether the student is the first member of their family to attend university or not.

Research Procedure

The research procedure commenced early in 2010 when I arranged a number of meetings with Dr. June Pym, Director of the EDU at UCT. Dr. Pym assisted me in understanding the Commerce AD programme at the university and what psychological variables it attempts to foster amongst the students, as well as, how the programme attempts to do this. The next step in the research process was to review the literature with the aim of observing and understanding what research has suggested are psychological variables relevant to academic performance at university. After reviewing the literature extensively, four variables were chosen to use in the study; Matriculation result, self-efficacy, goal-setting orientation and locus of control. After an exhaustive research process, four hypotheses were developed regarding the chosen variables.

Once the questionnaire was developed it was reviewed by Dr. June Pym. After further recommendations had been made, four people were selected to pilot the questionnaire. After the pilot, additional recommendations were taken into consideration and the questionnaire was updated accordingly. Please refer to Appendix A, where a screenshot has been supplied for viewership.

Once the questionnaire had been disseminated to students via email, an announcement was also placed on UCT's student course information system, Vula. The announcement was drafted by the EDU administrator to alert the first year Commerce AD students to the fact that they had been sent a link directly to the questionnaire and appealing to them to complete this. A notice was placed on the students' notice board that included the same information as the post on Vula, in the event that some students might not check their Vula portal.

The questionnaire was initially administered to students electronically, whereby they received an email with a direct link to the questionnaire. Three reminders were sent out electronically to the students over this two-week period. After the two-week period, the response rate was assessed and it was decided that, in order to increase this, it would be advantageous to administer hard copies of the questionnaire to students in their lecture venues. Please refer to Appendix B, where a copy of the questionnaire has been supplied for viewership.

The students were asked to provide their PeopleSoft identity numbers at the start of the questionnaire. The PeopleSoft identity number is a seven-digit string of numbers that appears on the front of the student card. This number is used as a means to access a student's academic records via the university's information management system, PeopleSoft. This number is merely a way of identifying the students' performance data such as Matriculation result, mean percentage score and economics result. Neither the name of the student nor their student number was required, thus assuring confidentiality. Matriculation result was provided as "points". For these students, the best six subjects were used for point calculation as per UCT admissions.

Ethics approval was acquired from the Commerce Faculty Ethics in Research Committee. This involved completing a form from this committee providing details with reference to the project, the participants, organisational permission, informed consent, confidentiality of data and risk to participants. Students were given two and a half weeks to respond to the electronic survey. The students were offered an incentive for participating in the research. The incentive took the form of a R500 gift voucher. One winner was randomly drawn one week after the closing of the survey. Students were informed that by continuing in the process (i.e. completing the questionnaire) they were giving their consent to participate in the study. They were informed that their responses would be treated as confidential. The next chapter provides the results that were found using statistical procedures.

Results

This chapter will commence with the examination of the structure and consistency of the scales. Firstly, a factor analysis using the principal axis factoring method of extraction was performed for each of the three scales. Factor analysis examines the dimensionality or the consistency of the scales used in the study. A reliability analysis is integrated under the subsection; structure and consistency of the scales. Cronbach's alpha coefficients (α) were calculated to assess the internal consistency of the measuring instruments and, thus, whether they are able to deliver consistent results (Clark & Watson, 1995). Secondly, descriptive statistics (e.g. means and standard deviations) were used to describe the data. Thirdly, Pearson product-moment correlation coefficients were used to specify the relationships between the variables. Finally, a regression analysis was performed to relate the set of independent variables to performance. The level of statistical significance was set at $p < .05$. The analysis was carried out using PASW Statistics for Windows Version 18.0.2 (SPSS, 2010).

Structure and Consistency of the Scales

This section aims to explore the validity of the structure and the level of consistency for each of the three scales utilised for the study. An analysis of internal consistency reliability was conducted for each of the scales that measured the psychological variables, self-efficacy, goal setting orientation (two subscales) and locus of control (see Table 2).

Table 2

Descriptive Statistics

	Mean	SD	Cronbach's alpha	Number of items
Matric*	43.77	3.42	-	
Eco*	67.51	14.34	-	
Sem1Aggr	69.44	8.55	-	
SE*	3.62	.56	.919	22
LOC*	3.96	.50	.841	13
Mastery*	4.02	.59	.865	10
Performance*	3.03	.93	.830	4

Note. Kolmogorov-Smirnov and Shapiro-Wilk tests were performed and * indicates assumption of normality was violated.

A factor analysis using the principal axis factoring method of extraction was performed for each of the three scales. The factor analysis was performed to evaluate the suitability of the items to be summed together, in the case of self-efficacy and locus of control, to produce one score.

Self-efficacy

Structure and consistency. A factor analysis using principal axis factoring was conducted to assess the structure and validity of the scale. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (.871), as well as, the individual measures of sampling adequacy (all greater than .6) suggested that the set of items were suitable for factor analysis. Although the first five eigenvalues were all greater than 1, the first eigenvalue (8.614) was much greater than the rest, explaining 39.2% of the variance in the data (Hair, Black, Babin, Anderson & Tatham, 2006). The self-efficacy items resulted in a one factor structure with a Cronbach's alpha of .919 ($n=116$). This high statistic implies that the scale was consistent in its measuring of the construct self-efficacy (Hair et al., 2006).

Descriptive data. Table 2 presents the general descriptive results of the sample. The self-efficacy scale ranged from 1-5. It had a mean of 3.62 and a standard deviation of .56. The mean was

greater than the mid-point of 3, which indicates that the students' scored an above average score on the self-efficacy items, hence it can be said that these students boast high levels of self-efficacy beliefs.

Goal-setting Orientation

Structure and consistency. The goal-setting orientation scale consisted of a two factor structure, namely mastery and performance with Cronbach's alphas of .865 ($n=116$) and .830 ($n=116$) respectively. These high statistics imply that the scale was consistent in its measuring of the construct self-efficacy (Hair et al., 2006). Factor analysis indicated that the goal-setting orientation items were measuring mastery and performance measures as was expected, but the last four items that I added were found to be measuring mastery and not performance. These four items were subsequently excluded from the scale. Subsequently the items loaded successfully onto two factors; mastery and performance. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (.836) as well as the individual measures of sampling adequacy (all greater than .6) suggested that the set of items were suitable for factor analysis. The factor analysis presented a two factor structure with eigenvalues 4.839 and 2.637 respectively, explaining 53.397% of the variance in total.

Descriptive data. The mastery and performance scales ranged from 1-5. The mastery scale had a mean of 4.02 ($SD=.59$, $n=116$) and the performance scale had a mean of 3.03 ($SD=.93$, $n=116$). The high mean for the mastery implies that respondents were likely to set mastery goals at university. The average mean score for performance implies that respondents were, on average, neither more likely nor less likely to set performance goals at university.

Locus of Control

Structure and consistency. A factor analysis was performed using principle axis factoring for extraction. Although the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was satisfactory (.829), the individual measure of sampling adequacy did not meet the criterion of greater than .6 for all the items. Poor performing items on the locus of control scale were thus identified using the individual measures of sampling adequacy and these poor performing items were subsequently removed. One factor was forced after all poor performing items were removed. The one factor

structure resulted in explaining 35.7% of the variance. Although three factors with eigenvalues greater than one were identified, the one factor structure resulted in a Cronbach's alpha of .841 ($n=116$). This high reliability score implies that the scale was consistent in its measuring of the construct locus of control (Hair et al., 2006).

Descriptive data. The locus of control scale ranged from 1-5. The mean was 3.96 and a standard deviation of .50. The mean was well above the mid-point of 3. This implies that the respondents were likely to have more internal locus of control beliefs at university.

Descriptive Statistics

All variables were tested for normality using the Kolmogorov-Smirnov and Shapiro-Wilk tests (see Table 2). Although all the variables except the Sem1Aggr violated the assumption of normality based on the tests of normality, inspection of the histograms suggests that the violation was not too serious (please see Appendix C: Figures 1 to 7). Therefore parametric tests were used for further analyses.

Correlations between Factors and Performance.

Pearson-product moment correlation is used in order to investigate whether there is a relationship between the variables chosen for this study. These Pearson correlations are used to investigate hypotheses 1 to 4. Table 3 details the Pearson product-moment correlation coefficients.

Table 3

Pearson Product-moment Correlation Coefficients

		Eco	Sem1Aggr	Matric	SE	LOC	Mastery
Sem1Aggr		.787**					
	N	114					
Matric		-.045	.003				
	N	114	116				
SE		.035	.051	-.041			
	N	114	116	116			
LOC		-.035	-.009	-.051	.751**		
	N	114	116	116	116		
Mastery		-.027	-.028	.050	.572**	.718**	
	N	114	116	116	116	116	
Performance		-.097	-.152	.109	.002	.087	.140
	N	114	116	116	116	116	116

Note. ** Correlation is significant at the .01 level (2-tailed).

Some correlations have been found. A strong positive correlation exists between self-efficacy and locus of control, between self-efficacy and mastery goal-setting orientation and between locus of control and mastery goal-orientation setting.

Regression Analysis

Although no bivariate relationship between any of the independent variables and the dependent variable, academic performance, was found, the purpose of the regression was to determine whether, if a set of independent variables were used, these would relate to the dependent variable. A model using SE, LOC, Mastery, Performance, gender and first generation tertiary education as independent variables and Sem1Agrr as the outcome variable was evaluated. The model was not significant ($F(7,108)=1.346$, $p=.236$, $R^2=.08$, $Adj R^2=.021$).

The next chapter will provide a discussion around these results.

Discussion

The purpose of the research informing this dissertation was to investigate the relationship between the independent variables and the dependent variable for students participating in a first year Commerce AD programme. The independent variables (factors) examined were Matriculation result, self-efficacy, goal-setting orientation and locus of control and the dependent variable, academic performance. The study revealed limited significant results with only the first hypothesis, concerning Matriculation result, found to be non-significant. The psychological variables selected cannot be confirmed as factors found to impact academic performance in this particular research context.

The non-significant findings of this study, with respect to the psychological variables, differ from the findings of studies presented in the literature review. These studies formed the conceptual rationale for identifying these factors in the first place. The psychological variables; self-efficacy, locus of control and goal-setting orientation, were successfully found to predict academic performance amongst the selected student samples (Albaili, 1998; Astin, 1971; Bouffard, et al., 1995; Carroll & Garavalia, 2004; Choi, 2005; Elias & MacDonald, 2007; Eppler & Harju, 1997; Fincher, 1986; Gore, 2006; Miller et al., 1993; Hendrich & Schepers, 2004; McKenzie & Schweiter, 2001; Miller, et al., 1993; Schraw et al., 1995; Sellers, 1992; Stupnisky et al., 2007; Win & Miller, 2005). Thus, it can be confirmed that the bulk of previous research in this area has indicated that the psychological variables chosen for this study have been successful in predicting, to varying degrees, the academic performance of university students in mainstream programmes.

Owing to the limited significant results established for this study, the ensuing discussion will differ from most traditional discussion sections. This chapter will commence with possible explanations for the non-significant findings. This will be followed by a discussion around the hypotheses formulated at the beginning of the study. Finally, additional limitations of this study and suitable recommendations for future research will be provided.

Explanations for the Findings

A non-significant finding is still a finding in and of itself. The following section will present a possible explanation for why the majority of the results of this study are insignificant and differ from those found in the literature regarding the mainstream. The first port of call is to focus on the research design and assess whether any aspect of this might explain these findings. I will critically reflect on the design of the study rather than declaring that these independent variables do not, in fact, predict academic performance for students at university.

Research Design

There are two key interrelated aspects that will be discussed with respect to the research design. These include the chosen sample and the time of the data collection process.

A number of the interventions in the Commerce AD programme, designed to fortify self-efficacy, develop goal setting and locus of control behaviours, are focused in the first year specifically around induction; hence this cohort of students was chosen. The rationale was that these students were experiencing all these interventions, such as presentation skills development, academic workshops, commerce skills, language and communication classes and had direct access to resources, such as personal advice and support, mentoring, and the support of a writing consultant; all of which are designed to build these psychological factors (Educational Development Unit Commerce, 2010). These interventions are less intense in subsequent years.

Thus, it would not have been practical to use second or third year Commerce AD students, given that the majority of interventions in the Commerce AD programme are focussed on the first year students. Therefore, it seemed problematic to use second or third year Commerce AD students. In addition (although a less compelling reason), the student numbers in these subsequent years are relatively low, while the student numbers in first year are higher which increased the possibility of a larger response group. Furthermore, the second and third year Commerce AD students already have the experience of having surviving first year behind them; hence if they had participated in the survey, a variety of additional factors may have compounded their engagement therewith. Thus, in terms of the sample chosen, the first year Commerce AD students were considered the best option under the circumstances.

I acknowledge that the design issue is related to inflexible constraints around the time-frame of data collection for this study and the fact that the study had to be completed within one academic year. This constraint meant that it was impossible to include more than one semester's mean percentage scores (the second semester final results are only released in December 2010, making it impossible to include these in this analysis).

Exploring the hypotheses

The hypotheses concerning each of the independent variables were devised at the beginning of the study and were investigated during the research process. The hypotheses were based on the findings of previous research studies that were conducted in mainstream academic settings. In this study, only the first hypothesis, concerning Matriculation result, was found to be significant. No evidence was found to support the hypotheses around the three psychological variables; self-efficacy, goal-setting orientation and locus of control. Further possible explanations will be provided as to why this limited significance was established.

Matriculation result. Previous literature has presented well-established evidence, both globally and locally, that Matriculation result (or entry qualification) is a significant predictor of academic performance at university within mainstream (Astin, 1971; Elias & MacDonald, 2007; McKenzie & Schweiter, 2001; Sellers, 1992; Win & Miller, 2005). Notwithstanding the considerable support that Matriculation result is a predictor of academic performance at university, a study conducted by Rego and Sousa (1999) found that, with regard to their samples, (three independent samples of students at university), Matriculation result only explained 12%–28% of the degree performance variance. Various researchers have argued that cognitive tests, such as Matriculation result, that are used in isolation are inadequate in predicting which students will succeed at university (Anastasi, 1997; Le et al., 2005; Robbins et al., 2004; Wolfe & Johnson, 1995). There are distinct circumstances around students entering the Commerce AD programme as the majority of these students enter university with lower Matriculation results than their mainstream counterparts. Although these first year Commerce AD students are entering university with lower Matriculation results than the mainstream students, in many cases they are seen to be outperforming their mainstream counterparts. If Matriculation result were a predictor

in this research context, this Commerce AD programme would not be succeeding in its aim. Matriculation result was found not to be a predictor in the context of the AD programme.

It must be highlighted that the AD programme at UCT is open to students from disadvantaged backgrounds and the criterion for acceptance into the AD programme is that these students are Black. A low Matriculation result is not a criterion for acceptance into the AD programme, but it is common that these students do enter the programme with lower Matriculation results than their mainstream counterparts. In the AD context it thus makes sense that we cannot use Matriculation result as a predictor for future academic success and this may also become a reality for mainstream tertiary academic programmes. There is growing concern amongst many tertiary institutions in South Africa about the reliability of the NSC or Matriculation result as a predictor for future academic performance (Nel & Kistner, 2009). The concern here is what some researchers refer to as 'grade creep', that is, students doing well in their final school leaving examinations, but these examinations not being truly reflective of their academic potential (Foxcroft, 2006).

This dilemma has resulted in the National Benchmark Test (NBT) project and some universities have already institutionalised these additional tests of ability to (a) improve selection decisions and (b) assist academic departments in understanding the level of preparedness of school leavers entering into the university system (Van Tonder, 2002). The latter is particularly important as the information generated by the NBT project can inform faculty wide interventions to mediate some skills deficits that might start becoming apparent in the mainstream. In this respect, it is important to note that UCT does not rely solely on a student's Matriculation result when considering applications for acceptance into university, but also utilises the student's (NBT) result. Therefore, Matriculation result is not used in isolation at UCT but rather together with students' NBT results.

Projects such as the NBT project are currently being run to examine the viability of additional selection criteria for admission into higher education and this signals a diminishing confidence in the Matriculation or NSC as a good enough predictor for academic performance at university. The National Benchmark Tests Project led by Professor Nan Yeld and colleagues Dr Alan Cliff

and George van der Ross, focuses on how well the new curriculum prepares prospective students for university and specifically on the entry-level academic and quantitative literacy areas (Centre for Higher Education Development, 2007). The project will also assist institutions to design suitable curricula, particularly in foundation courses, through the provision of this diagnostic information gained from students completing the NBTs (Centre for Higher Education Development, 2007).

The NBT's are designed to provide criterion-referenced information to supplement the NSC (Higher Education South Africa, 2009). NBTs have recently entered the arena where academic acceptance into universities is of concern. The NBT explores three areas; general academic literacy, quantitative literacy and mathematics proficiencies (University of Cape Town, 2010). After completion, students are either marked as proficient (meaning that they should succeed at university), intermediate (meaning academic support would be required) and lastly, basic (meaning that students have serious learning challenges and learning would need to be facilitated with bridging programmes) (University of Cape Town, 2010). These tests are beneficial to students because the results will assist universities to design their courses in order to build directly on the students' level of learning at school and successful results on the NBT could give students an advantage if they find themselves in competition for scarce places in selective programmes (Higher Education South Africa, 2010).

Having discussed the variable Matriculation result, I will now move on to discussions around the psychological variables included in this study. The results from this study indicate that students have average to high beliefs regarding all three of the aforementioned factors, which indicates that these variables are present in the respondent sample.

Self-efficacy. The self-efficacy levels of the respondents were above the midpoint with a mean of 3.62 for the whole sample. Hence, the students who provided answers to the questionnaire had high levels of self-efficacy beliefs in comparison to the sample. Respondents' self-efficacy beliefs were measured using the College Academic Self-Efficacy Scale (CASES), created by Owen and Froman (1988). Hypothesis 2 was formulated to explore the relationship between students' self-efficacy beliefs and academic performance at university.

The results yielded in this study are not consistent with prior studies which found self-efficacy to be a consistent predictor of academic performance at university (Chacko & Huba, 1991; Elias & MacDonald, 2007; Kahn & Nauta, 2001; Klomegah, 2007; Lecompte et al., 1983; McKenzie & Schweitzer, 2001; Pajares & Miller, 1994; Tella & Tella, 2003; Wood & Locke, 1987). An expectation of academic achievement (self-efficacy) was found to have a significant positive relationship with *actual* academic achievement and with low student withdrawal (from university) rates (Lecompte et al., 1983). The literature also provides possible explanations that contribute to the justification of the non-significant findings. It has been found that students who enter university often experience a decline in their academic performance in their first academic year (Troskie-de Bruin, 1999). Many students recover later during their first year and perform at a level similar to or better than their initial level of performance when they entered the university (Troskie-de Bruin, 1999).

However, this recovery is not always true for students who originated from previously disadvantaged backgrounds, such as the respondents in this study. In fact, it has been shown that a large number of students leave university without obtaining their qualification, hence the need for academic development initiatives (CASE, 1993). Moving from school to university is a major transition for an individual and during this transition period their confidence level may have decreased (Gore, 2006; Stupnisky et al., 2007). However, by the end of the first semester, students may be more confident in their abilities at university, thus their academic self-efficacy beliefs and locus of control beliefs will be higher than they were at the beginning of the university year. During this current study, the students were requested to complete the questionnaire in July, after only six months of participation in the Commerce AD programme. It is noteworthy, therefore, that stronger relationships were found to exist between students' self-efficacy beliefs and performance at university when measured during the second semester (Kahn & Nauta, 2001). This might account for the fact that, even though students reported high levels of these beliefs in the data collection process, these beliefs were not connected to academic performance. When students reach the second semester they have had more time to adapt to university life and thus feel an increased amount of control compared to what they felt in the first semester (Kahn & Nauta, 2001).

Goal-setting orientation. Performance goal orientation measures the degree to which an individual is directed and motivated to the attainment of goal outcomes, such as academic grades. The goal-setting orientation variable was measured using two separate subscales; the mastery subscale and the performance subscale. Roedel, Schraw and Plake's (1994) Goals Inventory was used to measure the students' goal-setting orientation. The goal-setting orientation levels of the respondents were high on the mastery subscale with a mean of 4.02 and were considered average on the performance subscale with a mean of 3.03. Hence, the students who provided answers to the questionnaire had above average levels of mastery and performance goal-setting orientations if the mean scores are combined.

The results yielded in this study are not consistent with prior studies which found goal-setting orientation to be a consistent predictor of academic performance at university. In previous studies, it was discovered that students who are more learning orientated not only work harder and persist at academic tasks, but they also employ more cognitive and meta-cognitive strategies more often while learning than students who are more extrinsically orientated (Wolters, Yu & Pintrich, 1996). Pintrich and Schrauben (1992) also found that students who exercise a learning goal orientation (and have high interest in a topic) would be more inclined to use more learning strategies than students (with high interest) but with an extrinsic or performance goal orientation.

Locus of control. Locus of control beliefs refer to an individual's perception about the underlying causes of events in life (Neill, 2006). The locus of control levels of the respondents in the sample were a good deal above average, with a mean of 4.0 for the whole sample being considered high. Hence, the students who provided answers to the questionnaire had high levels of internal locus of control beliefs. These beliefs were measured using a moderated version of the Internal Control Index (ICI) of Duttweiler (1984).

Previous literature has presented a well-established relationship between locus of control beliefs and academic performance (Findley & Cooper, 1983; Hendrich & Schepers, 2004; Perry et al., 2005; Ruthwig et al., 2007; Schepers, 1995; Stupnisky et al., 2007; Weiner, 1995). Higher internal locus of control beliefs are associated with higher academic achievement (Findley & Cooper, 1983). Based on this previous research, hypothesis 4 was formulated to explore the

relationship between students' locus of control beliefs and academic performance within a Commerce AD programme at university.

The measuring instruments used to determine students' beliefs stood up to tests of reliability and hence cannot account for the non-significant results found. The measuring instruments were robust and dependable, hence the need to explore additional reasons as to why limited significance was found. Two explanations related to why limited significance was established are provided hereafter.

Research conducted too early on in the year. The possibility that this study was conducted too early on in the AD programme serves as a central limitation. These first year Commerce AD students had only been enrolled in the AD programme at UCT for a mere six months before this research was conducted. Six months may not have been enough time to ensure that these psychological variables, such as self-efficacy, goal-setting orientation and locus of control were fostered. The longitudinal study conducted by Gore (2006) illustrates the limitation for this existing study. The comparable study conducted by Gore (2006) found that self-efficacy beliefs measured at the beginning of the first semester of university proved to be relatively weak predictors of academic performance. Whereas, when self-efficacy beliefs were measured at the end of the first semester it was found that these beliefs were in fact strong predictors of academic performance. In a separate study it was established that stronger relationships existed between student's academic self-efficacy beliefs and university performance during the second semester at university (Kahn & Nauta, 2001). These findings indicate that the students' self-efficacy beliefs become stronger as the year progresses. For the present research study, the end of the academic year may have been a more appropriate time to gather the performance data than at the end of the first semester. By the end of the academic year, students may feel more confident in their abilities at university (Stupnisky et al., 2007). A feasible recommendation is that the research be conducted at the end of the students' first academic year or in the students' second year of study within the AD programme. This would allow more time for the students to develop these psychological variables as they would be more familiar with the university environment and the academic expectations. However, it is not the size or the magnitude of the scores but a low variance that limits their correlation with another variable. Regrettably, if all respondents'

scores were equally high, it would not raise the relevant correlation due to the restricted cluster of scores.

One of the most obvious reasons for the poor correlations found between Matriculation result and university performance in AD programmes is the restriction of range of the predictor. Since only individuals at the lower end of the first variable are represented in the sample, the range of this variable is restricted and the restriction results in the attenuation of its correlation with any other variable, including university performance.

Significant relationships between Psychological Variables

While there was a lack of support for hypotheses 2, 3 and 4 and these hypotheses could not be confirmed, relationships *between* the psychological variables were established. These psychological variables may not have been found to correlate with students' academic performance in the AD programme context, but they were found to correlate with each other to an extent.

A correlation was found to exist between self-efficacy and locus of control. A correlation was found to exist between self-efficacy and mastery goal-setting orientation. This finding has been reflected on earlier in the literature review. Self-efficacy beliefs develop as a result of an individual's personal performance achievements (Bandura, 1986). Self-efficacy is related to an individual's perceived capability in performing necessary tasks to achieve goals (Bandura, 1997). Therefore this correlation was expected to be found during analysis. This correlation was also found in a study conducted amongst 345 first year Mechanical Engineering students at a university in Taiwan. The self-efficacy level of the students was reported to have a positive correlation with goal-setting behaviour (Jeng & Shih, 2008). This translates into, the higher the self-efficacy level, the higher the level of future accomplishment that will be set by the individual (Jeng & Shih, 2008). Lastly, a correlation was found to exist between locus of control and mastery goal-setting orientation.

Additional Limitations and Recommendations

Dependent variable. The dependent variable, mean percentage scores, is problematic as an indication of academic performance. Firstly, as an aggregate of each student's course results it is difficult to use a uniform comparative score due to factors such as total course load and composition possibly differing by stream. This may influence performance on this score. Some courses may also be more challenging than other courses and it thus may be more difficult for students with a heavier academic load who take on numerous elective courses to perform at the same level as their peers who choose to take on a less busy schedule. This could be countered by grouping the students according to stream and exploring intra-group differences.

Voluntary completion of questionnaire. The fact that the completion of the questionnaire was voluntary is a possible limitation. I had no control over who completed the questionnaire once it was distributed electronically and in the lecture venue to the students. The questionnaire was strictly voluntary and confidential. The problem that this voluntary response format created was that there was no way to control how many B.Com or B.Bus.Sci students answered the questionnaire. As a result 78% of the sample were B.Com students and only 22% were B.Bus.Sci students. The problem here is that it would be almost impossible to reliably compare group differences with the B.Bus.Sci group being so small in contrast to the B.Com group. In order to rectify this, the questionnaire was physically distributed to both the B.Com and B.Bus.Sci first year Commerce AD students' lecture venues for them to complete in the venue. Again, more B.Com students than B.Bus.Sci students completed the questionnaire. The idea of approaching the students therefore rectified the problem of the low electronic response rate, but it did not rectify the problem of the homogeneity between the B.Com and B.Bus.Sci academic programme streams.

Cross-sectional nature of the study. This study was cross-sectional in nature in that the questionnaire was limited to one semester only. Therefore there was no comparison group and the study may, as a result, be less powerful than if there were a comparison group. The problem here is that there could not be a control group within the AD programme at UCT. To further explain, it would not be possible to have a control group who were not exposed to the intervention, that is, the AD programme, because the EDU department at UCT (or any other

university) would never allow that as it would be considered unethical. The cross-sectional nature of the study does not allow for causal links to be assumed. Those students in different levels of their studies are excluded; therefore it is not possible to see whether any observed relationships are stable. It is therefore recommended that a longitudinal study be conducted to investigate these relationships over time. Another idea would be to track the progress of the 116 students who participated in the study into their second year of study. By second year, one may notice an increase in self-efficacy beliefs, goal-setting orientations and locus of control beliefs. These psychological variables take a long time to develop and it would be interesting to compare the students' levels of psychological beliefs in relation to their academic performance in their second year of study.

Specialised sample. The sample utilised was somewhat specialised in that it consisted entirely of Commerce students enrolled in introductory (first year) courses at the same institution. In addition, most of these students were in the B.Com academic stream. Given that there is no variety of academic discipline, this raises the question of whether this study would be generalisable to other university students in non-Commerce AD programmes in the future. In addition, the fact that only first year Commerce AD students participated in this study, raises concerns about external validity as it is again questionable whether the results obtained can be generalised to a larger population. Future studies should endeavour to replicate the findings in this study in order to observe if they generalise to larger and more heterogeneous samples.

Self-report measure. The findings from this study were based on self-reported measures from first year university students in an AD programme. Due to the non-experimental nature of this study, the findings produced may not hold in replication studies or in studies in which students from different faculties participate.

Conclusion

What is apparent from the results of the literature search is that there is a paucity of local published studies in this field and little published work internationally or locally in the context of AD programmes. This dissertation presents a modest step towards exploring this relatively under-researched field. Despite the lack of significant findings, a number of interesting learnings can be extracted from this study. These learnings relate primarily to the research design and can hopefully inform and improve future studies in this AD context.

A problematic research design, the cross-sectional nature of the study and the fact that it was administered early on in the academic year are the central limitations of the study. It is therefore recommended that that future studies attempting to understand performance in this context avoid a cross-sectional research design and instead use a complete set of performance data for the entire first year and not only for the first semester.

What is apparent from this research project is the invaluable contribution that AD programmes can make in helping to transform the demographic of students entering and succeeding in higher education in South Africa. The more we understand about how these programmes work and what guiding principles constitute best practice the more we can support new or floundering programmes to improve their efforts in increasing student throughput. In spite of the lack of significant findings this study has generated some useful information pertaining to how to go about researching this kind of programme and hopefully the limitations highlighted here can be used to improve subsequent research endeavours in this area.

References

- Agar, D. (1990). Non-traditional students: perceptions of problems which influence academic success. *Journal of Higher Education*, 19, 424–454.
- Albaili, M. (1998). Goal orientations, cognitive strategies and academic achievement among United Arab Emirates college students. *Educational Psychology*, 4(2), 195–203.
- Anastasi, A. (1997). *Psychological testing (7th edn.)*. New York: Prentice Hall International.
- Archer, J. (1994). Achievement goals as a measure of motivation in university students. *Contemporary Educational Psychology*, 19, 430–446.
- Astin, A. (1971). *Predicting academic performance in college: Selectivity data for 2300 American colleges*. New York, NY: The Free Press.
- Ayiku, T.Q. (2005). *The relationships among college self-efficacy, academic self-efficacy and athletic self-efficacy for African America male football players*. (Master's dissertation, University of Maryland). Retrieved from <http://drum.lib.umd.edu/bitstream/1903/2701/1/umi-umd-2629.pdf>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioural change. *Psychological Review*, 84(2), 191–215.
- Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Bandura, A. (1988). *Self-regulation of motivation and action through goal systems*. In V. Hamilton, G.H. Bower, & N.H. Frijda (Eds.), *Cognitive perspectives on emotion and motivation* (pp. 37-61). Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

- Bangeni, B., & Kapp, R. (2006). Identities in transition: Shifting conceptions of home among “black” South African university students. *African Studies Association*, 48(3), 1-19.
- Berry, C.M., & Sackett, P.R. (2009). Individual differences in course choice result in underestimation of the validity of college admissions systems. *Psychological Science*, 20(7), 822-830.
- Bong, M., & Clark, R. (1999). Comparison between self-concept and self-efficacy in academic motivation research. *Educational Psychologist*, 34, 139-153.
- Bouffard, T., Boisvert, J., Vereau, C., & Larouche, L. (1995). The impact of goal orientation on self-regulation and performance among college students. *British Journal of Educational Psychology*, 65, 317-329.
- Bronson, P. (2007). *In defense of the SAT*. Retrieved from <http://blog.newsweek.com/blogs/nurtureshock/archive/2009/09/18/in-defense-of-the-sat.aspx>
- Brown, S., Lent, R., & Larkin, K. (1989). Self-efficacy as a moderator of scholastic aptitude-academic performance relationships. *Journal of Vocational Behavior*, 35, 34-75.
- Bruning, R.H., Schraw, G.J., & Ronning, R.R. (1999). *Cognitive psychology and instruction*. Upper Saddle River, New Jersey: Prentice Hall.
- Carroll, C., & Garavalia, L. (2004). Factors contributing to the academic achievement of pharmacy students: Use of the goal-efficacy framework. *American Journal of Pharmaceutical Education*, 68(4), 1-8.
- CASE. (1993). *Diversity and quality: Academic development at South African tertiary institutions*. Pavlich, G. & Orkin, M. (Eds.) Johannesburg: CASE. Report.
- Centre for Higher Education Development. (2007). *Dean's report*. Retrieved from <http://www.research2007.uct.ac.za/pdfs/CHED.pdf>

- Chacko, S., & Huba, M. (1991). Academic achievement among undergraduate nursing students: The development and test of a causal model. *Journal of Nursing Education*, 30(6), 267-273.
- Council on Higher Education. (2004). *South African Higher Education in the First Decade of Democracy*. Pretoria: Council on Higher Education.
- Chemers, M.M., Hu, L.T., & Garcia, B.F. (2001). Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational Psychology*, 93(1), 56-64.
- Choi, N. (2005). Self-efficacy and self-concept as predictors of college students' academic performance. *Psychology in the Schools*, 42(2), 197-205.
- Clark, L.A., & Watson, D. (1995). Construct validity: Basic issues in objective scale development. *Psychological Assessment*, 7, 309-319.
- Coutinho, S. (2007). The relationship between goals, metacognition, and academic success. *Educate*, 7(1), 39-47.
- DeBerad, S.M., Julka, D.L., & Spielmans, G.I. (2004). Predictors of academic achievement and retention among college freshmen: A longitudinal study. *College Student Journal*, 38, 66-85.
- Ducette, J., & Wolk, S. (1972). Locus of control and extreme behaviour. *Journal of Consulting and Clinical Psychology*, 39, 253-258.
- Duttweiler, P.C. (1984). The internal control index: A newly developed measure of locus of control. *Educational and Psychological Measurement*, 44, 209-221.
- Dweck, C., & Leggett, E. (1988). A social-cognitive approach to motivation and personality. *Psychological Review* 95, 256-273.

- Eastmond, J.N. (1997). Five academic development programs in the eastern cape province: Reactions of an American academic in South Africa. *Educational Technology Research and Development*, 45(3), 129-134.
- Educational Development Unit Commerce. (2010). *Welcome to the EDU Commerce*. Retrieved from <http://www.commerce.uct.ac.za/Organisations/EDU>
- Elias, S, & Loomis, R. (2004). Utilising need for cognition and perceived self-efficacy to predict academic performance. *Journal of Applied Social Psychology*, 34, 1687–1702.
- Elias, S., & MacDonald, S. (2007). Using past performance, proxy efficacy, and academic self-efficacy to predict college performance. *Journal of Applied Social Psychology*, 37(11), 2518-2531.
- Elliot, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology*, 54, 5-12.
- Eppler, M., & Harju, B. (1997). Achievement motivation goals in relation to academic performance in traditional and non-traditional college students. *Research in Higher Education*, 38(5), 557-573.
- Estrom, T. (1996). Self-concept and its implications for counselors. *Nigerian Journal of Clinical and Counselling Psychology*, 2(1 & 2), 125-135.
- Fincher, C. (1986). The predictive contribution of the SAT in a statewide system of public higher education. In College Board (Ed.), *Measures in the college admissions process: A college board colloquium*. New York: College Entrance Examination Board.
- Findley, M., & Cooper, H. (1983). Locus of control and academic achievement: a literature review. *Journal of Personality and Social Psychology*, 44(2), 419-427.
- Finney, S., & Schraw, G. (2003). Self-efficacy beliefs in college statistics courses. *Contemporary Educational Psychology*, 28, 161-186.

- Foxcroft, C. D. (2006). Evaluating the school-leaving examination against measurement principles and methods. In V. Reddy (Ed.), *Marking matric: Colloquium proceedings*, 58–71. Cape Town: HSRC Press.
- Gore, P. (2006). Academic self-efficacy as a predictor of college outcomes: two incremental validity studies. *Journal of Career Assessment*, 14(1), 92-115.
- Hair, J., Babin., Money, A., & Samouel, P. (2003). *Essentials of business research methods*. Hoboken, New Jersey: Wiley
- Hair, J. F., Black, W.C., Babin, B.J., Anderson, R.E., & Tatham, R.L. (2006). *Multivariate data analysis* (6th ed.). New Jersey: Pearson Education Inc.
- Hembree, R. (1988). Correlates, causes, effects, and treatment of test anxiety. *Review of Educational Research*, 58, 47-77.
- Hendrich, U., & Schepers, J. (2004). Locus of control and learning strategies as Predictors of academic success. *South African Journal of Higher Education*, 18(2), 250-264.
- Higher Education South Africa. (2009). *National benchmark tests project*. Retrieved from http://web.up.ac.za/sitefiles/file/9216/9321/EI/HERI/Draft%20HESA%20NBTP%20-%20Summary%20Report%20June%2009%20_2_.pdf
- Higher Education South Africa. (2010). *National benchmark tests: As a national service to higher education*. Retrieved from <http://www.nbt.ac.za/>
- Howard, J. (2002). *Academic development programmes in South Africa*. Retrieved from <http://faculty.ccp.edu/dept/viewpoints/w02v3n2/frsoutaf.htm>
- Kahn, J., & Nauta, M. (2001). Social-cognitive predictors of first year college persistence: The importance of proximal assessment. *Research in Higher Education*, 42, 633-652.

- Jeng, Y., & Shih, H. (2008). A Study of the Relationship among self-efficacy, attribution, goal setting, and mechanics achievement in department of mechanical engineering students on Taiwan. *World Academy of Science, Engineering and Technology*, 45, 531-537.
- Jing, H.E. (2007). Analysis on the relationship among test anxiety, self-concept and academic competency. Retrieved from <http://www.linguist.org.cn/doc/uc200701/uc20070111.pdf>
- Klomegah, R. (2007). Predictors of academic performance of university students: An application of the goal efficacy model. *College Student Journal*, 41(2), 407-415.
- Kong, C., & Hau, K. (1996) Students' achievement goals and approaches to learning: The relationship between emphasis on self-improvement and thorough understanding, *Research in Education*, 55, 74-85.
- Kuncel, N.R., Hezlett, S.A., & Ones, D.S. (2001). A comprehensive meta-analysis of the predictive validity of graduate record examinations: Implications for graduate student selection and performance. *Psychological Bulletin*, 127, 162-181.
- Latham, G., & Locke, E. (1990). *A theory of goal setting and task performance*. New Jersey: Prentice Hall.
- Le, H., Casillas, A., Robbins, S., & Langley, R. (2005). Motivational and skills, social, and self management predictors of college outcomes: Constructing the student readiness inventory. *Educational and Psychological Measurement*, 62, 1-28.
- Lecompte, D., Kaufman, L., & Rousseeuw, P. (1983). Search for the relationship between interrupted university attendance of first year students and some psychosocial factors. *Acta Psychiatrica Belgica*, 83, 609-617.
- Lee, C. & Babko, P.. 1994. Self-efficacy beliefs: Comparison of five measures. *Journal of Applied Psychology*, 79, 364-369.
- Lefcourt, H.M. (1976). *Locus of control: Current trends in theory and research*. New Jersey: Lawrence Erlbaum Associates.

- Lent, R.W., Brown, S.D., & Larkin, K.C. (1984). Relation of self-efficacy expectations to academic achievement and persistence. *Journal of Counseling Psychology, 31*, 356-362.
- Letseka, M., & Maile, S. (2008). High university drop-out rates: A threat to South Africa's future. Retrieved from <http://www.hsrc.ac.za/Document-2717.phtml>
- Locke, E., & Locke, G. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, NJ: Prentice Hall.
- Lopez, F. G., Lent, R. W., Brown, S. D., & Gore, P. A., Jr. (1997). Role of social-cognitive expectations in high school students' mathematics-related interest and performance. *Journal of Counseling Psychology, 44*, 44-52.
- Luckett, K., & Luckett, T. (2009). The development of agency in first generation learners in higher education: a social realist analysis. *Teaching in Higher Education, 14*(5), 469-481
- Macgregor, K. (2007). *South Africa: Student drop-out rates alarming*. Retrieved from <http://www.universityworldnews.com/article.php?story=20071025102245380>
- Maggard, B. (2007). *Selected academic variables as predictors of first semester academic success of at-risk football student-athletes at the university of Missouri*. (Masters's dissertation, University of Missouri). Retrieved from <http://edt.missouri.edu/Winter2007/Dissertation/MaggardB-043007-d6602/research.pdf>
- Malekele, M. (1994). *Prediction of academic success of students in an academic Development programme*. (Unpublished master's thesis). Faculty of Arts (Department of Psychology), University of the Orange Free State: Bloemfontein
- McGrath, M., & Braunstein, A. (1997). The prediction of freshman attrition: An examination of the importance of certain academic, demographic, financial and social factors. *College Student Journal, 31*, 396-408.
- McKenzie, K., & Schweitzer, R. (2001). Who succeeds at university? Factors predicting academic performance in first year Australian university students. *Higher Education Research and Development, 20*(1), 21-33.

- McWhaw, K., & Abrami, P. (2001). Student goal orientation and interest: effects on students' use of self-regulated learning strategies. *Contemporary Educational Psychology*, 26, 311-329.
- Miller, R., Beherens, J., Greene, B., & Newman, D. (1993) Goals and perceived ability: Impact on students valuing, self-regulation and persistence. *Contemporary Educational Psychology*, 18, 2-14.
- Multon, K., Brown, S., & Lent, R. (1991). Relation of self-efficacy beliefs to Academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, 38, 30-38.
- Neill, J. (2006). *What is locus of control?* Retrieved from <http://wilderdom.com/psychology/loc/LocusOfControlWhatIs.html>
- Nel, C., & Kistner, L. (2009). *The National Senior Certificate: Implications for access to higher education*. Retrieved from <http://www.maties.com/portal/page/portal/Maties/shared/NSC%20Implications%20for%20access%20to%20higher%20education.pdf>
- Nietfeld, J.L., & Enders, C.K. (2003). *An examination of student teacher beliefs: Interrelationships between hope, self-efficacy, goal-orientations, and beliefs about learning*. Retrieved from <http://cie.asu.edu/volume6/number5/index.html>
- Noble, J., & Sawyer, R. (2004). Is high school GPA better than admission test scores for predicting academic success in college? *College and University*, 79(4), 17-22.
- Olani, A. (2009). Predicting first year university students' academic success. *Electronic Journal of Research in Educational Psychology*, 7(3), 1053-1072.
- Oracle PeopleSoft Enterprise. (2006). *Understanding academic achievement*. Retrieved from <http://isisdevps.uct.ac.za:6001/PSOL/html/doc/eng/psbooks/ljaa/chapter.htm?File=ljaa/html/ljaa03.htm%23H3006>
- Ormrod, J. E. (2006). *Educational Psychology: Developing Learners (5th ed.)*. Upper Saddle River: New Jersey.

- Owen, S., & Froman, R. (1988). *Development of a college academic self-efficacy scale*. Paper presented at the 1998 annual meeting of the National Council on Measurement in Education
- Pajares, F. (1996). Self-efficacy beliefs in academic setting. *Review of Educational Research*, 66(4), 543-578.
- Pajares, F. (2002). *Self-efficacy beliefs in academic context: An outline*. Retrieved from <http://www.des.emory.edu/mfp/efftalk.html>
- Pajares, F., & Miller, M. (1994). Role of self-efficacy and self-concept beliefs in mathematical problem solving: A pathanalysis. *Journal of Educational Psychology*, 86, 193–203.
- PASW Statistics for Windows Version 18.0.2. (2010). Chicago: SPSS Inc.
- Perry, R. (2003). Perceived (academic) control and causal thinking in achievement settings. *Canadian Psychologist*, 44(4), 312-331.
- Perry, R., Hall, N., & Ruthig, J. (2005). Perceived (academic) control and scholastic attainment in higher education. In J.C. Smart (Ed.), *Higher education: Handbook of theory and research*, 20, 363-436. The Netherlands: Springer
- Perry, R., Hladkyj, S., Pekrun, R., Clifton, R., & Chipperfield, J. (2005). Perceived academic control and failure in college students: A three-year study of scholastic attainment. *Research in Higher Education*, 46(5), 535-569.
- Perry, R., Hladkyj, S., Pekrun, R., & Pelletier, S. (2001). Academic control and action control in the achievement of college students: A longitudinal field study. *Journal of Educational Psychology*, 93(4), 776-789.
- Pintrich, P., & Schrauben, B. (1992). Students' motivational beliefs and their cognitive engagement in classroom academic tasks. In D.H. Schunk & J.L Meece (Eds.). *Student perceptions in the classroom*. Hillsdale, New Jersey: Erlbaum.

- Porteus, K. (2003). Decolonising inclusion: Constructing an analytic framework for inclusion/exclusion for the decolonising context. *Perspectives in Education*, 21(3), 13-23.
- Pym, J. (2006). The lost, the least and the last: A South African higher education case study exploring the possibility of defying the barriers to learning. *HERDSA*, 276-285
- Rademeyer, M.M., & Schepers, J.M. (1998). Voorspelling van die akademiese sukses van eerstejaarstudente. *Tydskrif vir Bedryfsielkunde*, 24(1), 33-44.
- Rego, A., & Sousa, L. (1999). Performance in higher education: towards an understanding. *Educational Research*, 41(1), 91-107.
- Robbins, S.B., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do psychological and study skills predict college outcomes? A meta-analysis. *Psychological Bulletin*, 130, 261-288.
- Roedel, T., Schraw, G., & Plake, B. (1994). Validation of a measure of learning and performance goal orientation. *Educational and Psychological Measurement*, 54(4), 1013-1021.
- Rotter, J.B. (1966). Generalized expectancies of internal versus external control of reinforcements. *Psychological Monographs*, 80(1), 1-28.
- Saks, A. (1995). Longitudinal field investigation of the moderating and mediating effects of self-efficacy on relationship between training and newcomer adjustment. *Journal of Applied Psychology*, 80(2), 211-225.
- Sayed, Y. (2003). Educational exclusion and inclusion: Key debates and issues. *Perspectives in Education*, 21(3), 1-12.
- Schepers, J. (1995). *Die lokus van beheer vraelys: Konstruksie en evaluering van 'n nuwe meetinstrument*. Ongepubliseerde Aantekeninge, Randse Afrikaanse Universiteit, Johannesburg.

- Schiefele, U. (1992). Topic interest and levels of text comprehension. In K.A. Renninger, S. Hidi, & A. Krapp (Eds.), *The role of interest and learning in development*. Hillsdale, New Jersey: Erlbaum.
- Schraw, G., Horn, C., Thorndike-Christ, T., & Bruning, R. (1995) Academic goal orientation and students classroom achievement. *Contemporary Educational Psychology*, 20, 359-368.
- Schunk, D. (1990). Goal setting and self-efficacy during self-regulated learning. *Educational Psychology*, 25(1), 71-86.
- Schunk, D. (1991). Self-efficacy and academic motivation. *Educational Psychology*, 26, 207-231.
- Schunk, D.H, & Pajares, F. (2002). The development of academic self-efficacy. In A. Wigfield & J.S. Eccles (Eds.), *Development of achievement motivation* (pp. 15-31). San Diego: Academic Press.
- Scott, I., Yeld, N., & Hendry, J. (2007). Higher Education Monitor: A case for improving teaching and learning in South African Higher Education. Retrieved from http://www.che.ac.za/documents/d000155/HE_Monitor_6_ITLS_Oct2007.pdf
- Sellers, R. (1992). Racial differences in the predictors for academic achievement of student-athletes in division I revenue sports. *Sociology of Sport Journal*. 9, 48-59.
- Stupnisky, R., Renaud, R., Perry, R., Ruthig, J., Haynes, T., & Clifton, R. (2007). Comparing self-esteem and perceived control as predictors of first year college students' academic achievement. *Social Psychology of Education*, 10, 303-330.
- Shaughnessy, J.J., & Zechmeister, E.B. (1997). *Research methods in psychology* (4th Edn.). New York: McGraw-Hill.
- Smith, V. (2003). *Analysis of locus of control and educational level utilizing the internal internal control index*. (Masters's dissertation, Graduate School of Marshall University). Retrieved from <http://www.marshall.edu/etd/masters/smith-valerie-ma-2003.pdf>

- Swartz, E., & Foley, P. (1996). Higher education in South Africa: the skills debate. *Education and Training*, 38(9), 34 – 40.
- Tella, A., Jr & Tella, A. (2003). Self-efficacy and locus of control as predictors of academic achievement among secondary schools students in Osun State Unity Schools. *Oyo Journal of Educational Psychology*, 1(1), 32-41.
- Tella, A., Tella, A., Ayeni, C., & Omoba, R. (2007). *Self-efficacy and use of electronic information as predictors of academic performance*. Retrieved from http://southernlibrarianship.icaap.org/content/v08n02/tella_a01.html
- Troskie-de Bruin, C. (1999). *How much diversity can effectively be accommodated by academic development programmes?* Retrieved from <http://www.herdsa.org.au/branches/vic/Cornerstones/pdf/Troskie.PDF>
- University of Cape Town. (2010). *Centre for higher education development*. Retrieved from <http://www.ched.uct.ac.za/news/archives/?id=7667&t=mp>
- Van Tonder, A. (2002). *An overview of academic development programmes for engineering at South African universities*. Retrieved from <http://www.herdsa.org.au/confs/1996/vantonder.html>
- Weiner, B. (1995). *Judgement of responsibility: A foundation for a theory of social conduct*. New York: Guilford Press.
- Win, R., & Miller, P. (2005). The effects of individual and school factors on university students' academic performance. *The Australian Economic Review*, 38(1), 1-18.
- Wolfe, R.N., & Johnson, S.D. (1995). Personality as a predictor of college performance. *Educational and Psychological Measurement*, 55, 177-185.
- Wolters, C., Yu, S., & Pintrich, R. (1996). The relation between goal orientation and students' motivational beliefs and self-regulated learning. *Learning and Individual Differences*, 8(3), 211-238.
- Wood, R., & Locke, E. (1987). The relation of self-efficacy and grade goals to academic performance. *Educational and Psychological Measurement*, 47, 1013–1024.

Zheng, L., Saunders, K., Shelley, M., & Whalen, D. (2002). Predictors of academic Success for freshmen residence hall students. *Journal of College Student Development*, 3(2), 267-283.

Zimmerman, B. J. (1989). A social cognitive view of self-regulated learning. *Journal of Educational Psychology*, 81,329-339.

Zimmerman, B. J., & Martinez-Pons, M. (1990). Student differences in self-regulated learning: Relating grade, sex, and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology*, 82, 51-59.


Zimmerman, B.J., & Schunk, D. H. (1989). *Self-regulated learning and academic achievement: Theory, research, and practice*. New York: Springer-Veriag.


Zulu, C. (2005). Academic reading ability of first year students: what's high school performance or prior exposure to academic reading got to do with it? *Southern African Linguistics and Applied Language Studies*, 23(1), 111-123.

Appendix A

Novell WebAccess (Mich... My Surveys Student Survey Survey

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 UNIVERSITY OF CAPE TOWN
FACULTY OF COMMERCE
Igniting Knowledge and Opportunity

 Student Survey

Page 3 of 11

The following questions are about your beliefs about your capabilities, or how you feel about yourself.

Instructions:
How much confidence do you have about doing each of the behaviours listed below? For each statement below, please indicate which of the 5 options best describes your level of confidence using the following scale: 5. Strongly Agree, 4. Agree, 3. Neutral, 2. Disagree, 1. Strongly Disagree.

2. I am confident that I take well-organised notes during a lecture.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
3. I am confident to participate in a class discussion.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
4. I am confident to answer a question in a large class.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
5. I am confident to answer a question in a small class.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
6. I am confident in my ability to answer "objective" tests (Multiple choice, true/false, matching).*
 Strongly Agree Agree Neutral Disagree Strongly Disagree

Appendix B

Consent Form

Ever wondered why you perform as well as you do?

My study is attempting to assess what factors distinguish high and low performing students in a first year Academic Development (AD) programme. The information gathered will be used towards the completion of my Masters dissertation.

Please complete the following short questionnaire. Please answer the questions as honestly as possible. By doing so, you will be entered into a raffle draw to **win a R500 gift voucher** from Cavendish Square. The winner will be notified by email on Friday 20 August 2010.

I would like to inform you that:

1. Your participation is entirely voluntary
2. Your responses will remain anonymous and confidentiality will be maintained
3. By continuing you are giving your consent to participate in the study.

Thank you for agreeing to participate in this study. Your participation is appreciated.

1. Please provide your *PeopleSoft Number (found on your **student card**) *Listed as PS No: (See image) *

Why we need this: For your survey results to be useful to me, I would need to link various attributes of your academic performance and PeopleSoft allows me to do this using your PeopleSoft number whilst ensuring your anonymity. Your name will not appear.



Please don't spend too much time answering each question.

Instructions:

How much confidence do you have about doing each of the behaviours listed below? For each statement below, please indicate which of the 5 options best describes your level of confidence using the following scale: 5. Strongly Agree, 4. Agree, 3. Neutral, 2. Disagree, 1. Strongly Disagree.

2. I am confident that I take well-organised notes during a lecture.*

3. I am confident to participate in a class discussion.*
- Strongly Agree Agree Neutral Disagree Strongly Disagree
- Strongly Agree Agree Neutral Disagree Strongly Disagree
4. I am confident to answer a question in a large class.*
- Strongly Agree Agree Neutral Disagree Strongly Disagree
5. I am confident to answer a question in a small class.*
- Strongly Agree Agree Neutral Disagree Strongly Disagree
6. I am confident in my ability to answer "objective" tests (Multiple choice, true/false, matching).*
- Strongly Agree Agree Neutral Disagree Strongly Disagree
7. I am confident in my ability to achieve in essay tests.*
- Strongly Agree Agree Neutral Disagree Strongly Disagree
8. I am confident in my ability to write a high quality assignment.*
- Strongly Agree Agree Neutral Disagree Strongly Disagree
9. I am confident enough in my subject knowledge to tutor another student.*
- Strongly Agree Agree Neutral Disagree Strongly Disagree
10. I am confident in my ability to explain a concept to another student.*
- Strongly Agree Agree Neutral Disagree Strongly Disagree
11. I am confident to approach a lecturer during class to review a concept I do not understand.*
- Strongly Agree Agree Neutral Disagree Strongly Disagree
12. I am confident in my study methods.*
- Strongly Agree Agree Neutral Disagree Strongly Disagree
13. I am confident that I understand most of what is required from me in tests.*
- Strongly Agree Agree Neutral Disagree Strongly Disagree

14. I am confident that I understand most of what is required from me in assignments.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree

15. I am confident that I understand most ideas presented in class.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree

16. I am confident in my ability to perform simple mathematical computations.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree

17. I am confident to express an opinion in class that is different to the lecturer.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree

18. I am confident in my ability to apply lecture content in different forms of assessment.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree

19. I am confident that I make good use of the library.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree

20. I am confident in my ability to achieve good marks.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree

21. I am confident in the effectiveness of my study habits.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree

22. I am confident in my ability to master the content in a course that I am not interested in.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree

23. I am confident in my ability to use a computer.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree

Instructions:

For each statement below, please indicate which of the 5 options best describes what your normal or usual attitude, feeling or behaviour would be using the following scale: 5. Strongly Agree, 4. Agree, 3. Neutral, 2. Disagree, 1. Strongly Disagree.

(Of course, there are always unusual situations in which this would not be the case, but think of what you would do or feel in most normal situations.)

- 24.** I need frequent encouragement from others for me to keep working at a difficult task.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
- 25.** I like jobs where I can make decisions and be responsible for my own work.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
- 26.** I change my opinion when someone I admire disagrees with me.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
- 27.** If I want something I work hard to get it.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
- 28.** I prefer to learn the facts about something from someone else rather than having to dig them out for myself.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
- 29.** I like to have a say in any decisions made by any group I'm in.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
- 30.** I consider the different sides of an issue before making any decisions.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
- 31.** What other people think has a great influence on my behaviour.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
- 32.** Whenever something good happens to me I feel it is because I've earned it.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
- 33.** I enjoy being in a position of leadership.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
- 34.** I need someone else to praise my work before I am satisfied with what I've done.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
- 35.** I am sure enough of my opinions to try and influence others.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree

36. When something is going to affect me I learn as much about it as I can.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
37. I am sure enough of my opinions to try and influence others.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
38. For me, knowing I've done something well is more important than being praised by someone else.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
39. I let other peoples' demands keep me from doing things I want to do.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
40. I stick to my opinions when someone disagrees with me.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
41. I do what I feel like doing not what other people think I ought to do.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
42. I get discouraged when doing something that takes a long time to achieve results.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
43. When part of a group I prefer to let other people make all the decisions.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
44. When I have a problem I follow the advice of friends or relatives.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
45. I enjoy trying to do difficult tasks more than I enjoy trying to do easy tasks.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
46. I prefer situations where I can depend on someone else's ability rather than just my own.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
47. I enjoy challenging university assignments.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree

48. I persevere even when I am frustrated by a task.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
49. I try even harder when I fail at something.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
50. I work hard even when I don't like a class.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
51. I am very determined to reach my goals.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
52. Personal mastery of a subject is very important to me.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
53. I am naturally motivated to learn.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
54. I prefer challenging tasks even if I don't do well at them.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
55. I feel most satisfied when I work hard to achieve something.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
56. I give up too easily when faced with a difficult task.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
57. It is important to me to get better marks than my class mates.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
58. I like others to think I know a lot.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree
59. I feel angry when I do not do as well as others.*
 Strongly Agree Agree Neutral Disagree Strongly Disagree

60. It is important to me to always do better than others.*

Strongly Agree Agree Neutral Disagree Strongly Disagree

61. I set achievement goals for myself at the beginning of the academic year.*

Strongly Agree Agree Neutral Disagree Strongly Disagree

62. I set achievement goals for each course I complete.*

Strongly Agree Agree Neutral Disagree Strongly Disagree

63. I am motivated by setting achievement goals.*

Strongly Agree Agree Neutral Disagree Strongly Disagree

64. Achieving goals I've set for myself is motivating.*

Strongly Agree Agree Neutral Disagree Strongly Disagree

Demographics

65. Gender*

- Male
 Female

66. Please indicate your Academic Programme*

- B.Com (CB011)
 B.Bus.Sci (CB015)
 B.Bus.Sci, Actuarial Science (CB018)
 B.Com, Actuarial Science (CB020)

67. Are you the first person in your family to attend university?*

- Yes
 No

Please feel free to contact me if required: brtmic012@uct.ac.za

Investigator: Michelle Beretti
Supervisor: Dr Suki Goodman
Affiliation: University of Cape Town (UCT)
Thank you. Your participation is greatly appreciated.

Please ensure that you return this survey to me to ensure your entry into the draw for R500

If you are unable to return it to me immediately please return to June Pym or Michelle Abrahams and I will collect it from them tomorrow.

University of Cape Town

Appendix C

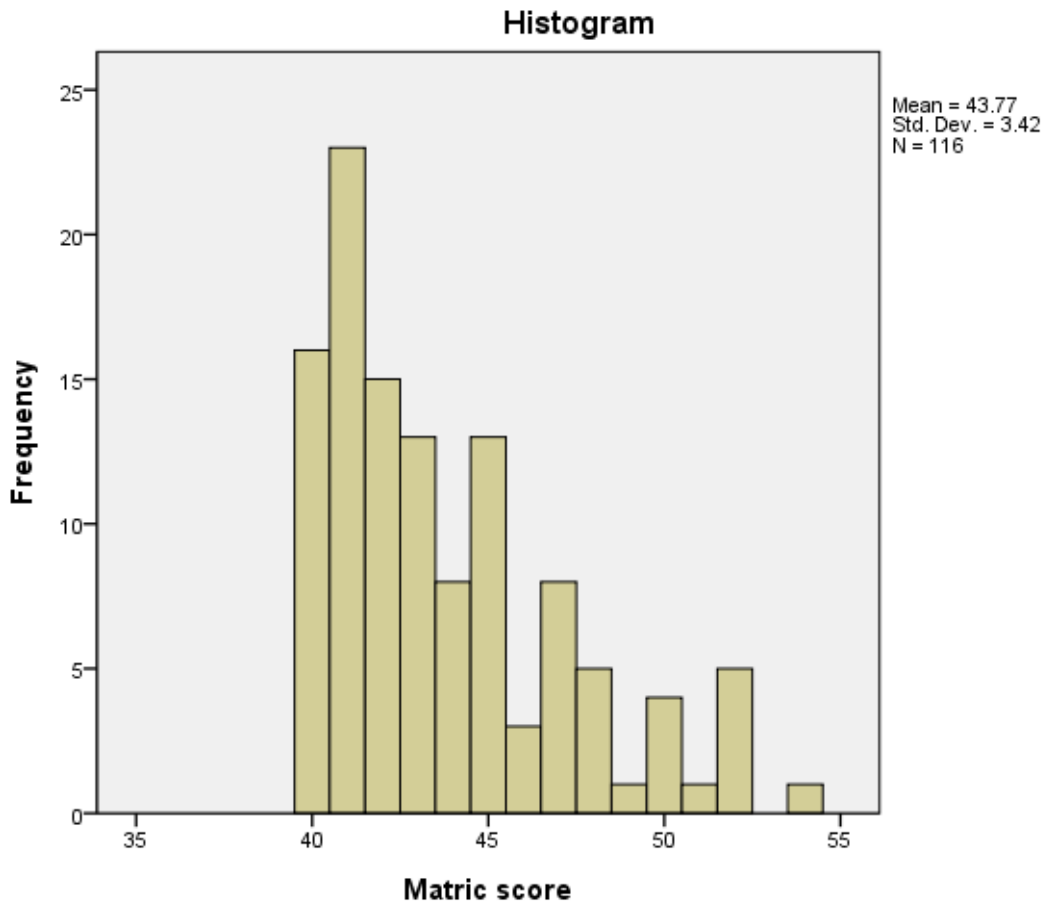


Figure 1: The distribution of the variable Matric result ($N=116$)

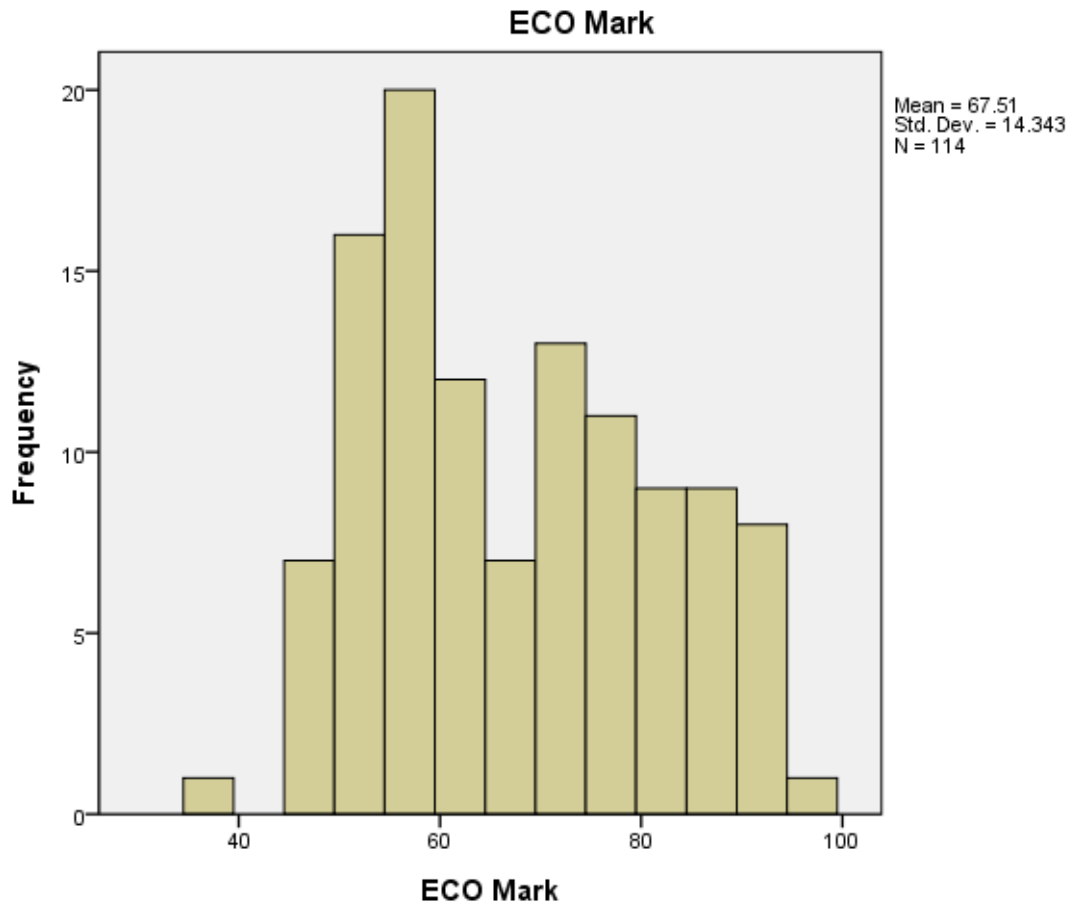


Figure 2: The distribution of the variable ECO mark (N=116)

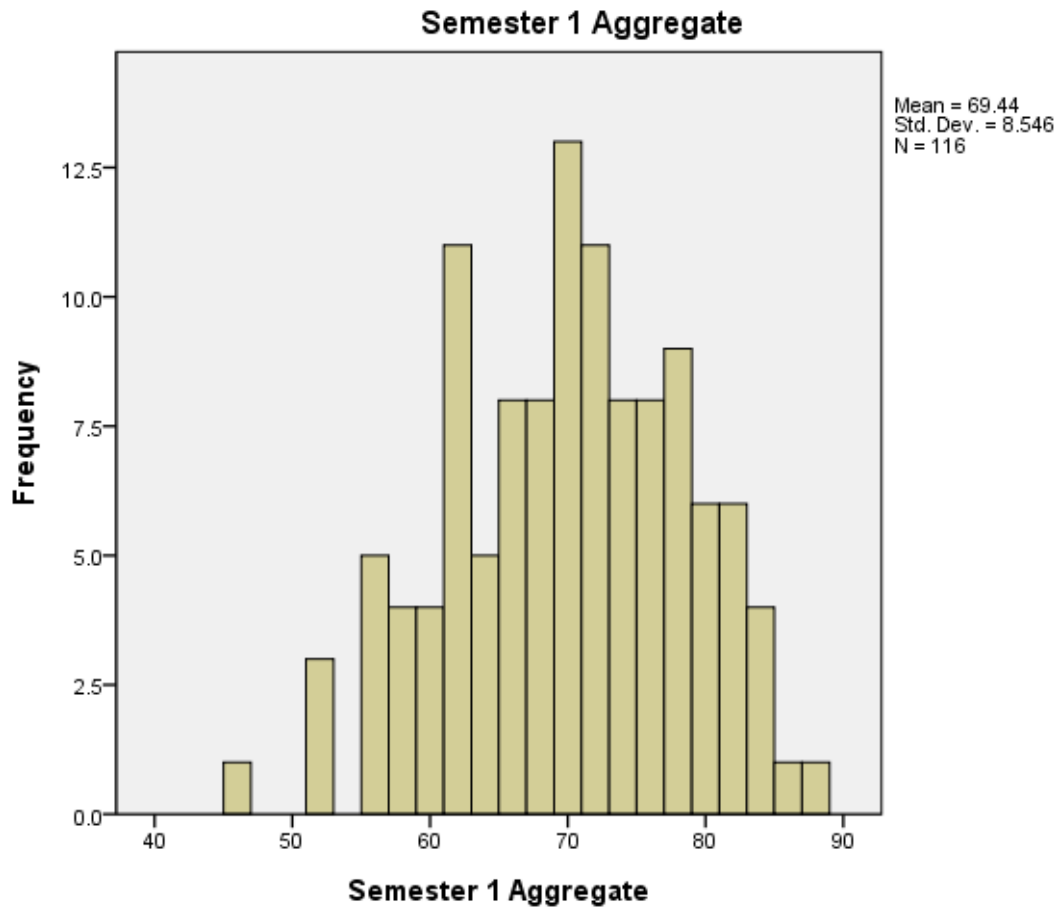


Figure 3: The distribution of the variable mean percentage score ($N=116$)

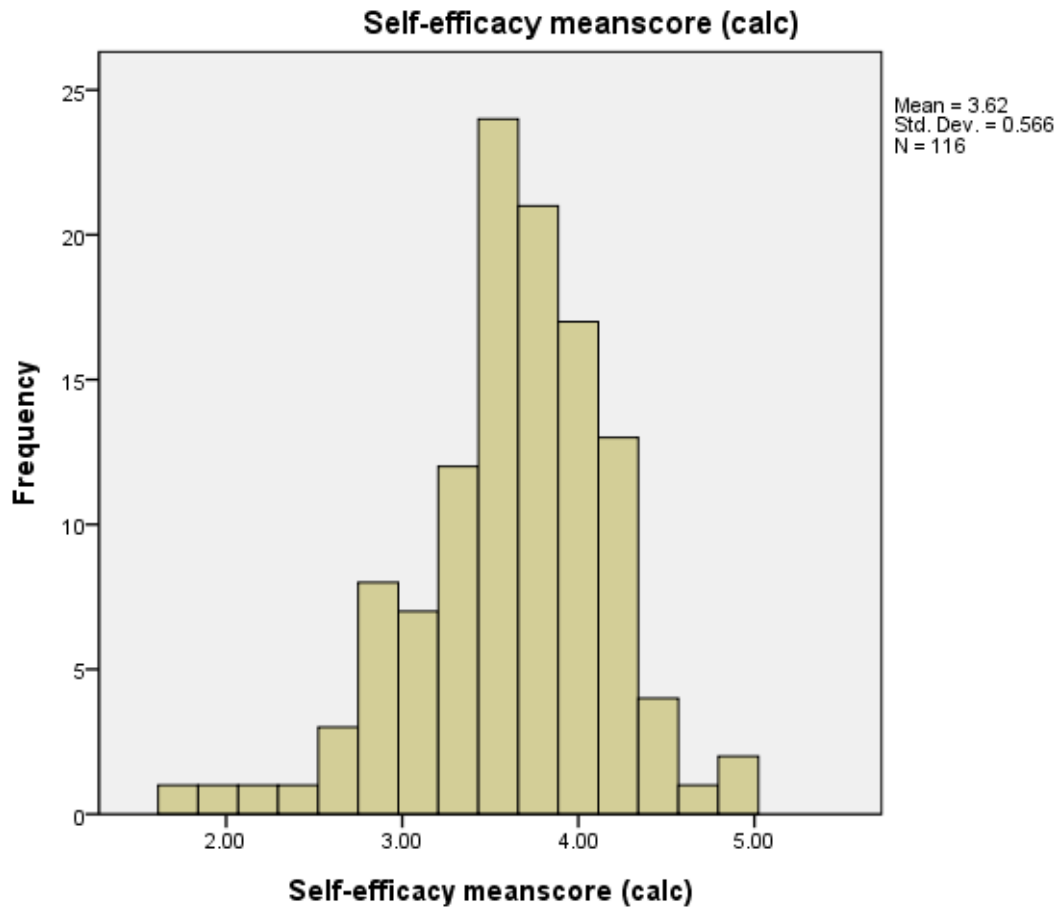


Figure 4: The distribution of the variable self-efficacy ($N=116$)



Figure 5: The distribution of the variable mastery (N=116)

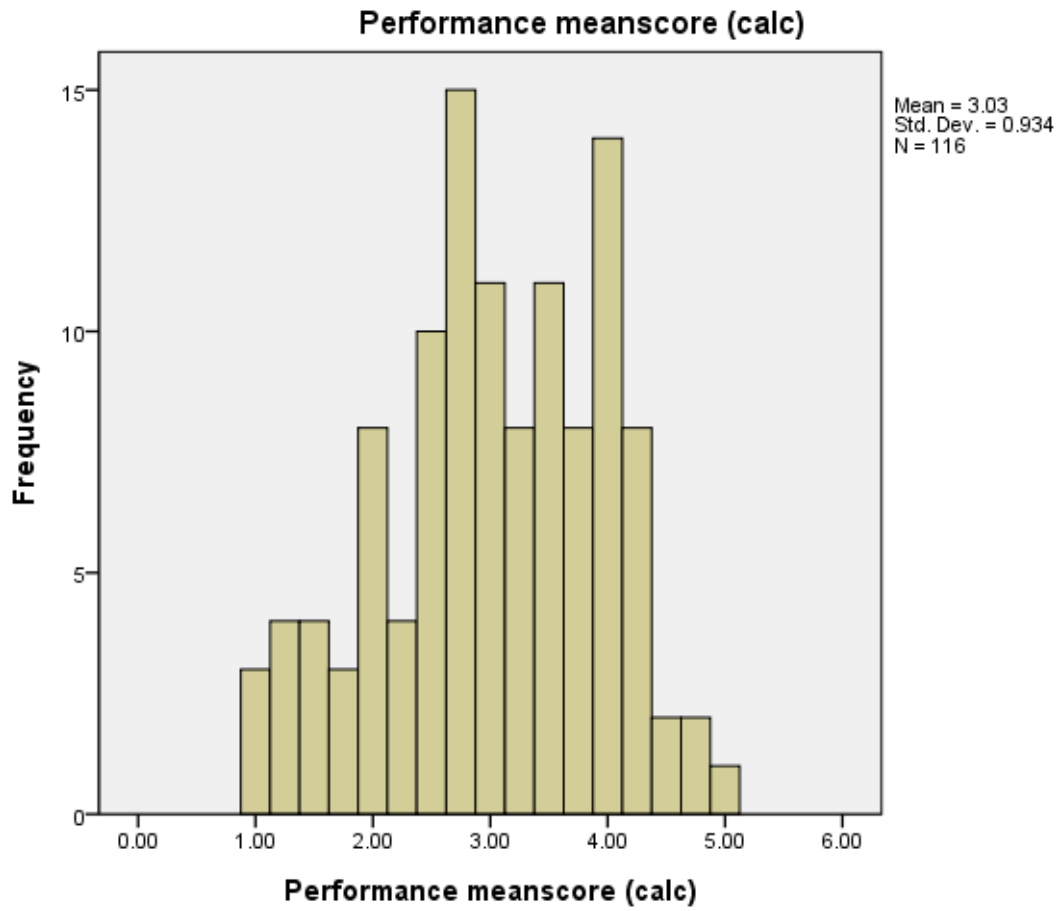


Figure 6: The distribution of the variable performance ($N=116$)

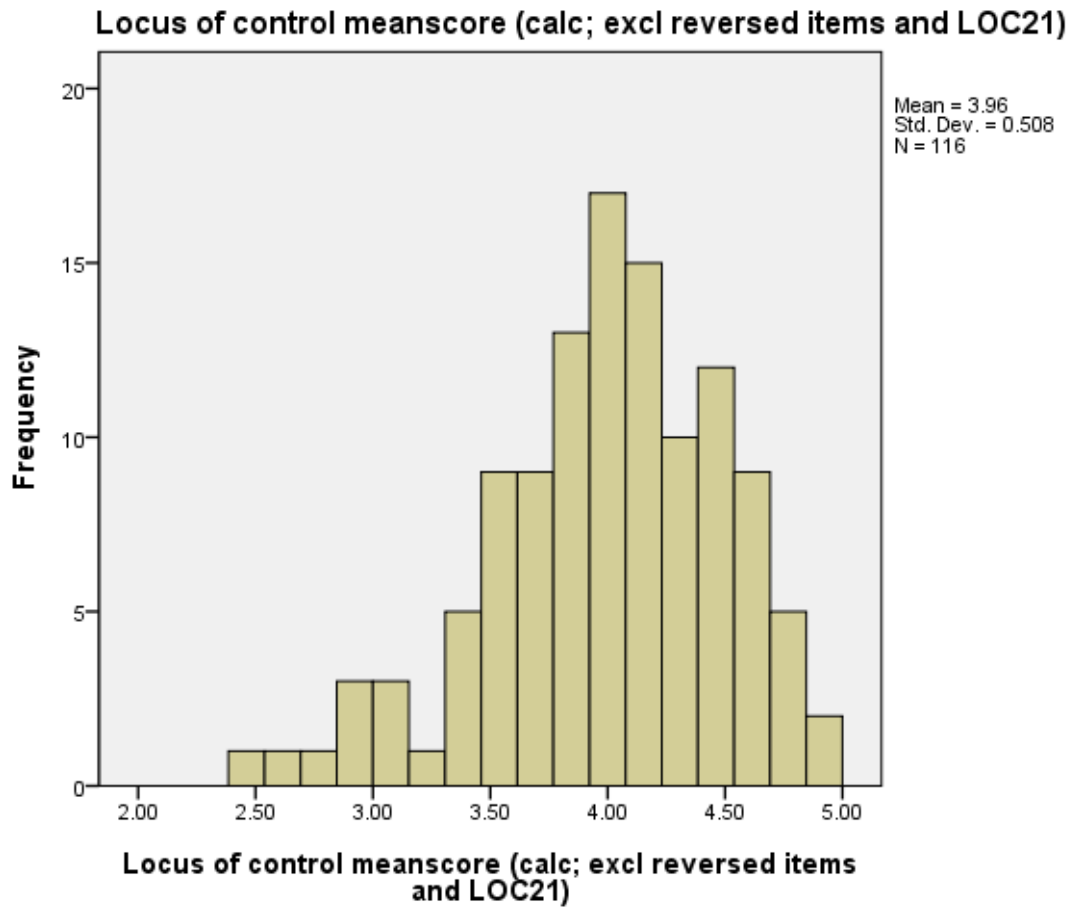


Figure 7: The distribution of the variable locus of control (N=116)