Predicting long-term academic performance from psychosocial factors.

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The factors influencing academic performance amongst university students particularly amongst previously disadvantaged students is a major concern in South Africa. This paper attempts to bridge the gap in the literature of this area by testing the predictability of academic performance from psychosocial factors. A total of 194 students (56% males and 44% females) from five different Faculties (Commerce, Science, Law, Humanities and Engineering and Built Environment) who were receiving financial aid at the University of Cape Town participated in the study. The psychosocial factors under this study were measured at the end of first year through various self-report scales. Academic performance was also measured at the end of first year and again at the end of third year, the academic marks were obtained from the university's IPD office and the various Faculty board schedules. The results of the study suggest that there are other factors which determine the academic performance of previously disadvantaged students apart from psychosocial factors. Only 4% of the variance of the academic performance can be attributed to the psychosocial factors in the study and at the end of first year psychosocial factors explained 17% of the variance in academic performance when mediated by adjustment. It was however discovered that academic performance at the end of first year was the best predictor of academic performance at the end of third year.

Keywords: '*Academic performance*', '*psychosocial factors*', '*self-esteem*', '*academic motivation*', '*financial aid students*', '*academic adjustment*' and '*academic overload*'.

INTRODUCTION

There is a growing interest in factors which predict academic performance. This interest is directed at creating, and improving already existing interventions and support services for students who are at risk of having academic problems (McKenzie & Schweitzer, 2001). These academic problems include relatively high drop-out rates which affect the roll out of financial assistance granted to students who would otherwise not afford tertiary education. Dreijmanis (1988) found that almost 30% of university students in South Africa dropped-out of university before completing their studies. This figure is unfortunately very high considering the large amounts of money being invested in these students and it does not seem to be decreasing as demonstrated in the present study.

South Africa has undergone major transitional changes for the past 13 years some of which aim to regress the injustices of the past by moving from an authoritarian regime to a democratic one (Dlamini, 1995). The education sector has been no exception to this transition as the government attempts to standardise the quality of education for the economically disadvantaged populations with that of the so-called ex-Model C schools. The quality of education under the apartheid regime was defined in terms of the four different education systems for each of the races in the country (i.e. Whites, Blacks, Coloureds and Indians). Each of these departments operated significantly different from the others and the quality of the education received by the students is reflected in the performance of the students at university level. Jawits (1995) showed that the performance of first and second year engineering students at the University of Cape Town relied heavily on the quality of high school education they received. In his study he found that all the students from schools under the DET were excluded at the end of their first year in engineering. This demonstrates that a disadvantaged educational background, mostly attributed to quality of the education, influences the performance of students at university as this study aims to demonstrate. The second way through which a disadvantaged educational background impacts on university study is that it has determining power of whether a child receives the opportunity for higher learning or not. This determining power lies in the fact that the quality of a school a child goes to determines to a large extent, their performance in matric; and up until now, matric results are still widely used as very important, if not sole determinants of university admission. These matric results were used as predictors of university academic performance as reported by

Jawits, 1995; Potter et al., 1990, Bokhorst et al., 1992; Stoker, 1985; CUP, 1987; Moran, 1987; Fresen, 1987; Van Wyk, 1984 and continue to be used today. Therefore, universities project students' potential based on their matric performance which depends heavily on the overall quality of the high school. With the new government however, it has been taken into consideration that the matric scores of students from previously disadvantaged academic backgrounds are not always a true reflection of their potential as they were from schools which had had limited resources. Thus, the University of Cape Town and other South African universities now allow some students who do not necessarily meet the minimum requirements an opportunity for higher education. Some of the students in this study fall into this group.

In light of the history of South Africa there are inevitable socio-economic divisions between social classes in this country. These socio-economic circumstances have various consequences on the quality of the lives of the people. This socio-economic disadvantage filters down to the quality of education that the people who are its victims receive. Botha et al. (2005) suggest that the higher education system is affected by the national problems which occur at macro-level; that is why students who are from poverty stricken backgrounds feel the impact of their family's adversity at university level. Ramey, Ramey, and Lanzi (1998, as cited in Dass-Brailsford, 2005) argue that although familial poverty often leads to poor academic performance, this could be countered by strong social support systems and the possible moderating variables such as psychosocial factors which include adjustment, help-seeking behaviours, academic motivation, self-esteem, perceived stress and academic workload.

In the South African context, when we speak of disadvantaged students we are referring to students who attended historically 'black' high schools (De Villiers, 1999; Huysamen, 2000; Nunns & Ortlepp, 1994; Shochet, 1994). These students are regarded as relatively educationally disadvantaged due to the inequalities in their schooling which can be attributed to the legacy of apartheid (De Villiers, 1999; Huysamen, 2000). Huysamen (2000, p. 146) also states that, "Although the departments of education for the different demographic groups were integrated in 1995, the ill effects of the former DET may very well still be expected to be prevailing in the historically black high schools". The ill effects of the racial segregation implemented by the apartheid regime are still apparent in many South African high schools. The second distinguishing characteristic of disadvantaged students is the fact that most of them are likely to

speak English as a second or third language and are therefore generally under-prepared for university considering that most previously 'white' universities in South Africa use English as a medium of instruction (Huysamen, 2000; Sennett et al., 2003; Woollacott & Henning, 2004). Thus having considered these characteristics and understanding that these are the students who are eligible to receive need-based financial aid one can already see how this group of students are of particular concern for universities in post-apartheid South Africa.

Of late, the South African government has been encouraging previously 'white' institutions of higher learning to make way for students from economically disadvantaged backgrounds. One way that previously 'white' institutions (such as the University of Cape Town) have attempted to bridge this gap by putting in place financial support systems that provide financial assistance for students who would otherwise not afford higher education at these relatively very expensive institutions. Financial assistance is often based on need and/ or merit which imply that economically disadvantaged students have to be exceptional in their performance amidst the limited resources in their schools if they are to receive financial assistance for higher learning. A high 30% of the students who are afforded this opportunity do not make it past their first year (Dreijmanis, 1988). This shows that there may be many other contributing factors apart from economic factors.

The higher education system in this country has been described as "a system in transition" which is constantly changing and improved in order to be more accommodating to all of South Africa's people (Ndebele, 2004, p.1). Strong emphasis on change is that of equity of access to higher education and equity with regard to opportunity to succeed within higher education (Hendry, 1998). Previously 'white' South African universities are required to respond to the National Plan for Higher Education (2001) by focusing on increasing the enrolment of previously disadvantaged students, and doing whatever it takes to improve retention and graduation rates (Hendry, 1998). The National Plan specifically identified the lack of access, poor graduation and retention rates, and high drop-out rates as focus points for South African universities. The National Plan (2001, section 2.1.3) indicates that while higher education institutions have been successful in meeting the goal of equity of access, "the total growth in graduates has not kept pace with enrolment growth in higher education", with 17 % as the average graduation rate for universities in the period between 1993 and 1998. The National Plan (2001, section 2.1.3)

defines the average graduation rate as "the number of graduates as a percentage of head count enrolments". An annual drop-out rate of 20% is reported for undergraduate and post-graduate students and an average of 25% for first-time entering students (National Plan for Higher Education, 2001). It is reported in the National Plan that a drop-out rate of 20% costs the government about R1,3 billion in subsidies each year for students who do not complete their study programmes. According to Bean (1990a as cited in Hendry, 1998), the university looses three years (or four years in the case of four-year bachelors' degree programmes) of potential fee income when a single bachelors' student drops out during his/her first-year of study. Thus high repetition and drop-out rates are costly, representing wasted resources and are indicators of poor institutional performance. South African universities have thus become increasingly concerned with developing ways to increase retention and graduate output in order to achieve the goals outlined in the National Plan. Historically 'white' universities, such as the University of Cape Town (UCT), where this study is located, are faced with the particularly difficult task of developing ways to improve retention and graduation rates, and redress past inequalities, against a backdrop of diminished government funding (Hendry, 1998). The long-term plan to redress pass inequalities and increase retention and graduation rates at South African universities, as communicated in the National Plan (2001), highlights the need for universities to re-examine the factors that determine students' academic success and failure (Fraser & Killen, 2005).

The Student Services Tactical Plan of the University of Cape Town (2001) partnered with the education department and identified economic circumstances as a major interference with academic performance. The financial status of the subjects in this study has been confirmed by previous research as stressful to the students in university (Bojuwoye, 2002). In his study, Bojuwoye found a significant relationship between stress and the financial situation of South African university students. The students in his study reported above average stress due to financial difficulties. This is in agreement with Dass-Brailsford's (2005) study which showed poverty as a substantial stressor in South African university students. In fact, the groups of students who are from economically disadvantaged backgrounds have the highest reported drop-out rate (Botha et al., 2005). The Cultural Capital Theory of Hansen and Mastekaasa (2006) suggests that perhaps these high drop out rates from economically disadvantaged students are

grounded on the expectations that the students have regarding their performance and the expectations from their families. These expectations are suggested to be low. This area grew in interest as more and more researchers wanted to identify the factors that lead to these results.

In the past cognitive abilities such as intelligence, aptitude and matric grades were generally believed to be the deciding factors of academic performance and this was standard practice worldwide (De Villiers, 1999; Pascarella & Terenzini, 1991). However, a number of studies from the late 1990's and early 2000's started investigating the influence of these cognitive abilities and showed that academic success in university does not solely depend on cognitive abilities and therefore encouraged studies that were going to focus on other factors. Nonetheless, cognitive abilities have been shown to have a significant, yet minor contributing roles in academic success especially with black South African students due to the history of the country. However, they have more significance for previously advantaged students (Malefo, 2000). This difference has indicated that there may be more factors at play in determining academic performance (Malefo (2000). Hansen and Mastekaasa (2006) agree that there is a whole array of factors involved apart from cognitive factors, these include the already discussed educational background (Honikman, 1982; Nettles, 1988), social and occupational status of parents (Allen, 1985; Fleming, 1984, Fuller et al., 1989 & Jenkins, 1989), self beliefs (Kleeman, 1994; McLaren, 1989), academic integration, interfering problems which often involve finances (Nettles, 1988) and family environment (Berg, 1991). A significant number of students facing any of the challenges are said to drop out or perform poorly academically in university (Finchilescu et al., 2003). These challenges impede the progress of students who have been granted an opportunity by the state and the various institutions to better their future and perpetuate the cycle of poverty if the students come to university only to return home without a degree because there were factors that hindered the performance. This outcry calls for immediate investigation into what these factors that are affecting their performance so strongly are and only until these are known can the institutions assist in addressing them.

Variables in the study

Help-seeking

Petersen (2006) has found that students who seek help show some improvement in their adjustment to university, which in turn positively influences their academic performance. There are various student support centers offered at the University of Cape Town which offer help with academic, social, emotional, physical and financial problems. These services are made available to students either free of charge or on relatively very low fees when compared with what they would pay for these services outside of the university. Academic help is offered through the availability of lecturers for consultation by students outside of lecture times. Students are encouraged to approach or e-mail their lecturers concerning course content work. There are tutors in almost all departments and faculties who have also been placed to assist students who may have failed to grasp certain concepts in lectures. Tutors thus offer a second source of the same information transmitted by the lecturer only in a more interactive way and in smaller, more manageable tutorial groups to assist students in their understanding of the concepts covered in lectures. Tutors are also available to students whenever students need them and can be communicated through text messages, e-mail or personal meetings. Some students on financial assistance also have mentors assigned to them at the beginning of the year and these mentors are trained to assist students with basically all their concerns. Some university residences (i.e. Univeristy House and Tugwell) also have mentors and tutors in the specific residence who are an addition to the tutors and mentors 'employed' by the university. Thus, it appears that there are numerous sources of help for academic work.

Social groups are also plenty at the University of Cape Town. These are formed according to a number of commonalities of their members and they offer assistance in adjusting socially. Some groups are formed according to nationality with almost all the Southern African Development Community countries represented (i.e. the Botswana student Association), shared spiritual values (the Islam Student Association and the Student Christian Fellowship), shared hobbies (such as Drama teams and yoga groups), and many other groupings of students who have common interests.

The Student Counseling Services Center (SCSC) attempts to address as many of the students' emotional needs as possible. Services they offer at the SCSC include assistance with self-esteem, stress, and motivation, coping with day-to-day challenges in romantic relationships, family problems, sexual issues, assistance with study methods, tips for studying and self-efficacy amongst many others. Optimal functioning in these areas is said to lead to better performance in academics (Povey, 2003). Therefore SCSC's contributes largely to the well-being of students (Botha et al., 2005). This suggests that students who seek this kind of help would generally improve in their academic performance as it is postulated that issues such as self-esteem, stress and self-efficacy influence overall academic performance (self-esteem and its relationship to academic performance is described below). The Student Wellness Center is a low-cost health service center that addresses physical needs of students. This center facilitates medical assistance and runs a family planning service which also offers free HIV/AIDS testing and counselling services. Thus, this center is aimed at addressing medical needs and sexual health concerns of students. Finally, the financial aid office addresses financial matters in terms of scholarships and bursaries.

The subjects in this study are all already receiving financial assistance from the university. It can thus be argued that the University of Cape Town has put a high number of support structures for students. These structures set the foundation for the development of supportive relationships at the university and these relationships have been shown to lead to better adjustment (Aspinwall and Taylor, 1992). The absence of these supportive relationships results in students suffering from homesickness and poor academic and psychosocial adjustment; which in turn, inevitably leads to an increase in the chances of these students dropping out of university (Coffman & Gillian, 2002-2003). A very high 84.7% of the students in this study sought help in some form or another at the university which means that if help-seeking is a significant factor in good academic performance we should expect good performance from the students in this study.

Self-esteem

Self-esteem is "the individual's positive or negative attitude toward the self as a totality" (Rosenberg, Schooler, Schoenbach & Rosenberg, 1995). According to Rosenberg et al., the central aspects of self-esteem are self-acceptance and self-respect which are personal resources

necessary for positive psychological adjustment to stressful life transitions (Aspinwall & Taylor, 1992; Coffman & Gilligan, 2002-2003). Because of this individuals with high levels of self-esteem may be more resilient during stressful life transitions (Aspinwall & Taylor, 1992). Various authors state that individuals with high levels of self-esteem would perceive themselves to have the ability to adequately complete certain tasks, and would thus employ effective coping strategies and management of their resources in completing those tasks (see Aspinwall & Taylor, 1992; Chemers, Hu & Garcia, 2001; Coffman & Gilligan, 2002-2003; Ochse, 2001). These individuals are thus likely to succeed in completing those tasks.

A number of studies have shown a positive association between self-esteem and several social and academic-related factors, including psychological well-being and academic performance (see Aspinwall & Taylor, 1992; Chemers et al., 2001; Grant-Vallone et al., 2003-2004; Rosenberg, 1979; Rosenberg et al., 1995). Grant-Vallone et al. found that students who reported high levels of self-esteem showed better social and academic adjustment when they examined key factors contributing to the social and academic adjustment and institutional commitment/attachment of students who were financially disadvantaged students.

Although numerous studies have shown a positive relation between self-esteem and psychological well-being and academic performance, it is unclear as to whether self-esteem is a predictor or a symptom of the experience of academic and social difficulties as many of the studies that have investigated the relationship between self-esteem and academic and social difficulties have been correlational studies (Crocker & Luhtanen, 2003; Grant-Vallone et al., 2003-2004; Rosenberg et al., 1995). The empirical evidence of the relation between self-esteem and academic performance is also unclear. Some studies have shown self-esteem to have a positive effect on academic performance (e.g. Boulter, 2002; Chemers et al., 2001) whereas others have shown self-esteem to have no effect or have shown the effect of self-esteem on academic performance to be mediated by another variable (e.g. Aspinwall & Taylor, 1992) .

In other studies, Boulter (2002) investigated the effect of a multi-dimensional measure of self-esteem on academic performance among first year students at an American university. In his study he found that only the aspect self-perception was a positive predictor of academic performance.

Rosenberg's (1979) study warns researchers to be careful in generalising their results has emphasized the importance of taking the social and cultural context into consideration in measuring self-esteem. According to Rosenberg, individuals judge and evaluate themselves by comparing themselves to other individuals, groups and/or social categories in their environment (Petersen, 2006). Individuals' self-esteem tends to suffer when they compare unfavourably to others in their surroundings. Disadvantaged students attending historically 'white' universities are thus likely to have low levels of self-esteem.

High levels of self-esteem are however preferable because when coupled with optimism they usually result in better coping strategies which in turn improves the adjustment of students and lessens their perceived stress (Aspinwall & Taylor, 1992; Grant-Vallone et al., 2003). If adjustment and perceived stress are found to be significant predictors of academic performance then we would expect stress and optimism to be in turn, significant. Aspinwall and Taylor (1992) also found that in the second year of study optimism appears to have a direct impact on adjustment as compared to self-esteem. Interest in the course, the approach students take in studying and their belief in their abilities are somewhat dependent on how they attempt to increase their chances of performing well (Fraser & Killen, 2005).

Academic Motivation

Academic motivation in academic studies is invariably related to enjoying the course. Beyefeld, Hugo, & Struwig (2005) found that students who do not enjoy their studies and are not motivated tend to concentrate on meeting the minimum requirements for that course just so that they can pass it and continue on to the following year of study. Motivation levels are generally low when students do not find their studies meaningful and attribute poor performance on outside factors and the opposite is true when motivation levels are high (Seifert, 2004). Academic success has been shown to be related to satisfaction with one's studies, especially in students whose need for academic success is motivated by gratification (Lance, 2006). In the present study motivation was measured from five aspects; (i) Identified regulation which refers to the most self-determined form of extrinsic motivation which involves the desire to improve and advance one's abilities for the sake of bettering one self; (ii) Intrinsic motivation which represents the prototype of the self-determination theory which encompasses feelings of satisfaction and pleasure about

being in a certain place or doing a certain thing. For the students in this study intrinsic motivation will be contentment with the chosen degree and institution; (iii) Introjected regulation involves internalising demands that force one to behave in a certain way and are not integrated into one's self, such as actively and consciously pushing oneself to study when one does not really see the value of doing it and are not enjoying it; (iv) Extrinsic regulation which refers to the least self-determined form of extrinsic motivation referred to as 'classical' regulation involves using external pressure as a motivation to do work. Students with this characteristic do not see the point of studying and only convince themselves to study because of the money their parents have invested in their studies or other such external pressures and (v) Amotivation refers to a type of motivation which is neither intrinsic nor extrinsic, almost the opposite of motivation in the sense that it works counterproductively to motivation. This aspect of motivation refers to the complete apathy towards one's studies.

Perceived Stress

Possibly overwhelming stressors for university students are the demanding coursework, examinations, long periods of time spent away from home, unfamiliar environment, living/sharing with different room/housemates from various different backgrounds, learning to manage their time and money and developing new friendships (Coffman & Gillian, 2002-2003). The majority of university students experience high levels of stress at one point or another in their academic career (Shaikh, Kahloon, Kazmi, Khalid, Nawaz, Khan, & Khan, 2004). Shaikh et al.(2004) indicate that students on financial aid have higher levels of stress than non-recipients of financial aid. This is possibly due to the financial problems as most of the students on financial aid are from very impoverished backgrounds and may experience other sources of financial problems even though their tuition fees and accommodation may already be paid for. These problems may include the inability to meet everyday needs such as money to call home, money to buy clothes, toiletries and cosmetics, clothes, social outings and pocket money in for hair and other costs including printing and photocopying.

There are also somewhat moderate stresses, especially due to the fact that many of these students are black and have few classmates of the same race which might make them feel alienated and perceive this as alack of social support (Flemming, 1984; Nettles, 1988). Less serious stresses

range from everyday financial difficulties (such as printing, photocopying) to pressure from friends to spend more money on clothing and social activities. In a study by Baker (2003) perceived stress was shown to have a negative correlation with academic performance. Female students tend to report higher levels of stress when compared with their male classmates (Bojuwoye, 2002; Baker, 2003). Together with academic overload, perceived stress has been identified as an important factor influencing the experiences and academic success of disadvantaged students, and more particularly 'black' students at predominantly 'white' universities (Prillerman, Myers & Smedley, 1989; Malefo, 2000). Much of the literature on the experiences of disadvantaged students making the transition from high school to university shows that the transition is particularly stressful for these students, particularly 'black' students attending historically 'white' universities (Bojuwoye, 2002; Prillerman et al., 1989; Sennett et al., 2003).

Coffman and Gilligan investigated the relationship between social support, perceived stress amongst other variables at an American university. They, and a couple of other studies have found a significant negative association between stress and academic performance (e.g. Neville, Heppner, Ji & Thye, 2004; Struthers, Perry & Menec, 2000) whereas other studies found that stress did not have a significant impact on academic performance (e.g. Malefo, 2000; Trockel, Barnes & Egget, 2000). These studies were done in other countries however and the only South African study investigating the effect of stress on academic performance that could be found was the study conducted by Malefo (2000). She explored the relationships between the family environment, experiences of life stress and coping behaviours, and the effects of these on academic performance among 'black' African female students at a predominantly 'white' university in South Africa. She found a non-significant association between stress and academic performance. However, in another study which investigated the impact of stress on academic performance among disadvantaged students in comparison to non-disadvantaged students (Charles, Dinwiddie & Massey, 2004) found that stress had a significant negative effect on academic performance among disadvantaged students.

Academic workload

Many students making the transition from high school to university experience difficulty in managing the academic workload at university due to the fact that students are required to spend more time on academic work than in high school (Bitzer & Troskie-De Bruin, 2004; Doyle, 2002). Furthermore, this set of author's found that the students' perceptions of the demands of their academic tasks and their perceptions of their ability to succeed in completing the tasks influences the amount of effort they put into academic work. According to Bitzer and Troskie-De Bruin (2004), all university programmes require students to spend an average of about 18 hours of out-of-class time per week on academic work whereas more than a quarter of the students in their study had reported having spent less than 6 hours out-of-class in matric. The danger with the steep increase in out-of-class time required in the first year of university is that students may not be able to adequately adapt and cope with the new academic demands due to failure to accurately perceive the demands or poor time management skills (Bitzer & Troskie-De Bruin, 2004).

 Educationally disadvantaged students in particular seem to experience great difficulty in coping with the academic workload in their first year at university (Agar 1990; Huysamen & Raubenheimer, 1999). In the South African context many disadvantaged students have had inadequate levels of schooling and are thus likely to be under-prepared for university. These students' educational backgrounds may not have prepared them for managing and coping with the academic demands of the university. They may not have developed adequate time management and planning skills for managing their workload. A lack of skills for managing the academic workload may further be exacerbated by difficulties experienced in reading and studying academic material in their second or third language (Agar, 1990; Miller et al., 1998). Educationally disadvantaged students form a big chunk of the student population which is struggling to cope with their academic workload, particularly in their first year (Agar, 1990; Huysamen & Raubenheimer, 1999). This country's educationally disadvantaged students are generally underprepared for university and the quality of their high school education is likely to have not prepared them for managing and coping in university (Petersen, 2006).

The difficulties students experience in managing their academic workload, have been shown to have a negative impact on students' academic adjustment to university and their academic performance. For example, Chambel and Curral (2005) found significant negative correlations between students' perceptions of their academic workload, and their well-being and academic performance. Students who perceived their workload as high were expected to struggle in their academic performance as it was hypothesised in the present study that high perceived academic workload will negatively impact on academic performance.

Adjustment

Research shows that disadvantaged students are particularly vulnerable to adjustment difficulties during the transition from high school to university (Petersen, 2006). Adjustment is the process of adapting to something new (such as environmental conditions) by becoming suitable to the often different circumstances. The ability to adjust to university is influenced by a lot of factors such as personality characteristics; family, mentor and peer support (Chamers et al., 2001). When disadvantaged students come to university for the first time they may have to adjust to a university environment that is often vastly different from their previous school and home environments which requires them to adjust to the physical, emotional, social and academic demands of the new environment. Most disadvantaged students have to make transitions from an impoverished (often rural) environment to an urban environment and are required to adjust to the new institutional culture that is likely to be different from their own cultures (Bojuwoye, 2002; Miller et al., 1998; Sennett et al., 2003).

Many students coming from impecunious backgrounds experience the physical environment of the university as frightening and alienating (feeling that one's values are completely different from the social collectivity and thus isolating oneself from this social collectivity by having as minimal interaction with their fellow colleagues as possible), as they often come from environments that have simpler, less threatening buildings (Bojuwoye, 2002; Loo & Rolison, 1986). Therefore the size and complexity of the university may affect students' adjustment to the university as students at big institutions have less opportunity for active interpersonal contact and are thus less socially integrated (Pascarella & Terenzini, 1991). In the South African context many students, particularly 'black' students at historically 'white' universities, would also be

coming in close contact with students from different 'racial' and cultural groups for the first time due to the legacy of apartheid's racial segregation policy. These students are thus more likely to experience loneliness, social isolation and alienation in the transition from high school to university (Petersen, 2004). These students are at risk of experiencing social anxiety (Bojuwoye, 2002; Earwaker, 1992; Rickinson, 1998). Strahan (2003), who investigated the effect of social anxiety on adjustment among undergraduate students at an American university, found a significant negative correlation between social anxiety and adjustment. Many of the students receiving need-based financial aid at UCT often reside in the residences on the university campus (Sennett et al., 2003). Many students, particularly students living away from home, may feel disconnected from previous sources of support (e.g. family, friends, community, etc.) (Earwaker, 1992).

Adjustment problems and coping strategies which are a result of having poorly adapted to university interact with the other factors addressed in this review were shown to negatively impact on the academic performance of students from previously disadvantaged (including economically disadvantaged) backgrounds (Malefo, 2002). Adjustment is positively related to problem-solving and both these factors are said to be almost necessary for academic success (Baker, 2003). Woosley (2003) found that students, who thought that they were adjusting well, had made friends and were satisfied with their social life during the first three weeks of university, were more likely to complete a degree. The impact of adjustment thus depends on how well the students cope with pressure and their personal problem-solving styles. These are often developed from high school which makes students from low quality high schools less equipped in dealing with this as they are often from schools which have not adequately prepared them for dealing with problems of this nature (i.e. pressure). The inability of the school system to prepare these students in dealing with these problems is due to low budgets at the school and consequently the poor quality of their education. This occurs due to the fact that the quality of education is strongly correlated with its school fees and 'poor' families generally do not afford high quality education as they have limited funds.

There appears to be some agreement on the roles of non-cognitive factors in predicting academic performance. The South African studies considered the demographic situation of the students in their studies and the history of higher education in the country and have come to a general

consensus that psychosocial, although not directly accounting for the poor performance of economically disadvantaged students, influences the quality of the adjustment of these students both socially and academically which in turn affects their academic performance. Psychosocial functioning, academic adjustment, social support and personal attributes all play important roles to the adjustment of students at university (Finchilescu et al., 2003). Griffin (1992) argued that academic adjustment, which is one of the most determining factors of academic performance, is influenced by students' interaction with their faculties, their study skills and academic assistance from lecturers and tutors. It is then, the overall adjustment (academic, social and personal) in these that is strongly correlated to good academic performance (Petersen, 2006).

Baker (2003) found the grade average in first year as a significant predictor of academic performance in final year this prediction is one of the major sources of interest for the present study. Huysamen (2000) adds that throughout the years as disadvantaged students become more familiar with the learning culture they may show great improvement in their academic performance, this too will be tested in the present study. This review has shown how certain psychosocial factors are important to the good performance of the students in their university studies. Very little research in this area has conducted a longitudinal study of the same group of students to assess their progress over the years and to the determine more accurately the factors influencing their academic performance, which is why this study is of utmost importance as it will fill the literature gap which exists in this area.

In conclusion this introductory section has highlighted the severity of the need for predicting academic performance in South African and argued for the reasons as to why the ability to do this is of particular concern in the country. The most significant motivation behind this quest was shown to be the need to address the high failure and drop-out rates of disadvantaged students (Miller et al., 1998). Universities in South Africa are facing the challenging task of developing ways to increase the enrolment and retention of disadvantaged students against a background of limited financial resources and it is for this reason that these concerns arise (De Villiers, 1999; Hendry, 1998). This study is therefore of crucial importance in assessing and improving the support systems provided for the financially aided students and this can only be done once the factors affecting academic performance are identified (Petersen, 2006; McKenzie & Schweitzer, 2001).

Note: Ill-haam Petersen (2006) initiated this study and ran the tests at the end of first year for the students in this sample. The present study is building up on hers. She measured the academic performance of the students at the end of first year and I have measured them at the end of third year, hence this is a longitudinal study that measures long-term academic performance. I have not however, re-measured the psychosocial variables' scores firstly because some of the students have either completed their studies or have been excluded and thus would not be available to complete the questionnaires as they are no longer at the University of Cape Town. The second reason I have not remeasured the psychosocial factors is because the main aim of the study is to test the predictability of academic performance from first year variables and this purpose would be counteracted if I were to run the tests again. Therefore, the only the new variable in this study is the academic performance of 2006.

METHOD

The SPSS programme for the analysis of Hierarchical Linear Multiple Regression was used. This method allowed me to enter all my predictors simultaneously since other methods would require me to enter my variables in a certain order and this would be really difficult as I could not have known which variables comes first. The outcome/dependent variable throughout all the analysis is the success of meeting the requirements of the degree a student is registered for according the student's faculty requirements. Academic performance, exclusion/drop-out and the conditions that students have to meet are defined somewhat different in this study and it is important to note that; (i) students who changed degrees and or faculties were measured according the requirements of the degree they were registered for at the end of 2006, (ii) Students who were excluded at any point of their studies (i.e. end of first, second or third year) were included and whatever course counts they had accumulated at the end of 2006 were included and whatever percentages they had accumulated at the end of 2004 were added and calculated as their grade average, and (iii) in calculating the course count as opposed to grade averages I was able to measure everyone according to their degrees and faculties such that if a student passed all their courses at the end of 2006 when they are studying for a four-year degree and another student who had also passed all their courses but was studying towards a three-year degree and was thus

in final year in 2006; both students would get a 100% at the end of 2006 because they would have both adequately met the requirements for their degrees.

Participants

The participants in this study consisted of 194 students who registered for their first year of university at the University of Cape Town in 2004. Students chosen for this study had to be receiving financial assistance from the university and so 100% of the students in this sample were on financial aid. All of them had just completed their Grade 12 in the previous year (2003). The sample included students who identified themselves as black (76%), white (5%), Coloured (17%) and Indian (2%). The students ranged between the ages of 18 and 27 with the mean age being 19 years of age. This sample was made up of 56% males and 44% females. The majority (67%) of the students in the sample spoke an African language as their first language (i.e. Xhosa, Zulu, Sotho), 21% spoke English as a first language and 12% spoke neither English nor any of the South African languages. The participants comprised of a high 87% who attended government high schools, 7% who attended private schools and 6% who attended high schools which were neither government nor private schools. The students in the study were registered in either one of the five faculties; 33.6% were registered in the Faculty of Commerce, 26.9% in the Faculty of Humanities, 20.4% in the Faculty of Science, 18.1% in the Faculty of Engineering and the Built Environment and 1.1% in the Faculty of Law. The matric points obtained by the students ranged from 17 to 49 with a mean of 36.78 (N=188; SD=5.33). The students were selected from the 465 students receiving financial aid from the Undergraduate Funding Office as per UCT's records. They were invited to participate and only the students who volunteered to participate and met the requirements (the students had to be South African citizens, be registered to study full time, must be from families who have an annual gross income not exceeding R100 000 and their records must be fully completed) were chosen.

Instruments used to measure variables

Help-seeking behaviours were measured through the Student Adaptation to College Questionnaire. The scores ranged between a 'yes' and a 'no' answer. These answers have been transformed to '0' and '1' in the analysis. The asked whether students sought any assistance with difficulties they were faced with and who these sources of assistance were. Unfortunately, this

scale does not measure the frequency, quality and satisfaction of this help and as will be shown in the discussion section this limitation has severely limited the findings of this study.

Self-esteem was measured through Rosenberg's Self-esteem scale. This scale consists of 10 items and measures self-esteem on a 4-point Likert scale where the students had to indicate the extent to which they agreed with the statememts in the scale. A high indicates a high level of self-esteem and a low score indicates a low level of self-esteem. The reliability of this scale ranges from 0.67 and 0.88 (Rosenberg, 1979). The scale is widely in South Africa.

Academic motivation was measured by an adapted version of Muller & Louw's (2004) Scale. This scale consisted of items from Deci and Ryan's Self-determination theory (SDT). Only items based on this SDT theory were used. Academic motivation was measured on a 5-point Likert scale with answers ranging from 'strongly disagree' to 'agree completely'. Five other subscales were measured using this scale, these are; (i) intrinsic motivation which measured five items scored either high or low an example of which is 'I really have great fun studying'. A high score indicated a high level of intrinsic motivation; (ii) Extrinsic regulation was measured through three items where a high score indicates a high level of extrinsic regulation an example of these items is 'I am learning *primarily* for the examinations' (emphasis added); (iii) introjected regulation was measured through four items where a high score indicates a high level of introjected regulation, an example of these items is ' I must push myself in order to do the work in my studies', (iv) identified regulation was measured through three items an example of which is 'I am committed to my work because they are personally very important for me' and a high score here also indicates high levels of this attribute and lastly, (v) Amotivation was measured through a three item scale where a high score means high levels of this attribute, an example of an Amotivation question is 'I am very uncertain whether I have chosen the proper field of study'. The overall reliability of the motivation scale (including the five sub-scales) ranges between 0.60 and 0.85 and is said to be sufficient for group analysis (Muller & Louw, 2004).

Perceived Stress was measured by a scale developed by Cohen, Karmarck and Mermelseit (1983). This scale is an empirically established index for perceived stress and has scores ranging between 14 and 70. A high score on this scale indicates a high level of perceived stress. Examples of questions in this scale are; 'felt nervous or stressed?' 'felt confident about handling

personal problems?' to which students answer by indicating on a 5-point Likert scale ranging from 'never' to 'very often'.

Academic Workload was measured on a 5-point Likert scale also used by Muller & Louw (2004) with scores ranging from 1 to 5. The reliability of this scale has been previously shown by Muller and Louw to have a reliability coefficient of 0.84.

Adjustment was measured with the Student Adaptation to College Questionnaire (SACQ). The questionnaire is made up of 67 item self-report scale with the assumption that adjustment multi-faceted and thus its measure should incorporate a wide variety of questions (Baker & Siryk, 1989). These multi-facets include academic adjustment, social adjustment, personal-emotional adjustment and institutional attachment. The academic adjustment scale consists of six items for motivation, four items for application, nine items for performance and five items for academic environment. Low points on this scale indicate a feeling of lacking control. This sub-scale has a reliability which is in the range between 0.81 and 0.90. The social adjustment sub-scale has seven items for general questions, seven items for relationships with people, three items for nostalgia and three items for the social environment. High scores (scores range between 19 and 181) on this sub-scale indicate a high sense of social avoidance. This sub-scales' reliability falls between 0.83 and 0.91. The personal-emotional sub-scale has fifteen items which measure the psychological and physical well-being of students. It thus has two clusters, (i) the psychological, which has nine items and (ii) the physical which has six items with a reliability coefficient of between 0.77 and 0.86. Low scores (scores range between 23 and 217) are indicative of low degree of psychological and physical well-being. Goal commitment and institutional commitment scales have scores which range between 14 and 136 with a reliability coefficient in the range of o.85 to 0.91. The grand total of this scale ranges between a minimum of 66 and a maximum of 604. The SACQ has an overall reliability that ranges between 0.92 and 0.95. Specifically to the South African population this scale has a reliability which falls in the range between 0.80 and 0.93.

RESULTS

At the end of first year, the mean attained by the students in academic performance was 52. 82% with the lowest attained year average being 0 and the highest mark obtained being 78.63%. The standard deviation was 12.40. At the end of the third year of study in 2006 the students obtained an average of 63.54 with a minimum of 0 and a maximum of 100 and a standard deviation of 31.45 (See Table 1 below). The two academic performances in 2004 and 2006 were measured differently. Whereas in 2006 the students' performance according to the course counts minimum expected at the end of three years was measured, the actual percentage average of marks were measured at the end of 2004. This different method may be influencing the averages because although it was impossible for a student to attain a 100% average at the end of first year (they would have to get a 100% in all their tests, assignments and exams throughout the year) it was easier to attain this percentage using the second method which would only require that you must have passed all your courses with at least the minimum pass mark which is 50%. This difference in the way that these marks are calculated renders it difficult to calculate the difference in performance between 2004 and 2006. However, this is not a major limitation as the major concern of the study was not to measure the differences in academic performance but the factors which contribute to this.

Only one student had an average of 0% at the end of first year, whereas five students attained this mark at the end of their third year. This means that they failed all their courses although they may not have necessarily got 0% in any of them. For the one student who attained 0% at the end of first year, it however means something different. It means that they either did not write any exams or they were awarded 0% for all their exams.

Only 38 students (approximately 20%) met the requirements set by their various faculties expected at the end of third year. Approximately 51.7% of the 194 in this study failed to meet the requirements for their various degrees but they were allowed to continue with their studies this year (2007) and they are all still registered UCT students. A relatively high 28.8% of the students (N=56) were excluded from university either in their first, second or third year of study. This is consistent with Dreijimanis' estimation which was that of 30% also conducted here in South Africa. The Faculty of Science had the highest number of drop-out/exclusions rates (21 of the 71 students (29.5%), were excluded) despite the various student support systems they offer and

Humanities had the lowest (6 out of the 48 students in this faculty, 12.5%). The following tables are the descriptive statistics of the scores on the scales and the Dependent variables. Note that there are 6 cases that were excluded from this analysis because they had missing values. Throughout the analysis we would be dealing with the 188 subjects who had completed all the required information.

TABLE 1: Mean averages of all variables

Variables	Mean	Std. Deviator	N
Academic Performance (2006)	64.24	31.30	188
Academic Performance (2004)	52.85	12.55	188
Amotivation	5.12	2.29	188
Intrinsic Motivation	18.59	4.09	188
Extrinsic Motivation	5.61	2.28	188
Identified Regulation	13.32	2.40	188
Introjected Regulation	14.21	3.69	188
Academic Overload	11.86	3.43	188
Help-seeking	84.72%		194
Self-esteem	29.05	5.35	188
Perceived stress	37.35	7.75	188
Academic adjustment	138.76	27.49	188
Social adjustment	118.63	27.00	188
p/emotional adjustment	76.61	19.94	188
Attachment	104.49	20.47	188
Adjustment full scale	392.58	68.14	188

The main hypothesis of this study was that psychosocial factors influence academic performance in the long term (over 3 years), particularly those factors that were measured (i.e. adjustment, amotivation, intrinsic motivation, identified regulation, intrinsic regulation, self-esteem,

perceived stress, academic adjustment). Specific hypothesis were that seeking help will have a positive association with adjustment. This variable (help-seeking) was found in many studies to significantly impact on adjustment was found to not have such influence at the end of the first year of study and surprisingly was found to have a negative relationship with academic performance at the end of third year ($\beta=-0.049$) which means that as a student sought help, their performance chances decreased by 0.049 units. Also expected was that Amotivation will have a negative association with adjustment and academic performance indicating that students' motivation influences their performance; this relationship was shown to be true both at the end of first year and at the end of third year with unstandardised results showing that as Amotivation increased by 0.124 units in scores then academic performance at the end of first year would decrease by 1% and the strength of Amotiovation was 0.009 in the standardised results. Intrinsic motivation and Identified regulation were expected to both have a positive association with both adjustment and academic performance this was not so at the end of third year. Both these variables had a negative impact on academic performance with $\beta=0.061$ and $\beta=0.095$ respectively. Introjected regulation was expected to have a negative influence on academic performance, it turned out however to have a positive one ($\beta=0.005$). Perceived stress and Academic overload were both also expected to have negative influences academic performance. Interestingly the results show that as perceived stress increases so does academic performance ($\beta=0.303$). Academic overload was as expected, negatively influential on academic performance with a standardised beta value of 0.129.Self-esteem was expected to have a positive influence academic performance and so was Adjustment both were as expected with $\beta=0.104$ and $\beta=0.211$ respectively.

Two hierarchical linear regression analyses were run in this study. Both were aimed at finding the best fitting model for the prediction of academic performance in the sample. The first analysis measured the psychosocial factors simultaneously with academic performance as a dependent variable. In the collinearity results of this analysis it was found that there were high levels of collinearity between some of the Independent variables, particularly, the adjustment subscales with the adjustment full scale. These factors had strong correlations with the adjustment full scale; academic adjustment had a 0.84 correlation; social adjustment had a 0.79; personal/emotional had 0.72 and attachment had 0.80.These factors also had high collinearity values of 0.95, 0.85, 0.90, and 0.71 respectively. These relationships were cause for concern as

they not only had high scores of collinearity, they also were high Variance Inflation Factors. Relationships between variables which are above 0.70 in the collienearity diagnostics and whose scores are above 10 in the VIF are considered best removed or excluded from the study as they limit the size of R (the fit iof the model), they also comourflage the individual importance of the variables and often result in unstable predictor variables (Field, 2005). Analysis which included all the adjustment sub scales yielded the following scores; Academic adjustment had a VIF of 37.80, Social adjustment had (20.93); Personal/emotional adjustment had a VIF of 19.52; Attachment had a VIF of 11.15 and overall adjustment full scale had a VIF of 190.89 with the preceding variables. For this reason, the sub-scales in adjustment were removed and only the adjustment full scale was used so as to be able to make a more accurate prediction of whether the students will meet their requirements in their respective degrees. Although including these variables yielded the highest variance at 36.5% Adjusted R square value (See tables A.2 in appendix A). The results are summarised below and the rest of the results are in Tables A.2 of Appendix A.

Table 2: Beta summary table.

Predictor Variable	B	SE B	β
Constant	-9.120	36.26	
Amotivation	-0.124	1.10	0.009
Intrinsic Motivation	-0.468	0.76	-0.06
Extrinsic Motivation	-1.302	1.16	0.095
Identified Regulation	0.206	1.25	0.016
Introjected Regulation	0.047	0.71	0.005
Academic Overload	-1.180	0.72	-0.01
Help-seeking	-3.618	5.39	-0.04
Self-esteem	0.606	0.51	0.104
Perceived Stress	1.224	0.40	0.303
Adjustment (FullScale)	0.097	0.05	0.211

R square: 0.092, Adjusted R Square: 0.041, p=0.065, df=187.

These low results demonstrate that the psychosocial factors included in this study were not necessarily the most influential to academic performance. Unfortunately this means that the psychosocial factors under this study do not help us explain much in terms of the factors that determine whether students from previously disadvantaged backgrounds will meet the requirements at the end of third year. It appears that without academic performance at the end of first year we cannot make strong inferences and predictions on how a student will perform after three years. We can only attribute 9% (R square and 4% adjusted R square) of the variance to these variables using the results from this analysis (See Table A. 1. Appendix A.). Although the academic performance results from the end of first year cannot be considered a psychosocial

factor and this is problematic because this study was aimed to test *only* psychosocial factors. It seemed almost imperative that we include academic performance without discarding the psychosocial variables as shown in the regression summary table below. This combination explained an Adjusted R square value of 35.6% of the variance in the academic performance of the students.

TABLE 3: Beta values with 2004 Academic performance.

Predictor Variable	B	SE B	β	p-value
Constant	-72. 97	32.19		
2004 academic performance	1.517	0.162	0.64	0.000**
Amotivation	0.873	0.908	0.064	0.064
Intrinsic Motivation	-0.172	0.63	-0.23	0.785
Extrinsic Motivation	-0.002	0.968	0.00**	0.999
Identified Regulation	-0.225	1.030	-0.17	0.827
Introjected Regulation	0.009	0.588	0.00**	0.988
Academic Overload	0.080	0.607	0.009*	0.896
Help-seeking	-2.089	4.420	-0.02	0.637
Self-esteem	0.332	0.423	0.057	0.433
Perceived Stress	0.904	0.366	0.224	0.008*
Adjustment (FullScale)	0.054	0.042	0.118	0.201

R=0.628, R squared=0.394, Adjusted R squared=0.356, p<0.001, p<0.05*, df=187.**

The confidence intervals of this analysis showed the range of these and as shown in table 2 of the tables in A.3 this range was not too wide therefore making the analysis quite accurate. The descriptive statistics show all the means of the variables and the collinearity demonstrates that none of the factors have high collinearity which is worth worrying about but that all the factors are quite independent. The correlation information of this analysis shows the strength of each of these variables with the dependent variable and only 2004 academic performance has a significant relationship.

DISCUSSION

The students in this study had low levels of amotivation. There were high levels of self-esteem amongst these students which Aspinwall and Taylor (1992); Coffman and Gilligan (2002-2003) correlated with high competency and effective coping strategies. Although the students in this study reported high levels of self-esteem with a mean of 29 (out of a possible score of 40) they still performed poorly academically, certainly not in accordance with their self-esteem scores. High levels of intrinsic motivation were found, many of them sought help (84.7%), they had high levels of perceived stress, most of them reported to have adjusted well socially and academically. Most of them felt that they had too much work (academic overload) and they had high levels of introjected regulation. Their overall adjustment was high. Considering these means (see Table 1 on page 22) one would expect a higher average as only the help-seeking result was unexpected. However, as shown in Table A.4 in Appendix A none of the factors had a strong enough (approx. 0.45) relationship with academic performance.

The low levels of influence of the variables in this study and their shown weak influence on academic performance could be due to a number of factors such as the fairly low sample (only 188 of the 194 students in the study were included in the analysis, the other 6 had missing information in one variable or another. The second possible reason for this is that the scores used in the Independent variables were self-reported by the students whereas the academic results and averages were obtained directly from the university records. It is known that subjects often distort the truth and respond according to what they think is expected by the researcher. The third possible reason for the insignificant findings could perhaps have been the method used for analysis.

The academic performance in first year was the best predictor of academic performance after three years for the students in this sample. It yielded an R square value of 0.30 by itself meaning that 30% of the variance in academic performance in three years can be explained by the academic performance at the end of first year. The correlation of the psychosocial factors in this study (excluding the adjustment subscales and academic performance from 2004) is a mere 0.303 which only accounts for approximately 9% of the variance in the academic performance at the end of third year. This value decreases even more in the adjusted R square value (i.e. 0.041)

which means that we can only safely explain about 4% of the variance as 5% of it could have happened by chance at p<0.05 level of significance.

The variables showed some few strong relationships between each other. Intrinsic motivation had a correlation of r=0.526 with the adjustment full scale and r=0.584 with Identified regulation. Self-esteem had a strong, negative relationship with perceived stress (r=-0.520) and a positive relationship with adjustment (r=0.501). Perceived stress had a strong negative relationship with adjustment (r=-0.649). All these relationships were significant at p<0.05.

CONCLUSION

This study aimed to measure the influence of psychosocial factors on academic performance after three years. Petersen (2006) and I followed the progress of a group of 194 students from previously disadvantaged backgrounds and studied the influence of 15 psychosocial factors on their performance. The study found that these psychosocial factors alone did not explain much of the variance of academic performance and that the academic performance at the end of first year was a good predictor of performance after three years. Only 20% of the students in this sample had met the requirements set out in their faculties for their degrees. Although this is a small percentage we cannot ignore the fact that most of these students would have not afforded to go to university had it not been for the financial assistance they receive. The other students who are continuing with their studies are will, hopefully, also meet their expected outcomes (for which most is to graduate for their degrees at the end of 2007). This national funding is thus significantly increasing the number of graduates produced in the country (National Plan for Higher Education, 2002).

Quite interesting in this study is that 20 of the of the 38 students (53%) were registered in the Humanities faculty and only 5 (13%) whereas there was not such a wide difference between the number of participants from each group with 26.9% being from Humanities and 20.4% being from the Science faculty. This is interesting because the faculty of Science has more than three (specifically for the science faculty) programmes which are in place for assisting students with their academic work and the humanities has no special programmes apart from those endorsed by the university as a whole. This alludes to the possibility that the programmes in place are not meeting the students' need, that perhaps more money should be invested in the academic

development and academic adjustment programmes as opposed to psychosocial interventions which are what most of the programmes in the science faculty involve.

The current design of the different interventions vary from programmes aimed specifically at assisting students to bridge the gap in the specific content of a course, to programmes aimed specifically at facilitating students' adjustment to university and equipping them with necessary life-skills (Miller et al., 2001). This design may need to be revised and more attention and money should be allocated in bridging the gap between previously disadvantaged students with their fellow colleagues who have not been deprived of essential management and coping techniques and who do not experience any language barriers. These programmes should thus focus on course content (the programmes dealing with this aspect are referred to as academic development programmes) as opposed to psychosocial factors which have been shown to have minimal influence on academic performance. These Academic development programmes include, access, bridging, foundation and extended programmes and evaluations of these programmes show that the programmes have been successful in improving the students' academic performance (e.g. De Boer & van Rensburg, 1997; Miller et al., 2001; Woollacott & Henning, 2004).

In order for intervention to be effective with regard to improving financial aided students the university should support more studies similar to this one which will look at the other factors influencing academic performance. These need not be limited to psychosocial factors only but to other factors as well such as the quality of the school that the students were in prior to be at university. If these other factors can be thoroughly understood then appropriate intervention can be provided to assist the students from economically disadvantaged backgrounds in performing better academically. In future studies it may be useful to test some of the following identified possible predictors of academic performance. Finchilescu et al. (2003) further identified problems with English being used as the medium of instruction problematic for students who are non-English first language speakers, as this causes the inability to receive and communicate information with their English-speaking lecturers and tutors (Nyamapfene & Letseka, 1996). A lack of competence in understanding English encourages rote learning, which could be detrimental to students' academic studies (Agar, 1990). These students may thus already be at a disadvantage and may immense difficulty in adjusting to the academic demands of the university.

Dass-Brailsford (2005) identified strong initiative, motivation and goal orientation as some of the attributes of students who performed well at university. Problem-solving skills and confidence together have been shown to account for 15% of the adjustment to university (Baker, 2003). Working styles such as the (i) Willingness to take on the challenge that university presents, (ii) working consistently, (iii) time management skills, (iv) approach to studying and (v) cultural factors are further contributors to successfully completing university studies (Meyer, 1990; Lahmers & Zulauf, 2000). Ferreira (1995) also found that the transition from school to university contributes to poor performance at university because of the fundamentally different teaching styles. Where high school education focuses on the acquisition of knowledge university education is mostly about the application of knowledge and independent work (p.154). Other internal, emotional factors such as the experiences of subtle racism, feelings of alienation, socio-political influences and an inferiority complex could affecting the academic performance of previously disadvantaged students (Lea,1988; Leon & Lea, 1988). In this study however, time constraints have not deemed it possible to measure all these other factors as specific interest was in psychpsocial factors. These factors are nonetheless worth exploring further as they may explain the variance unexplained by the factors under the present study. None of the differences between the students' marks can be attributed to changes in demographic information such as age, race and gender. Therefore, the overall poor performance cannot be attributed to individual strengths and weaknesses in coping with the demands of university but to group dynamics at play in these previously disadvantaged students such as the educational disadvantage.

This paper thus raises a compelling need to investigate the factors influencing academic performance and encourages the focus to be more on academic performance at the end of first year as this study showed that in predicting long-term academic performance the performance at the end of first year helps us explain much of the variance.

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APPENDIX A: Statistics Results

Tables A.1.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.303[a]	.092	.041	30.65986	.092	1.791	10	177	.065

a. Predictors: (Constant), adjustment full scale, Whether help was sought, Introjected Regulation, Academic overload, Amotivation, Extrinsic Motivation, Self-esteem, Identified Regulation, Intrinsic Motivation, Perceived stress

b. Dependent Variable: acad.mar

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16838.267	10	1683.827	1.791	.065(a)
	Residual	166384.734	177	940.027		
	Total	183223.000	187			

ANOVA(b)

a Predictors: (Constant), adjustment full scale, Whether help was sought, Introjected Regulation, Academic overload, Amotivation, Extrinsic Motivation, Self-esteem, Identified Regulation, Intrinsic Motivation, Perceived stress
b Dependent Variable: acad.mar

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	-9.120	36.260		-.252	.802	-80.677	62.438		
	Amotivation	-.124	1.100	-.009	-.113	.910	-2.296	2.047	.788	1.270
	Intrinsic Motivation	-.468	.765	-.061	-.612	.541	-1.979	1.042	.511	1.956
	Extrinsic Motivation	-1.302	1.169	-.095	-1.113	.267	-3.609	1.006	.708	1.412
	Identified Regulation	.206	1.255	.016	.164	.870	-2.271	2.684	.551	1.815
	Introjected Regulation	.047	.718	.005	.065	.948	-1.370	1.463	.717	1.395
	Academic overload	-1.180	.723	-.129	-1.632	.104	-2.606	.247	.817	1.224
	Whether help was sought	-3.618	5.390	-.049	-.671	.503	-14.256	7.020	.960	1.042
	Self-esteem	.606	.515	.104	1.176	.241	-.411	1.624	.660	1.516
	Perceived stress	1.224	.408	.303	3.002	.003	.419	2.029	.503	1.988
	adjustment full scale	.097	.051	.211	1.889	.060	-.004	.198	.410	2.439

a. Dependent Variable: acad.mar

Descriptive Statistics

	Mean	Std. Deviation	N
acad.mar	64.2355	31.30179	188
acad_mar	52.8540	12.54744	188
Amotivation	5.1223	2.29646	188
Intrinsic Motivation	18.6383	4.09727	188
Extrinsic Motivation	5.6117	2.27830	188
Identified Regulation	13.3218	2.40630	188
Introjected Regulation	14.2128	3.68803	188
Academic overload	11.8564	3.43240	188
Whether help was sought	.23	.425	188
Self-esteem	29.0512	5.35469	188
Perceived stress	37.3528	7.75180	188
adjustment full scale	392.5790	68.13649	188

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.628[a]	.394	.356	25.12213	.394	10.392	11	176	.000	1.826

a. Predictors: (Constant), adjustment full scale, Whether help was sought, Introjected Regulation, acad_mar, Amotivation, Academic overload, Self-esteem, Identified Regulation, Extrinsic Motivation, Intrinsic Motivation, Perceived stress

b. Dependent Variable: acad.mar

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	72145.629	11	6558.694	10.392	.000[a]
	Residual	111077.4	176	631.121		
	Total	183223.0	187			

a. Predictors: (Constant), adjustment full scale, Whether help was sought, Introjected Regulation, acad_mar, Amotivation, Academic overload, Self-esteem, Identified Regulation, Extrinsic Motivation, Intrinsic Motivation, Perceived stress

b. Dependent Variable: acad.mar

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	-79.550	30.649		-2.596	.010	-140.036	-19.064		
	acad_mar	1.517	.162	.608	9.361	.000	1.197	1.837	.816	1.225
	Amotivation	.873	.908	.064	.962	.337	-.918	2.665	.777	1.288
	Intrinsic Motivation	-.172	.628	-.023	-.274	.785	-1.411	1.067	.510	1.961
	Extrinsic Motivation	-.002	.968	.000	-.002	.999	-1.912	1.909	.694	1.441
	Identified Regulation	-.225	1.030	-.017	-.218	.827	-2.257	1.807	.550	1.819
	Introjected Regulation	.009	.588	.001	.015	.988	-1.152	1.170	.717	1.395
	Academic overload	.080	.607	.009	.131	.896	-1.119	1.278	.777	1.287
	Whether help was sought	-2.089	4.420	-.028	-.473	.637	-10.812	6.634	.959	1.043
	Self-esteem	.332	.423	.057	.785	.433	-.503	1.168	.657	1.523
	Perceived stress	.904	.336	.224	2.691	.008	.241	1.567	.498	2.008
	adjustment full scale	.054	.042	.118	1.284	.201	-.029	.138	.405	2.467

a. Dependent Variable: acad.mar

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-14.8765	106.6742	64.2355	19.64193	188
Std. Predicted Value	-4.028	2.161	.000	1.000	188
Standard Error of Predicted Value	3.448	11.798	6.173	1.481	188
Adjusted Predicted Value	-17.8206	107.9117	64.1964	19.87636	188
Residual	-61.76382	70.50729	.00000	24.37205	188
Std. Residual	-2.459	2.807	.000	.970	188
Stud. Residual	-2.516	2.934	.001	1.004	188
Deleted Residual	-64.80434	77.04742	.03916	26.10067	188
Stud. Deleted Residual	-2.555	3.000	.000	1.009	188
Mahal. Distance	2.528	40.248	10.941	5.936	188
Cook's Distance	.000	.067	.006	.009	188
Centered Leverage Value	.014	.215	.059	.032	188

a. Dependent Variable: acad.mar

Scatterplot

Dependent Variable: acad.mar
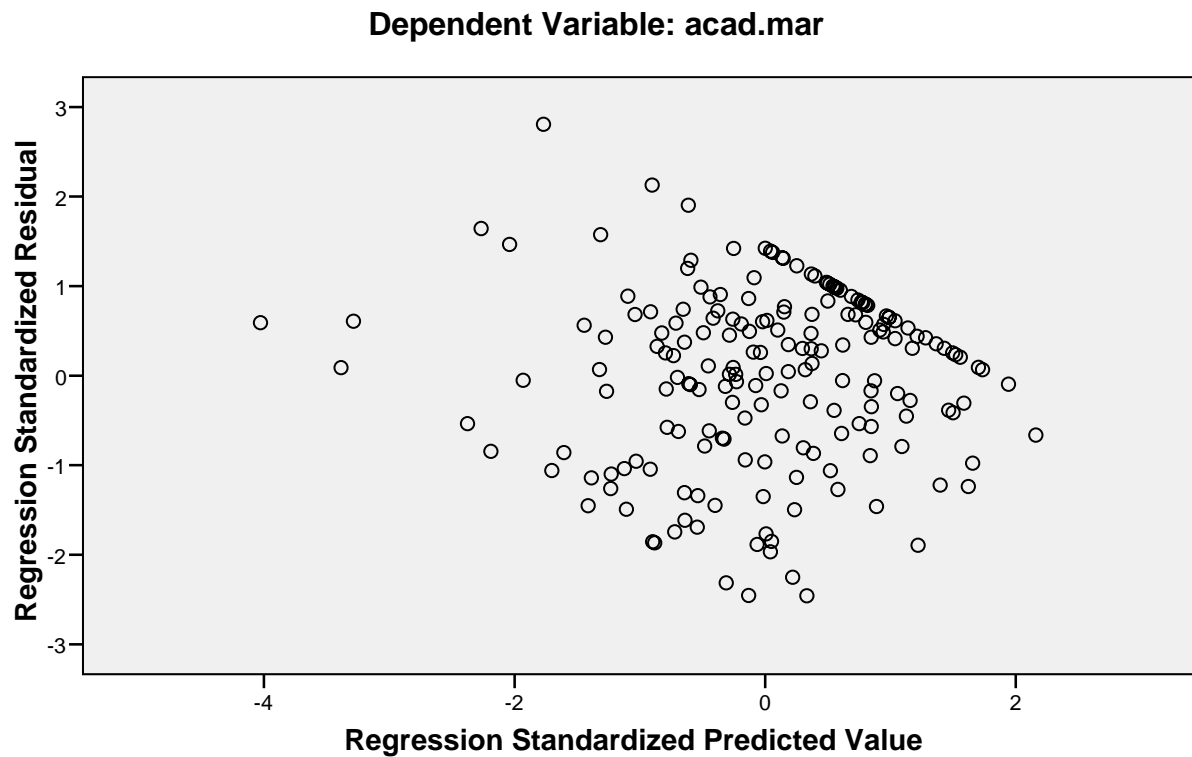
Tables A.2

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
					Change Statistics				
1	.645[a]	.416	.365	24.93571	.416	8.178	15	172	.000

a. Predictors: (Constant), adjustment full scale, Whether help was sought, Introjected Regulation, acad_mar, Amotivation, Academic overload, Self-esteem, Identified Regulation, Extrinsic Motivation, Intrinsic Motivation, Perceived stress, p/emotional adjustment, attachment, social adjustment, academic adjustment

b. Dependent Variable: acad.mar

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	76275.194	15	5085.013	8.178	.000^a
	Residual	106947.8	172	621.790		
	Total	183223.0	187			

a. Predictors: (Constant), adjustment full scale, Whether help was sought, Introjected Regulation, acad_mar, Amotivation, Academic overload, Self-esteem, Identified Regulation, Extrinsic Motivation, Intrinsic Motivation, Perceived stress, p/emotional adjustment, attachment, social adjustment, academic adjustment

b. Dependent Variable: acad.mar

Tables A.3.

Descriptive Statistics

	Mean	Std. Deviation	N
acad.mar	64.2355	31.30179	188
Amotivation	5.1223	2.29646	188
Intrinsic Motivation	18.6383	4.09727	188
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Identified Regulation	13.3218	2.40630	188
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Academic overload	11.8564	3.43240	188
Whether help was sought	.23	.425	188
Self-esteem	29.0512	5.35469	188
Perceived stress	37.3528	7.75180	188
adjustment full scale	392.5790	68.13649	188

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change	R Square Change	F Change	df1	df2
1	.628(a)	.394	.356	25.12213	.394	10.392	11	176	.0

Model Summary(b)

a Predictors: (Constant), adjustment full scale, Whether help was sought, Introjected Regulation, acad_mar, Amotivation, Academic overload, Self-esteem, Identified Regulation, Extrinsic Motivation, Intrinsic Motivation, Perceived stress
b Dependent Variable: acad.mar

Collinearity Diagnostics

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions										
				(Constant)	Amotivation	Intrinsic Motivation	Extrinsic Motivation	Identified Regulation	Introjected Regulation	Academic overload	Whether help was sought	Self-esteem	Perceived stress	adjustment full scale
1	1	9.699	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.752	3.591	.00	.00	.00	.00	.00	.00	.00	.95	.00	.00	.00
	3	.221	6.618	.00	.22	.01	.09	.00	.00	.01	.00	.01	.00	.01
	4	.109	9.452	.00	.56	.00	.42	.00	.00	.03	.00	.00	.00	.00
	5	.067	12.043	.00	.06	.00	.27	.00	.01	.51	.00	.02	.04	.00
	6	.052	13.670	.00	.02	.00	.04	.02	.53	.08	.00	.05	.01	.02
	7	.043	15.043	.00	.07	.01	.02	.00	.10	.31	.03	.00	.29	.00
	8	.029	18.212	.00	.03	.32	.15	.05	.17	.01	.00	.25	.00	.00
	9	.013	27.244	.00	.00	.31	.01	.92	.16	.01	.00	.03	.01	.04
	10	.012	28.689	.01	.00	.33	.00	.01	.01	.00	.01	.51	.02	.53
	11	.003	56.641	.98	.03	.02	.00	.00	.01	.05	.00	.13	.62	.40

a. Dependent Variable: acad.mar

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	-9.120	36.260		-.252	.802	-80.677	62.438		
	Amotivation	-.124	1.100	-.009	-.113	.910	-2.296	2.047	.788	1.270
	Intrinsic Motivation	-.468	.765	-.061	-.612	.541	-1.979	1.042	.511	1.956
	Extrinsic Motivation	-1.302	1.169	-.095	-1.113	.267	-3.609	1.006	.708	1.412
	Identified Regulation	.206	1.255	.016	.164	.870	-2.271	2.684	.551	1.815
	Introjected Regulation	.047	.718	.005	.065	.948	-1.370	1.463	.717	1.395
	Academic overload	-1.180	.723	-.129	-1.632	.104	-2.606	.247	.817	1.224
	Whether help was sought	-3.618	5.390	-.049	-.671	.503	-14.256	7.020	.960	1.042
	Self-esteem	.606	.515	.104	1.176	.241	-.411	1.624	.660	1.516
	Perceived stress	1.224	.408	.303	3.002	.003	.419	2.029	.503	1.988
	adjustment full scale	.097	.051	.211	1.889	.060	-.004	.198	.410	2.439

a. Dependent Variable: acad.mar

Scatterplot

Dependent Variable: acad.mar

45

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	22.5286	91.6269	64.2355	9.48916	188
Std. Predicted Value	-4.395	2.887	.000	1.000	188
Standard Error of Predicted Value	3.625	14.215	7.204	1.767	188
Adjusted Predicted Value	25.2746	94.3633	64.2083	9.74776	188
Residual	-67.05698	47.69106	.00000	29.82881	188
Std. Residual	-2.187	1.555	.000	.973	188
Stud. Residual	-2.247	1.605	.000	1.002	188
Deleted Residual	-70.77662	50.98484	.02724	31.67620	188
Stud. Deleted Residual	-2.273	1.612	-.001	1.006	188
Mahal. Distance	1.619	39.202	9.947	5.563	188
Cook's Distance	.000	.046	.006	.008	188
Centered Leverage Value	.009	.210	.053	.030	188

a. Dependent Variable: acad.mar

Table A.4: Correlations between predictors and academic performance

Amotivation	**-0.056**
Intrinsic motivation	**0.007**
Extrinsic motivation	**-0.133**
Identified Regulation	**0.046**
Intrinsic regulation	**-0.045**
Academic overload	**-0.171**
Help-seeking	**-0.026**
Self-esteem	**0.075**
Perceived stress	**0.076**
Adjustment full scale	**0.116**

APPENDIX B

 EXAMPLES OF QUESTIONNAIRE QUESTIONS

Table B.1

Source of support	No. of responses
Tutor (academic issues)	97
Lecturer	71
Curriculum Advisor	59
Counselor or Psychologist	17
Mentor (social or emotional issues)	30

Table B.2

Reason	No. of responses
I thought I should solve the problem on my own	55
Limited time	28
I didn't need to seek help	18
I didn't know I could approach anyone	14
Felt embarrassed	14
I was afraid	14
I didn't know that there were these services	9
Other	17

Table B.3

	N	Mean	Standard deviation	Minimum	Maximum	Cronbach Alpha
Raw scores						
Full scale	193	392.03	68.24	195.00	573.11	0.93
Academic	193	138.37	27.55	68.00	213.91	0.84
Social	193	118.14	26.97	36.00	180.00	0.84
P/emotional	193	76.78	20.01	20.00	128.00	0.78
Attachment	193	104.21	20.89	19.00	135.00	0.86
T-scores						
Full scale	193	45.09	9.77	25.00	75.00	
Academic	193	47.32	10.34	25.00	75.00	
Social	193	46.01	10.09	25.00	75.00	
P/emotional	193	41.54	9.06	25.00	68.00	
Attachment	193	51.60	10.59	25.00	75.00	
Academic performance	194	52.82	12.41	0.00	78.63	

APPENDIX B

 EXAMPLES OF QUESTIONNAIRE QUESTIONS

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	N	Mean	Standard deviation	Minimum	Maximum	Cronbach Alpha
Raw scores						
Full scale	193	392.03	68.24	195.00	573.11	0.93
Academic	193	138.37	27.55	68.00	213.91	0.84
Social	193	118.14	26.97	36.00	180.00	0.84
P/emotional	193	76.78	20.01	20.00	128.00	0.78
Attachment	193	104.21	20.89	19.00	135.00	0.86
T-scores						
Full scale	193	45.09	9.77	25.00	75.00	
Academic	193	47.32	10.34	25.00	75.00	
Social	193	46.01	10.09	25.00	75.00	
P/emotional	193	41.54	9.06	25.00	68.00	
Attachment	193	51.60	10.59	25.00	75.00	
Academic performance	194	52.82	12.41	0.00	78.63	

APPENDIX D

THE QUESTIONNAIRES

(These were manually attached to the hard copy submitted).

PLAGIARISM DECLARATION

1. I know that plagiarism is wrong.

2. I have used the American Psychological Association (APA) convention for citation and referencing. Each significant contribution to, and quotation in, this paper from the work, or works, of other people has been attributed, and has cited and referenced.

3. This research project is my own work.

4. I have not allowed, and will not allow, anyone to copy my work with the intention of passing if off as his or her own work.

5. I acknowledge that copying someone else's assignment or essay, or part of it, is wrong, and declare that this is my own work.

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