Predictors of psychology undergraduate success

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Undergraduate students may succeed or fail within their studies for a myriad of different reasons. Within this exploratory study we assess some of the academic, psychosocial and demographic predictors of student attainment. Using a questionnaire, first-year psychology undergraduates were assessed for a number of demographic, socioeconomic, academic, financial, and resilience factors and their general 'well-being' through the WHOQOL-BREF (UK Version; The WHOQOL Group). Using multiple regression analysis it was demonstrated that peer support and financial situation were significant predictors of failure rate, whilst peer support was shown to be the only significant predictor of average grade. These findings are discussed in relation to the implications for student retention.

Keywords: *Student retention; student support; student success.*

OVER THE LAST FEW DECADES higher education in the UK has seen a seismic shift in its student population. The reforms of the UK government particularly in the early 21st century set an aspirational target of 50 per cent of young people attending some form of higher education, and this has seen an increasing diversity amongst the student population. Students from different socioeconomic, cultural and educational backgrounds bring with them different needs and academic potential. The challenge for UK universities is to recognise this diversity of needs and adapt their provision of both academic and pastoral support to this changing and heterogeneous population of students.

The first year of a university degree can represent a stressful time of transition for many from further to higher education. This change in educational sphere and learning culture can create a multitude of social, academic and emotional stresses, and yet despite this the majority of higher education students go onto succeed at university (64 per cent achieved a 1st or upper 2nd degree classification in 2010–2011, HESA). However, a small proportion of students do struggle to manage the transition to higher education and some will fail modules or indeed a whole year.

The issue of student retention is particularly important today, since students achieving ABB A-level grades become more transient from the summer of 2013. Therefore, understanding the predictors of success on a programme, driving down attrition and ensuring students achieve their potential is important for both universities and students alike. We know that students ask each other via student forums what a course is actually like and make comparisons, therefore, understanding what makes a student successful at a psychology degree to enable a programme tailored to success is likely to result in satisfied students and as such a popular university course. With this in mind, the present exploratory study assessed predictors of success and failure within a first year psychology undergraduate cohort with a view to highlighting predictors of 'at risk' students and hence better focus limited support resources.

Past research has suggested that the academic qualifications that a student enters higher education with will have a strong bearing on the student's academic progression. For example, DeBerard, Spielmans and Julka (1994) found that incoming qualifications were a significant predictor of student success in a cohort of first-year students in the US. This finding is supported by work

such as Wolfe and Johnson (1995) who also established that incoming grades were a positive predictor of student success and that they could account for up 25 per cent of the variance in performance. Sear (1983) in a large-scale analysis in the UK of student A-level grades and final degree class, also found a highly significant correlation between the two, whilst, McKenzie and Schweitzer (2001) showed similar findings within the Australian education system. Furthermore, Christie et al. (2004) state that students who withdraw from higher education tend to have lower academic qualifications (e.g. Gillborn & Mirza, 2000; Smith & Naylor, 2001).

However, the impact of incoming grades on student performance is not altogether unambiguous, for example, the above study by DeBerard et al. (1994) found that gender and social support also played a significant role in academic success. Moreover, a study by Ofori (2000) within the UK higher education system found no impact of type of entry qualification on the academic performance of student nurses. This finding is also support by other studies (e.g. Bee & Dolton, 1985; Connolly & Smith, 1986). However, contrary to these findings, Wharrad, Chapple and Price (2003) in a longitudinal study of one Bachelor of Nursing course, using a multi-linear regression analysis, found that the number of GCSE A grades obtained significantly predicted success on the course. These findings further highlight the potentially contradictory nature of research assessing the impact of incoming grades on academic performance, and it may be that this is due to the interaction of incoming qualifications with other demographic variables. For example, Power, Robertson and Baker (1987) reported that there was a significant correlation between grades from further education and academic progression at university within the Australian education system. However, they found that the predictive capacity of secondary school grades interacted with both student age and gender. Further education grades were not as good predictors of academic performance for mature age students as they were for school leavers. Also female students with comparable grades to their male student counterparts consistently performed better academically.

Previous studies have also highlighted a number of psychosocial factors that have an impact on academic performance. One such factor is that of social support – McInnis, James and McNaught (1995) found students who worked in social groups to study performed better academically than those that were less social in their academic work. Gerdes and Mallinckrodt (1994) also found that the presence of an individual who provides strong support was an important predictor of academic success. Proctor and Diamond (2013) state that simple friendship and the social interaction skills linked to friendship and social support are significant factors in student engagement and retention (e.g. Pope, Roper & Qualter, 2011).

The role of personal motivational characteristics and environmental social support in a higher education context in the US was assessed in a longitudinal study of 100 ethnic minority students by Dennis, Phinney and Chuateco (2005). They discovered that personal/career-related motivation was a significant positive predictor whilst lack of peer support was a significant negative predictor of student academic performance. Furthermore, Richardson and Abraham (2009) demonstrated that out of the Big Five personality traits, only conscientiousness and achievement motivation explained variations in performance.

Other psychosocial factors that have been shown to have an impact on student achievement are financial difficulties and psychological health variables (Lecompte, Kaufman & Rousseeuw, 1983). In particular, Both Bennett (2003) and Chen (2008) conclude that financial support significantly moderates the influence of academic performance and commitment to academic program when deciding whether of not to drop-out from college or university. Breier

(2010) on the other hand argues that the lower the students' ability to pay the more important is the economic factor in the decision to stay or leave in university. Furthermore, St. John et al. (2000) developed models to explain how finances interact with other factors that influence college persistence within the US. In their view perceptions of ability to pay are important influences on choice of college as well as subsequent integration processes. In relation to psychological health variables, Lecompte et al. (1983) found that Belgian students reporting high anxiety at the start of the academic year had significantly poorer grades at the end of the academic year than those students that reported having low anxiety. However, whilst Topham and Moller (2011) found within a first-year undergraduate cohort in the UK, that Quasi-clinical levels of psychological distress were associated with low self-esteem and social anxiety, no statistically significant links were found between well-being as assessed at the beginning of the first year and academic achievement at the end of the first year.

Previous studies have also supported a role for certain demographic factors in student academic performance. For example, as mentioned above, Power, Robertson and Baker (1987) demonstrated an impact of gender on academic performance, with females consistently outperforming male students. This finding is also supported by Richardson and Woodley (2003) who found that, in students awarded first degrees by institutions of higher education in the UK in 1995–1996, overall, women were more likely to obtain good degrees. Age has also previously been shown to play a role in academic performance. However, the impact of age is far from clear with some studies showing a significant negative relationship between age and academic achievement (e.g. Clark & Ramsay, 1990), whilst other studies have found that older 'mature' students are more likely to perform better academically (e.g. Ofori, 2000). In this particular study, Ofori (2000) explored the effects of age on student performance in 'the psychological, sociological and biological perspectives in nursing' module assessments. Data from 222 students undertaking 'the pre-registration diploma in nursing' programme at a university in the north-west of England were analysed. The study found student age significantly predicted performance, with such performances found to be highly consistent across the three modules. The 'non-mature' students (aged <20 years) were identified in the study as being at risk in terms of academic performance whilst the 'very mature' students (aged >34 years) were found to predict better overall performance. However, the study above by Richardson and Woodley (2003) suggested that the picture is slightly more complicated, in that they found a non-linear relationship between age and performance, specifically, that those aged under 21 or between 26 and 50 at graduation were more likely to obtain good degrees.

Lecompte et al. (1983) highlighted a positive significant relationship between the distance that a student lived from the university and their academic success or failure. Time commuting may have an impact but more likely would be the effect of living far from the university on social integration and feeling 'part of' the university and learning environment. Of course, the impact of distance lived from university then becomes in reality a social factor of how integrated one feels at one's place of study. According to Tinto (1975) this is of great importance to student progression and is bound up with the perceived match between the academic ability and motivation of the student and the social and academic qualities of the institution. According to Tinto if the student is not integrated into the university, they will develop a low commitment to the university (see Tinto, 1975, for a full review of this area).

Finally, level of employment has also been demonstrated to have a significant impact on student progression. For example,

Pantages and Creedon (1975) showed that students who worked more than 15 hours per week in paid employment outside of the university setting were significantly more likely to not complete their studies successfully when compared with students who worked less than 15 hours per week. Although of course, this may simply be an indirect predictor, in that working more hours may indicate financial pressures and hence potential stress and anxiety. More recently, Callender (2008), using data derived from 1000 students in six UK universities, found that students who engaged in paid employment for more than 15 hours a week were a third less likely to obtain a good degree. Irrespective of the university students attended, term time working had a detrimental effect on both their final year marks and their degree results. The more hours students worked, the greater the negative effect.

The above studies highlight the potential impact of academic, psychosocial and demographic predictors on student attainment, and bring to light a diverse and mixed picture, and it is with this in mind that the present exploratory study was undertaken – to assess which of these variables would significantly predict both success and failure in a cohort of first-year undergraduate students studying for a psychology BSc degree, and furthermore to highlight those that would benefit from further support, be that academic or pastoral.

Method

A student base line questionnaire was given to all first-year psychology BSc students to complete on a voluntary basis within their first weeks at the University of Worcester. The questionnaire consisted of assessment of a number of factors including demographics, socioeconomic class, academic background, financial situation, resilience and also the WHOQOL-BREF (UK Version; The WHOQOL Group). All questionnaires were numbered with student numbers and confidentiality was maintained at all times. In total 47 completed questionnaires were received, this accounted for approximately 30 per cent of the cohort. The sample was representative of the whole cohort in relation to both age and sex. All students were instructed that their data was treated and stored confidentially and that they had the right to withdraw their data at any point. Furthermore, they were informed that participation within the study was completely voluntary. The study was approved by the institute ethics committee.

Results

Data from 47 participants were entered into the analysis although not all participants completed all of the questions within the questionnaire. The mean age for participants was 22.4 years, and the gender split was 11 per cent to 89 per cent male to female respectively. Racial background: 85 per cent white, six per cent Mixed race and nine per cent Asian or Asian British.

The main aim of the analysis was to assess predictors of success or failure, and hence in addition to the data from the questionnaires, information relating to average grades for the year and number of failed modules was also obtained (based on student identification number alone). Before the main multiple regression analysis was undertaken, due to the large number of potential predictors, a Pearsons correlation was undertaken with all interval level data (including average grade and failure rate). This was completed to ascertain those potential variables that may have a relationship with success or failure. This analysis revealed 12 potential variables that might possibly be linked with average grade ($p<0.001$), these were: distance from university; level of perceived peer support; perceived academic support; levels of happiness, levels of sadness; levels of annoyance with the course; how well they perceived their financial situation to be; physical, psychological, social and environmental well-being (WHOQOL-Bref) and resilience levels. A stepwise multiple regression was undertaken with the above variables

as the predictor variables and average grade as the variable to be predicted. The multiple regression was significant $F(1,42)=16.999$, $p<0.001$. However, only peer support was a significant predictor of average grade $t(42)=4.123$, $p<0.001$.

The primary correlation analysis also showed that 11 variables were significantly correlated with number of failed modules ($p<0.001$), these were: distance from university; level of perceived family support; perceived peer support; perceived academic support; levels of happiness, levels of sadness; levels of annoyance with the course; how well they perceived their financial situation to be; physical, psychological and social well-being (WHOQOL-BREF) and resilience levels. A second stepwise multiple regression was undertaken with the above variables as the predictor variables and average grade as the variable to be predicted. The multiple regression was again significant with two variables included in the equation $F(2,42)=14.923$, $p<0.001$; Peer support $t(42)=-3.032$, $p<0.005$ and financial situation $t(42)=2.124$, $p<0.05$ were shown to be significant predictors of failure rate.

Discussion

One of the main findings from the present study is that peer support plays a significant role in both student success (measured by module grades) and failure (as measured by number of modules failed). This is supportive of a number of studies such as those from McInnis et al. (1995) and Gerdes and Mallinckrodt (1994), both studies demonstrating a positive role of peer and indeed family support in academic success. It also further emphasises the need for social integration and a sense of belonging within an institution (e.g. Tinto, 1975). The present study also demonstrated that financial situation was a significant predictor of module failure. This fits in with the research of Pantages and Creedon (1975) and Callender (2008) who found that greater working hours had a detrimental effect of academic progression. However, it is interesting that overall anxiety levels as assessed by the WHOQOL did not arise as a significant predictor of student failure, and this suggests that the contributing element of financial situation is likely to be outside of 'financial anxiety' and perhaps, similar to the Gerdes and Mallinkrodt finding, is simply linked to time resources. Students who are in a difficult financial situation may have to work longer hours and hence have less time to engage with their academic studies. It appears that this does not necessarily cause a significantly greater sense of anxiety, but it is likely the very practical consequence of having less time for academic work, when having to work to survive financially, that has the impact on academic performance.

These findings point to two possible interventions: First, that all first-year students (perhaps within a one-to-one tutorial) should be confidentially asked questions relating to both their financial situation and their working life outside of the academic environment and those that are deemed at risk should be closely monitored and offered extra pastoral and academic support. Second, in general those students that appear to be struggling with their academic progression should be offered the opportunity (if not already in one) of joining a study group. This initiative can either be set up by the tutor or can be initiated by a group of students themselves. It is with the focus on these two areas of intervention that we envisage a significant impact on student attainment and potentially retention, and of course this endeavour will create prospects for future avenues of research relating to the impact of psychological and social factors on the student 'experience.'

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