
Entry Criteria Versus Success in Undergraduate Nursing Courses

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Abstract

Students enter nursing degree programs through a variety of pathways. This article reports on a study that investigated the success and experience of these students. The aim was to determine any linkages between the pathway of entry in a preregistration nursing course and the academic achievements of these students. To achieve this aim, a descriptive correlational design was used to gather information from students enrolled in four different streams of a Bachelor of Nursing program over a 12-month period that were then compared with their academic records. Results suggest that students from different entry pathways can succeed at university provided they are supported and encouraged.

Key Words: academic progression; entry pathways; undergraduate nursing; student success

The problem

The primary aim of Schools of Nursing and Midwifery is to prepare undergraduate nursing students for entry into practice. At the university where this study was undertaken, students are admitted to the nursing degree program through a variety of pathways. These include direct entry via an Equivalent National Tertiary Entrance Rank (also widely referred to as Tertiary Entrance Ranking [TER]) score, recognition of Certificate IV for enrolled nurses, mature age admission and through the Diploma of Tertiary Studies, a university access program. A descriptive correlational study was undertaken to determine any linkages between the entry pathways into a preregistration nursing degree and the academic success of these students.

Related research

Push to Expand Entry Criteria

The Australian Government has set an aim of widening access for students from diverse backgrounds to higher education (Department of Employment, Education and Workplace Relations [DEEWR], 2008, p. x). To achieve this both government and institutes of higher education have instituted various initiatives, including non-traditional pathways, in order to encourage a wider variety of students from educationally disadvantaged backgrounds to enter tertiary education (James, Bexley, & Shearer, 2009; Munns, Nanlohy, & Thomas, 2000). This has required higher education institutions to develop new entry pathways to allow for diversity in entry criteria.

The expansion in entry pathways for students is not limited to Australia as enrolment trends in many countries predict an increase in older, ethnically and academically diverse nursing student population (Jeffreys, 2007). The United Kingdom (UK) has seen an increase in mature and non-traditional students entering nursing undergraduate courses with a wide range of previous educational qualifications (McCarey, Barr, & Rattray, 2007). An increasing number of students are entering universities via alternative access programs, rather than traditional selection processes (Ofori, 2000). This change in nursing student profiles has resulted from the political drive to increase the participation rate in higher education in the UK.

Current Selection Criteria

A review of higher education in Australia was undertaken by Bradley, Noonan, Nugent and Scales (2008). One of the laments of the Bradley review is that despite a number of allowable alternative pathways into higher education currently existing, the majority of universities still rely heavily on tertiary entry ranking (TER) scores to select students (Bradley et al., 2008). This review purports that TER scores are used because of the high level of competition for places, simplicity in selection process and the ability to provide a defensible admissions decision process. TER scores have been shown to be a significant indicator of a student completing a university course (Jeffreys, 2007; Heath, 2002) and selective admission processes are seen to protect the high standards of professional nursing practice (Ostyre, 2001). The high use of TER score for student selection is evident in Victoria where 75% of offers for university places are based on such scores alone (James et al., 2009). Although TER scores are widely used they are thought to prohibit the non-traditional and disadvantaged student from entering nursing (Ostyre, 2001). Using the current selection criteria for nursing courses, based predominantly on academic scores from high school, may exclude potentially competent students from admission to nursing undergraduate degrees (Hutton, 1998).

Academic Outcomes From Different Selection Criteria

The Department of Education, Employment and Workplace Relations (formerly Department of Education, Science and Training) in Australia have developed 'alternative admission' categories that allow students entry to university who otherwise would not meet the traditional TER entry criteria (Cullity, 2006). Alternative entry programs have been developed to improve the number of students able to participate in university who are mature aged or never obtained their Year 12 certificate (Cullity, 2007). Pre-entry pathways have successfully been devised to help students from diverse backgrounds develop skills to

succeed in courses for which they would otherwise be ineligible for admission (Noone, 2007). These pre-entry pathways enable students to enter university via Technical and Further Education (TAFE) pathways or allow for recognition of prior employment and experience. Other pathways enable students to be admitted to university through selection criteria that allow for the negative effects of socioeconomic status and rurality. These pathways have shown rates of retention and success that are broadly comparable to those of other students (James et al., 2009).

British studies have found two important predictors of academic success: the age of the student and the educational preparation of younger students (Houltram, 1996; Kervern, Ricketts, & Webb, 1999). Mature students (aged 22 or above) are seen to perform better than their peers, regardless of entry pathway, whereas younger students with higher educational preparation prior to admission achieved better results.

Students with higher level entry qualifications are seen to consistently achieve higher grades than those with lower level entry qualifications (McCarey, Barr, & Rattray, 2007). The better students performed on the pre-entry test the more likely they were to succeed in their final exams (Bondmass, Moonie, & Kowalski, 2008). Previous education and professional qualifications are also seen to be indicative of completion rates for tertiary study (Byrd, Garza, & Nieswiadomy, 1999; Heath, 2002). These findings support the use of TER scores for entry to tertiary education as academic ability prior to enrolment is reflected in the final outcomes in terms of both exam success and completion rates.

While TER scores are a good predictor of outcomes for most courses, they are a poor predictor of performance in the health and education area (Dobson & Skuja, 2005). Health education requires skills other than academic ability and a higher age was found to be consistent with better performance in nursing programs, with academic selection not necessarily a predictor of success (Ofori, 2000). It has also been argued that the amount of support available to students in transitioning to university may be more of an indicator of success than TER scores (Levy & Murray, 2005). Support-seeking behaviour of students has been indicated as more predictive of student performance than entry qualifications. This has been proposed as the reason why mature age students do better in higher education as they are prepared to ask for help (Ofori & Charlton, 2002).

Method

Surveys were used to gather information from students enrolled in four different preservice nursing programs at a rural campus of the university: a 3-year Bachelor of Nursing (BN) program ($n = 86$); a 4-year double degree—Bachelor of Nursing/Bachelor of Midwifery (BN/BM) ($n = 29$) program; a 4-year Bachelor of Nursing Rural Health practice ($n = 20$) program; and the Diploma of Tertiary Studies (DoTS) ($n = 28$) that articulates with the BN degree; giving a total population of $N = 163$. Students entering the Diploma of Tertiary Studies program had a TER score lower than that for general admission to the Bachelor of Nursing course. These students were provided with extra assistance in academic writing and study skills compared to those students entering the other programs. Approval for the study was granted by the university ethics committee and an initial questionnaire was administered on day one of the first semester. This survey gathered demographic data and information about students' intended career trajectory as part of a broader study investigating the relationship between these variables, success and experience of study over a 12-month period. While data were collected at three stages to inform the broader study (Round 1 on enrolment, Round 2 at the commencement of semester two and Round 3 at the end of the first

year) this report will deal exclusively with data obtained from the first survey in relation to pathways into the degrees and the relative success of these students over the first year of study. Other demographic data from this round and findings from the other phases of the larger study have been published elsewhere (Birks, Al-Motlaq, & Mills, 2010; Birks, Cant, Al-Motlaq, & Jones, 2011a; Birks, Cant, Al-Motlaq, & Rickards 2011b; Francis et al., 2010).

Questions referring to entry to the course in the survey sought to determine the student's pathway for entry to the university. Traditional pathways include attainment of a suitable TER score in the year immediately prior to admission to the course and the matching of other admission criteria, namely a score of 25 or above in Year 12 English and completion of Unit 1 and 2 in mathematics. Nontraditional pathways include non-Year 12 (completed Year 12 but not in year immediately prior to enrolment); success at enrolled nursing studies; and other options such as transfers from nursing or other courses at other tertiary institutions; or success in two units of Open Universities Australia studies; or attainment of bridging course certificates.

Students' marks for the units were obtained at the end of semesters 1 and 2 from their university records, downloaded into spreadsheets and coded to protect the students' identities. Files were exported to SPSS software and were merged by participant code using add variables function. Students' success was measured based on the mean of the final scores for their studied units. Although success scores of both semesters approximated the normal distribution, the data violated the assumptions of parametric statistics (convenience sampling and unequal variances as revealed by Levene's test); therefore, their marks were compared to entry pathways using non-parametric statistics.

Results

Sample Characteristics

Of the total number of students invited to participate, 126 questionnaires were returned giving a response rate of 77.3%. The sample included 7 males and 119 females aged between 20 and 52, with the majority (85%) coming from non-metropolitan areas. Table 1 presents enrolment details of participants where over half of the students were enrolled in the BN course. Table 2 delineates the numbers and valid percentage of participants from each pathway where the highest percentage of students (44.8%) entered their course as Year 12 leavers.

Table 1

Enrolment Details of Participants (Frequency & Valid Percentage)

Course of Enrolment	N (%)
BN	75 (59.5%)
BNRHP	18 (14.3%)
BN/BM	19 (15.1%)
DoTS	14 (11.1%)
Total	126 (100%)

Table 2*Frequency and Valid Percentage of Participants in Relation to Their Entry Criteria*

Entry qualification	N (%)
Year 12	56(44.8%)
Non-Year 12	17(13.6%)
Enrolled Nurse	24(19.2%)
Other	29(22.4%)
Total	126(100%)

Success

At the end of semester one, students' success scores ranged between 35 and 93 with a mean success score of 66.6 ($SD = 9.4$) with two students scoring under the 50 pass level. At the end of semester two, students success scores ranged between 25 and 91 with a mean success score of 65.6 ($SD = 11.8$) and 5 students scoring under the 50 pass level.

Table 3 presents mean success scores for students at the end of both semester 1 and 2 compared across their different entry pathways. A Kruskal-Wallis Test revealed no significant difference in success across the student groups based on their entry qualifications in semester 1, $X^2(3, n = 119) = 6.51, p = .09$, and semester 2, $X^2(3, n = 114) = 3.24, p = .36$. Similar results were reached when success scores of both semesters were combined and compared across groups from different entry pathways, $X^2(3, n = 114) = 4.53, p = .21$. In addition, the relationship between students' success scores at the end of each semester was investigated using Spearman's Rank Order Correlation. There was a strong, positive correlation between the two variables, $R = 0.76, n = 114, p < .0001$ with high level of success in semester 1 associated with higher level of success in semester 2 (Figure 1).

Table 3*Differences in Success Between Students With Type of Entry*

Entry criteria	N	Success of semester 1	Success of semester 2	Total success
Year 12	53	66.7 (7.2)	66.7 (8.8)	66.6 (7.5)
Non-Year 12	17	68.4 (8.5)	64.3 (13.6)	66.3 (10.4)
Enrolled Nurse	20	61.9 (9.8)	61.7 (13.4)	61.8 (10.8)
Other	29	68.8 (11.9)	67.0 (14.1)	68.0 (11.9)
Total	119	66.6 (9.4)	65.6 (11.8)	66.1 (9.8)

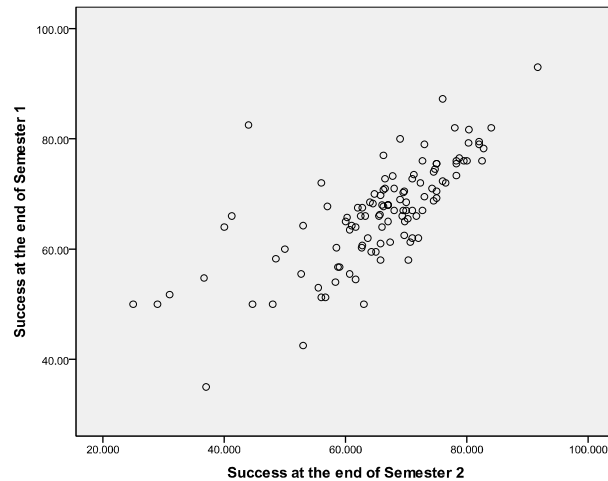


Figure 1

Plots of students' semester 1 scores with their semester 2 scores.

Spearman's Rank Order Correlation was used to detect any relationship between students' age and their total success. Results showed no relationship between the variables ($R = 0.1$, $n = 119$, $p > .05$). Similarly, students' performance in high school was correlated with their success at the university. Results revealed positive correlations with their university performance at both semester 1, $R = 0.43$, $n = 48$, $p = .002$, and semester 2, $R = 0.49$, $n = 46$, $p = .002$, which show higher TER scores associated with higher success scores.

Other groups were contrasted to detect any differences in terms of their total success. Table 4 presents results of comparison tests (Mann-Whitney test and Kruskal-Wallis test), which indicated no statistically significant differences in success between groups.

Table 4

Differences in Total Success Between Different Groups

Factor	N	Mean (SD)	<i>U</i>	<i>H</i>
Gender				
Male	7	64.3 (5.1)	316 (<i>ns</i>)	—
Female	112	66.2 (10.1)		
Location of enrolment				
Main campus	107	65.5 (9.8)	452 (<i>ns</i>)	—
Satellite campus	12	71.6 (8.4)		
Course of enrolment ^a				
BN	69	65.4 (10)	—	7.65 (<i>ns</i>)
BN/Rural	17	68.3 (8.2)		
BN/Midwifery	19	69.5 (11.3)		
DoTS	14	62.1 (7.3)		
Place of residence				
Metropolitan	17	61.9 (12)	665.5 (<i>ns</i>)	—
Non-metropolitan	102	66.8 (9.3)		

U = Mann-Whitney test, *H* = Kruskal-Wallis test, *ns* = not significant

Discussion

It is clear from the findings of this study that there is no significant difference between students' success and their mode of entry. The results clearly show that students achieving both high and low TER scores are able to achieve above average results at university. The current study seems to contradict the findings of McCarey, Barr and Rattray (2007) who found those with high TER scores can achieve better than average success at university. This difference in findings may be due, in part, to the level of support that students receive as Levy and Murray (2005) claim that success is determined by support given to students rather than an arbitrary number attained in Year 12 studies. The Bradley report (2008) concurs with all these findings and recommends that universities be more inclusive of different entry pathways; especially those related to the potential student populous in rural areas.

Age had no effect on academic success, a finding in direct contrast to earlier studies conducted in the UK (Houltram, 1996; Kervern, Ricketts, & Webb, 1999; Ofori, 2000). Our present study suggests that other factors may well be involved in predicting achievement in undergraduate nursing courses. Most students over 21 entered the program via the Enrolled Nurse pathway or transferred from other universities. There was no significant difference regarding success in this group compared to school leavers. Year 12 students who did not gain entry via acceptable TER score (students' scores were less than the required level of 70) gained access to nursing studies through the Diploma of Tertiary studies program (TER >50). This group was provided with extra academic help from the university in writing and study skills. They also showed no significant difference in success rates as their counterparts with TER >70. These results are paralleled in a recent study by James, Bexley and Shearer (2009) that suggests students entering studies via alternative pathways or who have a lower TER score are capable of achieving success.

The results of this research concur with Dobson and Skuja (2005) in recognising that entry to health courses based solely on TER may be a poor predictor of performance. These findings give credence to the recommendations within the Bradley report (2008) that those students who may not demonstrate high achievement at school have equal chance of success in tertiary studies provided they are nurtured and assisted to develop positive writing and study skills. Furthermore, the provision of appropriate bonuses as offered within a Special Entry Access Scheme will advantage those students who do not perform well in school assessments because of their personal circumstances such as rural isolation. Additional pathways into tertiary studies via colleges and other similar education providers also require further exploration and a seamless transition from one health course to another should be promoted. There are an increasing number of tertiary students who are first in their family to gain entry to university. This achievement needs to be celebrated and supported by the university system so that their children can be facilitated along a similar path. Further research is warranted to explore these issues. This study is limited by being set only in a non-metropolitan environment. Repetition of the study with larger and diverse cohorts in metropolitan areas would be beneficial to determine if the same correlations between entry pathway and academic success prevail.

Conclusion

While success at school and university are linked they are not dependent on each other. This research has clearly demonstrated that students of nursing and midwifery programs at a rural university can achieve good results, no matter what their mode of entry or

their school leaving score. Given a positive learning environment, a keen interest in the discipline and passion for study, students with disparate modes of entry can attain the necessary marks that signal success.

References

- Birks, M., Al-Motlaq, M., & Mills, J. (2010). Pre-registration nursing degree students in rural Victoria: Characteristics and career aspirations. *Collegian*, 17(1), 23–29.
- Birks, M., Cant, R., Al-Motlaq, M., & Jones, J. (2011a). “I don’t want to become a scientist”: Undergraduate nursing students’ perceived value of course content. *Australian Journal of Advanced Nursing*, 28(4), 20–27.
- Birks, M., Cant, R., Al-Motlaq, M., & Rickards, A. (2011b). Increasing the pool of students in rural locations: A satellite model of nurse education. *Australian Journal of Rural Health*, 19(2), 103–104.
- Bondmass, M.D., Moonie, S., & Kowalski, S. (2008). Comparing NET and ERI Standardized exam scores between baccalaureate graduates who pass or fail the NCLEX-RN. *International Journal of Nursing Education Scholarship*, 5(1), 1–15.
- Bradley, D., Noonan, P., Nugent, H., & Scales, B. (2008). *Review of Australian higher education: Final report*. Canberra, Australia: Department of Education, Employment and Workplace Relations.
- Byrd, G, Garza, C., & Nieswiadomy, R. (1999). Predictors of successful completion of a baccalaureate nursing program. *Nurse Educator*, 24(6), 33–37.
- Cullity, M. (2006). Challenges in understanding and assisting mature-age students who participate in alternative entry programs, *Australian Journal of Adult Learning*, 46(2), 175–201.
- Cullity, M. (2007). The nature of Alternative Entry Programs for Mature Age Students: A Snapshot. *HERDSA News*, April 2007, 7–10.
- Department of Employment, Education and Workplace Relations. (2008). *Higher Education Report 2008*. Retrieved from <http://www.deewr.gov.au/HigherEducation/Publications/Pages/Publications.aspx>
- Dobson, I.R., & Skuja, E. (2005). Secondary schooling, tertiary entry ranks and university performance, *People and Place*, 13(1), 52–62.
- Francis, K., Birks, M., Al-Motlaq, M., Davis, J., Miles, M., & Bailey, C. (2010). Responding to a rural health shortfall: Double degree preparation of the nurse midwife. *Australian Journal of Rural Health*, 18(5), 210–211.
- Heath, P. (2002) *National Review of Nursing Education 2002: Our Duty of Care*. Canberra, Australia: Department of Health and Ageing.
- Houltram, B. (1996). Entry age, entry mode and academic performance on a Project 2000 common foundation programme. *Journal of Advanced Nursing*, 23, 1089–1097.
- Hutton, B.M. (1998). Do school qualifications predict competence in nursing calculations? *Nurse Education Today*, 18, 25–31.
- James, R., Bexley, E., & Shearer, M. (2009). *Improving selection for tertiary education places in Victoria*. Melbourne, Australia: Centre for the Study of Higher Education, The University of Melbourne.

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- Jeffreys, M.R. (2007). Tracking students through program entry, progression, graduation and licensure: Assessing undergraduate nursing student retention and success. *Nurse Education Today*, 27, 406–419.
- Kervern, J., Ricketts, C., & Webb, C. (1999). Pre-registration diploma students: A quantitative study of entry characteristics and course outcomes. *Journal of Advanced Nursing*, 30(4), 785–796.
- Levy, S., & Murray, J. (2005). Tertiary entrance scores need not determine academic success: An analysis of student performance in an equity and access program. *Journal of Higher Education Policy and Management*, 27(1), 129–140.
- McCarey, M., Barr, T., & Rattray, J. (2007). Predictors of academic performance in a cohort of pre-registration nursing students. *Nurse Education Today*, 27, 357–364.
- Munns, G., Nanlohy, P., & Thomas, M. (2000). ‘Let them eat caviar’: Alternative pathways for university students attending to ‘unfinished business’. *Asia-Pacific Journal of Teacher Education*, 28(2), 165–177.
- Noone, J. (2007). An organized pre-entry pathway to prepare a diverse nursing workforce. *Journal of Nursing Education*, 46(6), 287–291.
- Ofori, R. (2000). Age and ‘type’ of domain specific entry qualifications as predictors of student nurses’ performance in biological, social and behavioral sciences in nursing assessments. *Nurse Education Today*, 20, 298–310.
- Ofori, R., & Charlton, J.P. (2002). A path model of factors influencing the academic performance of nursing students. *Journal of Advanced Nursing*, 38(5), 507–515.
- Ostyre, M.E. (2001). Predicting NCLEX-PN performance for practical nursing students. *Nurse Educator*, 26(4), 170–174.