

Career choices and destinations of rural nursing students undertaking single and double degrees in nursing

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ABSTRACT

Objectives

To identify and compare the location and career preferences of students enrolled in single and transdisciplinary double degrees in a Bachelor of Nursing program at a rural university.

To understand what influences and motivates students to enrol in a double degree program that includes nursing.

Design

A cross-sectional cohort study using a semi structured survey.

Setting

Charles Sturt University, Bathurst, New South Wales, Australia.

Subjects

209 undergraduate students in all years of the Bachelor of Nursing (BN), Bachelor of Nursing/Bachelor of Clinical Practice (Paramedic) (BN/BCP), and Bachelor of Nursing/Bachelor of Early Childhood Teaching (BN/BECT) programs.

Main outcome measures

Demographics of participants; reasons double degree students enrolled in a nursing program; career location and career discipline preferences.

Results

In 2008 the majority (70%) of students in all three groups were from rural areas, but double degree students came from a higher socio-economic background, were younger and were more likely to be male than single degree nursing students. They also had different motivating factors for enrolling and many did not prefer nursing as a career. 40% of BN, 45% of BN/BECT students and 28% of BN/BCP students preferred to work in a rural location for their graduate year.

Conclusions

Students undertaking this rural based double degree nursing program are different to single degree nursing students in a number of important areas. The lack of interest in a nursing career and a rural location by over half of these students is concerning. Targeted strategies are needed to reverse this loss of potential nursing graduates.

INTRODUCTION

Transdisciplinary undergraduate double degrees (DDs) involving nursing were introduced at a time (2002-2008) when the Australia Federal Government had increased the number of nursing funded places to universities (Authors 2010; Drury et al 2008). This followed the National Review into Nursing Education's (2002) recommendation that inter-disciplinary and cross-professional approaches to nurse education and practice be encouraged. By 2007 in Australia over one third of nursing students were studying via a DD mode (Preston 2009).

DD programs which combined nursing and pre-hospital care/paramedics (BN/BCP) and nursing and early childhood teaching (BN/BECT) commenced at Charles Sturt University (CSU), a regional university in Bathurst, Australia in 2002. One attraction for students was the ability to complete two three-year degrees in a four year period. The DDs were an attempt by a rural university to encourage more students, especially school leavers, into nursing to help sustain the rural workforce. Evidence suggests that demographic background and exposure to rural clinical experiences can positively influence nursing/medical students' choices of career, career destination and reasons for remaining in a rural area (Taylor et al 2009; Nugent et al 2004).

Literature from overseas (Buchan and Aiken 2008; ICN 2008) and Australia (Preston 2009; Gaynor et al 2007) continues to demonstrate a shortage of nurses. The numbers of nurses being educated are not enough to meet future workforce demands, and rural areas are harder hit by these shortages (Bushy and Leipert 2005; Ryan-Nicholls 2004).

Numerous studies in Australia (Stevens 2011; McCann et al 2010; Happell 2003) and overseas (Kloster et al 2007; Stuhlmiller 2006) have investigated the career choices and preferences of Bachelor of Nursing (BN) (or equivalent) students. Earlier studies (Happell 2002; 1999; Stevens and Dulhunty 1997; 1992) showed that nursing career specialty preferences did not change significantly during a degree. Yet, later studies (Stevens 2011; Stuhlmiller 2006) demonstrate that positive clinical experiences impact on career preference decisions. It is unknown however, if these latter factors are equally relevant for nursing students in a DD program. Few studies have investigated DD students (Russell et al 2008; Batson et al 2002), and none have examined their career and or location preferences (Authors 2010).

As of 2010, ten cohorts (approximately 180 DD nursing students) have graduated from CSU; however, little is known about these students and whether they intend to take up a nursing career and if this will be in a rural location.

The aims of this study were to identify and compare the location and career preferences of students enrolled in single and DD programs in nursing at a rural university, and to gain an understanding of what influenced and motivated these students to enrol in nursing.

METHODOLOGY

In 2008 a cross-sectional cohort study, utilising a semi structured questionnaire was carried out. Ethical approval was gained from CSU Ethics in Human Research Committee. To ensure confidentiality questionnaires were numerically coded. The questionnaires gathered demographic and background information, and student's initial career preference at commencement of their program. Open-ended questions asked students to explain why they chose their study program, which discipline areas they expected to work in and where they expected to work after graduation.

Participants

All enrolled undergraduate nursing students in the three-year BN and four-year BN/BCP and BN/BECT programs were invited to participate. International students were excluded. The overall response rate across all years was 71.6% ($n = 209$), with 77 single degree BNs of a possible 121 (63.6% participation), 31 BN/BECTs (100%) and 101 BN/BCPs of a total 139 (72.6%).

Data Analysis

Data were analysed using SPSS (Version 17, SPSS Inc., Chicago, IL, USA). Group comparisons were conducted using chi square (χ^2) tests and analysis of variance (anova). The textual data from the open ended questions were reviewed extensively, categorised, and then further collapsed to generate major categories.

FINDINGS

Demographic characteristics

The characteristics of the three cohorts of students are compared and summarised in table 1. Students' ages on enrolment ranged from 18 – 47 years. Students in the single BN were older than students in both the BN/BECT and BN/BCP degrees. A cut-off age of 19 years was used to estimate numbers of students who entered university straight from school. The BN/BCPs had the highest percent of school leavers (74.3%), BNs the lowest percent (48.1%), and the BN/BECTs were mid-way (58.1%).

The majority (88.3%) of students were female. The BN/BECT group had no male students, and the BN group had 13%. The BN/BCP group had the highest percentage of males (34.6%), which reflects the traditional profile of males in paramedicine (Reynolds and O'Donnell 2009).

Rural background

Students were gauged as being from a rural background if they had lived in a rural area for more than eight years ([AMWAC 2003] definition of rural background) and had a rural home address according to the Rural, Remote, Metropolitan Areas (RRMA) classification system (AIHW 2004). The majority (70.3%) of students had a rural background, with single degree BNs having the highest proportion (79.2%), BN/BCPs having the lowest (63.4%), and the BN/BECTs being mid-way (71.0%). The differences between the three groups achieved a marginal level of significance.

Table 1: Demographic characteristics of all single and DD nursing students in 2008

	BN (single) cohort ($n = 77$)	BN/BECT (DD) cohort ($n = 31$)	BN/BCP (DD) cohort ($n = 101$)	Overall study participants ($n = 209$)
Age on enrolment † Mean (SD)	23.4 (SD 7.5)*, **	19.8 (SD 1.8)**	19.7 (SD 2.5)*	21.1 (SD 5.2)
School leavers ‡ 18 -19 years n (%)	37 (48.1%) *	18 (58.1%)	75 (74.3%)*	209 (62.2%)
Male § n (%)	9 (13.0%)*	0 (0.0%)**	26 (34.6%)*, **	35 (16.7%)
Rural background ¶ > 8 years n (%)	61 (79.2%)	22 (71.0%)	64 (63.4%)	209 (70.3%)

*, ** Statistically significant differences at $p < 0.05$

† Significant differences between BN and BN/BECT group and BN and BN/BCP group $F(2, 206) = 13.3$ $p < 0.01$

‡ Significant differences between BN and BN/BCP group $\chi^2(2, 206) = 13.0$ $p < 0.01$

§ Significant differences between BN/BCP group and BN group and BN/BCP and BN/BECT group $\chi^2(1, 209) = 13.5$ $p < 0.01$

¶ Marginal differences between groups $\chi^2(2, 209) = 5.3$ $p < 0.07$

Socio-economic background

Students' socio-economic background was recorded according to criteria used in the Longitudinal Study of Australian Youth (Dockery and Barns 2005). Students reported on their fathers' and mothers' professional occupation status on a scale of '1' (lowest; e.g. no job) to '10' (highest; e.g. lawyer) and educational level on a scale of '1' (lowest; completed primary school) to '6' (highest; completed an undergraduate degree). Results in table 2 demonstrate significant differences in three of the four comparisons. In general, students in the single BN degree were from a lower socio-economic background than DD students. The BN students' fathers had a lower professional job status compared to the BN/BCPs' and BN/BECTs', the same was true of mothers' occupational status with the BN group being lower than the BN/BCPs and BN/BECTs.

In terms of the fathers' level of education, the BNs reported a lower level of educational attainment than the BN/BCPs but not the BN/BECTs. There were no differences in the mothers' educational level.

Table 2: Socio-economic background of single and double degree students

	Single degree BN group (n = 77) Mean (S/D)	DD BN/BECT group (n = 31) Mean (S/D)	DD BN/BCP group (n = 101) Mean (S/D)	Overall study participants (n = 209) Mean (S/D)
Fathers occupation level†	6.1 (3.2)*,**	7.9 (2.1)*	7.5 (2.8)**	7.1 (3.0)
Mothers occupation level‡	6.3 (3.1)*,**	7.9 (2.5)*	7.5 (2.7)**	7.1 (2.9)
Fathers education § (Bachelor level)	3.7 (1.7)*	3.6 (1.7)	4.4 (1.6)*	4.0 (1.7)
Mothers education (Bachelor level)	3.7 (1.8)	4.07 (1.7)	4.2 (1.7)	4.0 (1.7)

*,** Statistically significant differences at $p < 0.05$

† Significant differences between BN and BN/BECT group and BN and BN/BCP group $F(2, 188) = 5.8$ $p < 0.01$

‡ Significant differences between BN and BN/BECT group and BN and BN/BCP group $F(2, 196) = 4.9$ $p < 0.01$

§ Significant differences at $p < 0.05$ between BN/BCP group and BN group $F(2, 188) = 4.4$ $p < 0.01$

RURAL AND CAREER ASPIRATIONS

Rural location work preferences

Students were asked to indicate their preferred graduate year location ('rural', 'metropolitan', 'undecided' and 'overseas'). Only 70 students (33.5% of the sample) expected to work in a rural area, but the proportions who selected rural vs metropolitan locations differed by degree (see table 3). Students in the BN (41.6%) and BN/BECT (45.2%) had the highest percent of students interested in a rural location while the lowest group was the BN/BCP (23.8%) group. There were 24.4% of students who were 'undecided' and 8.6% who wanted to work overseas, with similar proportions across single and double degrees.

Career preferences for nursing

Students' responses to the open-ended question about the career they preferred on enrolment primarily fell into three discipline areas: nursing, early childhood teaching, paramedic. Two additional categories were formed: 'both' for those students who identified more than one discipline and 'other' for students who planned a degree change or whose current degree was not their first choice. Results (table 3) showed significant differences as the majority of BN students (88.3%) chose nursing but only a very small proportion of BN/BCP students (9.9%) did. The BN/BECT students (48.4%) were midway between the two. Surprisingly, a relatively small proportion of DD students indicated that they expected to work in a career involving 'both' disciplines (BN/BECT 16.1%, BN/BCP 9.9%). A small percent of students chose 'other' with little variation between groups (BN 9.1%, BN/BECT 3.2%, BN/BCP 4.8%).

Table 3: Rural and career choices of single and double degree nursing students

	Single degree BN group (n = 77)	DD BN/BECT group (n = 31)	DD BN/BCP group (n = 101)	Overall study participants (n = 209)
<i>Rural location work preferences</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
Rural or rural and remote	32 (41.6%)*	14 (45.2%)*	24 (23.8%)*, **	70 (33.5%)
Metropolitan	18 (23.4%)*	8 (25.8%)*	44 (43.6%)*	70 (33.5%)
Undecided	19 (24.7%)	6 (19.4%)	26 (25.7%)	51 (24.4%)
Overseas	8 (10.4%)	3 (9.7%)	7 (6.9%)	18 (8.6%)
<i>Career preferences for nursing</i>				
Nursing	68 (88.3%)*, **	15 (48.4%)*	10 (9.9%)*	93 (44.5%)
Early Childhood Teaching	1 (1.3%)	10 (32.3%)	0 (0.0%)	11 (5.3%)
Paramedicine	1 (1.3%)	0 (0.0%)	79 (78.2%)	80 (38.3%)
Both	n/a	5 (16.1%)	10 (9.9%)	15 (7.2%)
Other discipline	7 (9.1%)	1 (3.2%)	2 (2%)	10 (4.8%)

*, ** Statistically significant differences at $p < 0.05$

† The percent of students who selected rural vs metropolitan locations differed significantly between degrees $X^2 (6, 209) = 12.6$ $p < 0.05$

‡ The percent of students who chose a nursing career differed significantly between degrees $X^2 (8, 209) = 207.3$ $p < 0.01$

Career motivations and influences

Students responded to a series of open-ended questions about the reasons why they chose their program of study, what they found appealing about their career choice, and what or who had influenced their career decision. Results are summarised in detail in tables 4, 5, 6.

Why did students choose their programs of study?

Four categories emerged as to why students chose their program: 'interested in one discipline area only' (e.g. nursing, early childhood teaching or paramedicine); 'improved career choices'; 'pragmatic reasons'; 'employment advantages/ security'. Results show significant differences in the distribution of students' answers by type of degree. There were more BN students (67.1%) who were 'interested in the one discipline area only' than BN/BECTs (3.4%) and BN/BCPs (31%). More BN/BECTs (55.2%) chose their program for 'improved career choices' than BNs (7.9%) and BN/BCPs (36%). Similar numbers of students in single and double degrees identified 'pragmatic reasons' or 'employment security'.

Table 4: Why did single and double degree students choose their programs of study?

	Single degree BN group (n = 77)	DD BN/BECT group (n = 31)	DD BN/BCP group (n = 101)	Overall study participants average (n = 209)
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
Interested in one discipline area only†	51 (67.1%)*	1 (3.4%)*	31 (31.0%)*	83 (40.5%)
Improved career choices ‡	6 (7.9%)*	16 (55.2%)*	36 (36.0%)	58 (28.3%)
Employment advantages, security	13 (17.1%)	7 (24.1%)	12 (12.0%)	32 (15.6%)
Pragmatic, early entry, low UAI	6 (7.9%)	5 (17.2%)	21 (21.0%)	32 (15.6%)

* Statistically significant differences at $p < 0.05$

†,‡ There were significant differences in the distribution of students answers by type of degree in 'interest in one discipline area only' and 'improved career choices' $X^2 (6, 205) = 53.1$ $p < 0.01$

What did students find appealing in their career choice?

Four categories were identified: 'exciting and different'; 'personal satisfaction and enjoyment'; 'altruism'; 'personal interest/self gains'. The results showed significant differences between groups. A higher percent of BN/BCPs (54.5%) saw their career choice as 'exciting and different' than BNs (2.8%) and BN/BECTs (3.4%). In contrast more of the BN/BECTs (48.3%) felt that 'personal satisfaction and enjoyment' was an appealing aspect of their career choice than BNs (34.7%) and BN/BCPs (10.9%). The BNs were more likely to mention 'altruistic' reasons (45.8%) than the BN/BECTs (31%) and the BN/BCPs (27.7%). 'Personal interest/self gains' was identified by a similar percentage of students in each of the groups (6.9 to 17.2%).

Table 5: What did single and double degree students find appealing in their career choice

	Single degree BN group (n = 77) n %	DD BN/BECT group (n = 31) n %	DD BN/BCP group (n = 101) n %	Overall study participants (n = 209) n %
Exciting workplace †	2 (2.8%)*	1 (3.4%)*	55 (54.5%)*, **	58 (28.7%)
Personal satisfaction, enjoyment ‡	25 (34.7%)*	14 (48.3%)*	11 (10.9%)*, **	50 (24.8%)
Altruism §	33 (45.8%)	9 (31.0%)	28 (27.7%)	70 (34.7%)
Personal interest/self gains	12 (16.7%)	5 (17.2%)	7 (6.9%)	24 (11.9%)

*, ** Statistically significant differences at $p < 0.05$

†, ‡, § There were significant differences between the degree groups in the categories of 'exciting workplace', 'personal satisfaction and enjoyment' and 'altruism' $X^2(6, 202) = 72.12$ $p < 0.01$

Who or what factors influenced the students' career choice?

Influences on students' career choices and program of study were: 'a family member'; 'a friend or role model'; their 'own previous experiences (eg. illness, work/ voluntary work)' and 'no outside influences'. Significant differences were noted for the three groups. 'A family member' was the most influential for the BN group (52%), but less so for the DD groups (33.3%). This accords with reports that 'family members' play a major role in influencing people to take up a nursing career (Larsen et al 2003; McCabe et al 2005). The BN/BECTs were more likely to say that there were 'no outside influences' on their career choice than BNs (20%) or BN/BCPs (35.4%). The influences of 'a friend or role model' and 'own previous experiences' showed similar percentages across the three groups.

Table 6: Who or what factors influenced the students' career choice

	Single degree BN group (n = 77) n %	DD BN/BECT group (n = 31) n %	DD B/BCP group (n = 101) n %	Overall study participants (n = 209) n %
A family member †	39 (52.0%)*, **	10 (33.3%)*	33 (33.3%)*, **	82 (40.2%)
No outside influences ‡	15 (20.0%)*	15 (50.0%)*, **	35 (35.4%)*, **	65 (31.9%)
Friend or role model	9 (8.0%)	2 (6.7%)	26 (13.1%)	35 (10.3%)
Own previous experiences of illness, paid or voluntary work	15 (20.0%)	3 (10.0%)	18 (18.2%)	36 (17.6%)

*, ** Statistically significant differences at $p < 0.05$

†, ‡ There were significant differences between the degree groups in the categories of 'a family member' influences and 'no outside influences' $X^2(6, 204) = 13.7$ $p < 0.03$

DISCUSSION

This study presents the first Australian data contrasting single and DD students enrolled in nursing. Results showed that DD nursing students were different from single degree nursing students on demographic characteristics as well as in their career preferences. They were younger, more likely to be school leavers as noted in previous studies on other DD students (Batson et al 2002; Russell et al 2008); and from a higher socio-economic background. Single degree BNs were older and had career motivations (e.g. altruism) typically found in previous studies on nursing students (Dockery and Barns 2005; McCabe et al 2005). Interestingly, the BN/BECT students were more similar to BNs than BN/BCPs. More of them wanted to work as a nurse (48%) and they had similar motivations (personal satisfaction, altruism). The BN/BCPs were motivated by 'excitement' in their work and only 10% planned to work as a nurse.

The higher number of mature age students in the single degree was typical of a global pattern which authors predict will exacerbate future staffing shortages in nursing (Preston 2009; Drury et al 2008). Because fewer young people are drawn to a career in nursing (Dockery and Barns 2005; McCabe et al 2005), it was thought that DDs might be an avenue to reverse 'the aging' of the workforce. These results presented here did not demonstrate this. Only one-third of DD students were interested in a career in nursing, although another 13% wanted to work in both disciplines.

The study confirmed that a large percentage (70%) of nursing students were from a rural background; however, findings demonstrate less than half expected to work in a rural location with the BN/BCP students the least interested. Other research has suggested that rural students need ongoing and positive rural exposure and experiences to increase retention rates (Mills et al 2011; Bushy and Leipert 2005).

Limitations

Group comparisons were somewhat limited by the small numbers in the BN/BECT group relative to the other two groups; however, this was counter balanced by the fact that all students in this four-year DD participated. A further limit is that the report is based on students in one university only; however the CSU programs constitute the only four year DDs that have students in all years of the course.

CONCLUSION

Despite attracting students from a rural background and providing rural experiences in the program, a relatively low percentage of students planned to work in a rural location in their graduate year. The findings are contrary to current literature on rural based clinical programs and suggest that recruitment and retention of students into rural nursing via DD programs may need more targeted strategies. It was not possible within the scope of the present report to explain the reasons for students' choices, however, further examination of data gathered through interviews and focus groups may bring these to light.

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