The Economic and Labour Relations Review Vol. 22 No. 3, pp. 141–158

The Post-School Education Choices of Young Women in Australia and Canada

Siobhan Austen *
Fiona MacPhail **

Abstract

Young Canadian women engage in post-school study at a much higher rate than their Australian peers, with a large part of the difference in this rate attributable to differences in rates of participation in the non-university sector. This article uses data from the Australian Longitudinal Surveys of Australian Youth and the Canadian Youth in Transition Survey to generate a unique cross-country comparison of the characteristics of young women engaged in different types of post-school education. The results highlight important differences in the role played by academic ability and parental resources in the allocation of educational 'slots' in the non-university sectors of the two countries. The results suggest that 'second-tier' post-school institutions could play a role in boosting rates of post-school education in Australia, with important consequences for the design of policy on this sector.

JEL Code: I24

Keywords

Cross-country comparison; longitudinal data; multinomial logit model; post-school education.

1. Introduction

Young Canadian women engage in post-school education at a much greater rate than their Australian peers. In Canada, in 2006, the proportion of young adults with a post-school qualification was the highest in the group of Organisation for Economic Cooperation and Development (OECD) countries, at 51.9 per cent, while in Australia this proportion was only 38.4 per cent (OECD 2008a). Importantly, a large part of the difference in young women's participation rates is associated with the non-university post-school sector. The proportion of women with a university qualification is roughly the same in the two countries: according to OECD (2006, Table A1.3c) education data for 2004, 23 per cent

* Curtin University, Perth
** University of Northern British Columbia

of Australian women have a bachelor degree or higher. In Canada, this figure is 22 per cent. However, there are large differences in rates of engagement in what the OECD (2006) refers to as 'tertiary–type B' qualifications.[1] In 2004, 26 per cent of Canadian women, as compared to 10 per cent of Australian women, held such a qualification (OECD 2006, Table A1.3c).

A number of features of the Canadian college system contrast with the Vocational Education and Training (VET) sector in Australia and are likely to contribute to these differences in participation rates. Canadian colleges play a substantial role in the degree-granting process in several key provinces. In some cases, colleges offer students the preliminary years of their degree programs; in others, they offer entire degree programs. The Canadian college system also features a set of articulation arrangements between colleges and universities that enable graduates of particular college programs to transition into related university degree programs. Young women also enter Canadian colleges to pursue a wide variety of courses, including business courses in accounting and management. In contrast, the Australian VET sector currently has only a very limited capacity to provide degrees or to facilitate students' access to degree qualifications at universities. As Miles and Rickert (2009: 17) further explain, Australian women's enrolments in VET also 'remain clustered in narrow and traditional fields of study [such as hairdressing and childcare]'.

The OECD (2008b: 87–88) describes the Canadian college system as contributing to a system of post-school education that is 'more flexible and more need-oriented than in countries where universities dominate'. Its role, which extends beyond vocational education, enables it to offer a range of qualifications that are likely to have some labour market value to women. As such, the Canadian approach to post-school education potentially improves young women's social and economic outcomes in ways not currently achieved in Australia. In turn, this implies that comparisons of approaches to and outcomes from post-school education in the two countries are likely to be particularly useful for policy development in Australia.

The current article contributes evidence for this comparison by making use of two longitudinal databases — the Longitudinal Surveys of Australian Youth (LSAY) and the Canadian Youth in Transition Survey (YITS). The statistical analysis compares the attractiveness of Australian VET to different groups of Australian female school leavers with the attractiveness of college education to their Canadian counterparts. Through this analysis, the characteristics of young women participating in the 'second tier' of post-school education in each country are identified. This enables us to comment on the opportunities provided to different groups of young women in each country and to suggest directions for future policy on post-school education in Australia.

2. Data and Approach

The similarities in the purpose, timing and design of the LSAY and the YITS have resulted in a unique and rich resource for comparing the post-school education choices of young people in the two countries. The LSAY is a longitudinal survey of cohorts who are interviewed each year after the first year of testing and questionnaire completion with the aim of collecting information on their educational and labour pathways. The YITS is a longitudinal survey that also tracks cohorts of young Canadians with the aim of contributing information on 'who chooses post-school education and what factors influence this decision?' and 'what post-school pathways are youth following?' (HRDC 2000).

The current study makes use of data from one of the LSAY cohorts — the LSAY95 cohort, which is a group of young Australians initially recruited into the survey in 1995 when their median age was 14.[2] The initial post-school education choices of this group can be observed from the data collected from them in 1999, when they were aged 18. In the majority of cases, these young Australians were then in their first year out of secondary school.[3] Three possible post-school educational choices could be identified as having been made by the cohort members by this time: enrolment in a bachelor degree (university education); participation in an apprenticeship, traineeship or Technical and Further Education (TAFE) diploma or certificate (VET); or no post-school education. The initial LSAY95 sample comprised 13,613 participants in total. They were selected following a two-stage sampling process that involved, first, the random selection of Australian schools for participation in the survey and, second, the selection of classes for participation. By 1999, approximately 36 per cent of the initial sample had been lost due to attrition, leaving a sample size for the analysis of post-school education choice conducted in this study of 4210 young women.[4]

Data on the YITS cohort B is also utilised. This group included 8651 18–20-year-old women in 2000, when they were first surveyed. At that time, they could be identified as having chosen one of three initial post-school education choices: enrolment in bachelor degree (university education); enrolment in a college or other form of non-university (college) education; and no post-school education. The YITS sample was recruited from households that had participated in the Canadian Labour Force Survey in the previous three-year period and which had one or more young persons in the target population.

The approach taken to the analysis of the post-school education choices made by the young women observed in the LSAY and YITS data in 1999 and 2000, respectively, involved the application of multinomial logit regression techniques separately to each country sample. The dependent variable comprises three alternatives: university education, other post-school education, and no post-school education.[5] Attributes of cohort members that are likely to affect

https://doi.org/10.1177/103530461102200309 Published online by Cambridge University Press

the attractiveness of each educational alternative to a young woman — and that are measured in a comparable fashion in the two data sets — include her race, location (rural versus urban), language background (English spoken at home in the case of the Australians, and English or French as the first language for the Canadians), disability status, school completion status, mother's and father's level of education, province or state, and academic achievement at school.

The selection of these variables into the model was informed by a range of economic studies of the post-school education choices of young people (recent examples include Christofides et al. 2010; Curtis 2008; Dubois 2002; Finnie and Frenette 2003; Lenton 2005; and Mueller and Rockerbie 2005; an overview of earlier Australian studies is provided by Le and Miller 2002). Typically, the attractiveness of an alternative education option to an individual is related to the expectation of an increment in lifetime earnings and positively related to membership of a dominant ethnic group (proxied in the current study by measures of race and language) and a positive health status (proxied in the current study by a measure that identifies the presence of a physical disability). The attractiveness of different education options will also vary between individuals according to the direct and indirect costs of their education. These can be expected to be associated with differences in the level of parental support for the pursuit of post-school education (hence the parental education variables), academic ability (measured by school results and school completion), residential location (measured by rural versus urban location) and regional economic conditions and/or differences among provinces and states in post-school policies (proxied by measures of province or state of residence[6]). In an environment where the supply of educational programs is constrained and rationed (through administrative rules) according to academic merit, highly attractive educational programs are likely to be dominated by school leavers with the highest scores on tests of academic ability and/or high financial resources, *ceteris paribus*.

Due to the similarity in the purpose and design of the YITS and LSAY, only small adjustments in the measurement of key variables were necessary to make them comparable for the purposes of this study. The most important of these adjustments involved the measurement of academic achievement at school. In YITS, this is measured with reference to the students' recall of their academic results in their final year of school and is organised into five groups: in the bottom 4 per cent of results; in the 5th to 25th percentile range; in the 26th to 66th percentile range; in the 67th to 92nd percentile range; and in the top 7 per cent of results. However, the 'raw' LSAY data comprise ungrouped Year 12 results for students who participated in Tertiary Entrance Exams and results on Year 9 reading and maths tests for all individuals in the study. To achieve comparability

https://doi.org/10.1177/103530461102200309 Published online by Cambridge University Press

across the two data sets, it was therefore necessary to re-organise the LSAY data to fit the framework used in the YITS. This was achieved by using the Year 12 exam results to indicate each student's academic results in her final year of school where this was available; where it was not available, the Year 9 scores on maths and reading tests were used. The Year 12 and Year 9 results were then organised into percentile ranges that matched those used in the YITS.[7]

Following these adjustments, some minor differences between the data sets remain. Most of these derive from the fact that data was collected from the two groups at different ages. As noted above, information on the demographic and socio-economic characteristics of the YITS sample was collected in 2000, when the participants were aged 18–20, whereas this information was collected from the Australian sample when they were aged 14 (in 1995). This may produce some differences associated with, for example, geographic mobility between the ages of 14 and 20, and with the recall of school details and results. The Canadian data on school results are also affected by an apparent under-representation of students in the lowest result category. Only 2.3 per cent of the sample was measured as being in the group of students with the lowest 4 per cent of results. This could reflect problems with the collection of data from students with low academic achievement. As such, it is a possible source of error in the results on academic achievement presented in the section below.

3. Results

The description of results starts with those derived from an analysis of the LSAY95 data (in Table 1) and is followed with a summary of the results derived from an analysis of the YITS cohort B data (in Table 2). Descriptive statistics on each country sample are provided in the appendix. Relative risk ratios are the key data item reported. The measured relationships reported in columns 2 and 3 are those between the characteristics of young Australian women and the likelihood of them making a choice to pursue a VET course of study instead of non-participation in any post-school education, controlling first for the fact that they have decided not to pursue university-based education. The measured relationships shown in columns 4 and 5 are those between the characteristics of young Australian women and the likelihood of them making a choice to pursue a university degree instead of non-participation in any post-school education, controlling first for the fact that they have decided not to pursue VET. In Table 2, the same approach is taken to the presentation of results, in this case from the analysis of the Canadian data, but the choice of college education is the focus of the first set of columns, rather than VET.

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Table 1: Likelihood of participation in different types of post-school education at age 18, Australian women, 1999

	VET compared to no post-school education		University compared to no post-school education	
	Relative risk ratio	z-stat (abs)	Relative risk ratio	z-stat (abs)
Disability	0.810	0.570	0.612	1.320
Indigenous	1.422	1.160	0.849	0.440
Rural or regional[a]	0.895	1.090	0.966	0.370
English language spoken at home	0.717	1.830	0.450	5.240***
Last attended school in Victoria[b]	1.217	1.450	1.341	2.440
Last attended school in Queensland	1.018	0.130	0.937	0.480
Last attended school in South Australia	0.808	1.360	1.123	0.850
Last attended school in the Northern Territory	0.477*	2.380	0.584	1.800
Last attended school in Western Australia	0.943	0.390	0.980	0.140
Last attended school in Tasmania	0.654	1.600	0.924	0.300
Last attended school in the Australian Capital Territory	1.168	0.650	1.109	0.420
Attended school to Year 12 or 13 by 1998	1.531	3.630***	90.906	8.140***
Mother's education is other post-school[c]	0.595	1.950*	0.727	1.530
Mother's education is only high school	1.049	0.280	0.606	3.280***
Mother's education is less than high school	0.761	1.680	0.469	5.380***
No mother's education record	0.778	1.350	0.462	4.630***
Father's education is other post-school[c]	1.235	1.100	0.579	3.610***
Father's education is only high school	1.175	0.810	0.567	3.370***
Father's education is less than high school	1.414	1.940*	0.546	4.050***
No father's education record	1.111	0.560	0.389	6.010***
Academic achievement in Year 12 or Year 9 was in 5th to 25th percentile[d]	1.133	0.500	2.271	2.630**
Academic achievement in Year 12 or Year 9 was in 26th to 66th percentile	0.919	0.340	4.762	5.150***
Academic achievement in Year 12 or Year 9 was in 67th to 92nd percentile	0.790	0.900	6.803	6.220***
Academic achievement in Year 12 or Year 9 was in 93rd to 100th percentile	0.688	1.020	6.537	5.410***

Source: Longitudinal Surveys of Australian Youth (LSAY95 cohort).

Note: *denotes significance at 10%; **denotes significance at 5%; ***denotes significance at 1%. The default categories are: (a) urban/metropolitan; (b) New South Wales; (c) university education; (d) lowest 4%. Multinomial logistic regression estimated using STATA; number of obs: 4210; Log pseudo likelihood: 4511.38; Prob >chi2=0.0000.

https://doi.org/10.1177/103530461102200309 Published online by Cambridge University Press

Table 2: Likelihood of participation in different types of post-school education at ages 18 to 20, Canadian women, 2000

	College compared to no post-school education		University compared to no post-school education	
	Relative risk ratio	z-stat (abs)	Relative risk ratio	z-stat (abs)
Age	1.071	1.750	1.679***	12.000
Disability	0.723	1.590	0.900	0.550
Indigenous	0.732	1.020	0.824	0.560
Rural or regional[a]	1.263*	2.480	0.828	1.820
English or French language was first spoken	0.739	1.710	0.554***	3.630
Last school was private	1.244	1.400	1.277	1.360
Last school was in Newfoundland or Labrador[b]	0.992	0.040	2.032***	3.790
Last school was in Prince Edward Island	0.941	0.250	2.511***	4.090
Last school was in Nova Scotia	2.077***	4.150	5.725***	10.490
Last school was in New Brunswick	1.434*	2.030	3.742***	7.540
Last school was in Quebec	29.965***	12.060	15.472***	6.980
Last school was in Manitoba	0.780	1.400	1.288	1.520
Last school was in Saskatchewan	0.666**	2.570	1.616***	3.200
Last school was in Alberta	0.722*	2.030	1.067	0.400
Last school was in British Columbia	0.839	1.110	1.115	0.750
Attended to Year 12 or 13 by 2000	6.012***	6.720	17.967***	7.890
Mother's education is other post-school[c]	0.785	1.510	0.613***	3.230
Mother's education is only high school	0.730*	2.090	0.431***	5.900
Mother's education is less than high school	0.574***	3.180	0.285***	6.700
No mother present	0.533**	2.760	0.341***	4.200
Father's education is other post-school[c]	1.467**	2.440	0.755	1.830
Father's education is only high school	1.229	1.410	0.606***	3.300
Father's education is less than high school	1.151	0.850	0.412***	4.790
No father present	1.145	0.820	0.468***	4.880
Academic achievement in last school year was in 5th to 25th percentiled	1.881	1.210	5.542*	2.220
Academic achievement in last school year was in 26th to 66th percentile	4.341***	2.880	19.973***	3.960
Academic achievement in last school year was in 67th to 92nd percentile	5.168***	3.210	55.717***	5.330
Academic achievement in last school year was in 93rd to 100th percentile	6.143***	3.400	138.862***	6.450

Source: Canadian Youth in Transition Survey (YITS cohort B 2000).

Note: *denotes significance at 10%; **denotes significance at 5%; ***denotes significance at 1%. The default categories are: (a) urban/metropolitan; (b) Ontario; (c) university education; (d) lowest 4%. Multinomial logistic regression estimated using STATA; number of obs: 8651; Log pseudo likelihood: 7447.05; Prob >chi2=0.0000.

https://doi.org/10.1177/103530461102200309 Published online by Cambridge University Press

Comparison of the results in Tables 1 and 2 yields some interesting insights into the distinctive characteristics of the post-school education choices of young Australian and Canadian women. The characteristics of the young women choosing the VET option in Australia — as indicated by the results in Table 1 — are clearly distinct from those of the young women choosing the college option in Canada and those of the young women choosing the university option in both countries. Most importantly, the young women choosing VET are distinguished by a lack of high levels of academic achievement. The results in Table 1 show that there are no statistically significant differences between women with high versus low academic achievement in the likelihood of VET being chosen over non-participation in post-school education. The Canadian results stand in contrast to these findings (see Table 2). In Canada, higher academic achievement at school is positively and strongly related to the likelihood that a young woman will choose college study over non-participation in post-school education. For example, having a school result that is in the top 7 per cent of all results (rather than in the bottom 4 per cent) increases the likelihood that a young Canadian woman will participate in college education rather than pursue no post-school education by 6.1 fold. The likelihood of university study being chosen over no post-school education is also strongly related to academic achievement in school. This applies in both countries. In Australia, for example, the probability of participation in university (over no post-school education) is 6.5 times higher for female students with school results in the top 7 per cent of all results than it is for students with results in the lowest 4 per cent.

The distinctive nature of VET is also evident in the results on the parental education variables. There is not a clear, positive relationship between higher parental qualifications and the likelihood of participation in VET (over no post-school education) by young Australian women. Indeed, the only measures of parental education that are statistically significantly different from zero for this particular choice are those relating to having a mother with VET (as compared to university) qualifications and a father with less than high school (as compared to university) qualifications.

By contrast, in Canada, having a mother with high-level academic qualifications (rather than no post-school qualifications) lifts the likelihood that a young woman will participate in college rather than not pursue post-school education. For example, the likelihood that a young woman whose mother is university qualified will choose other post-school (college) education over no post-school education is 42.6 per cent higher than it is for young women with mothers who have less than high school qualifications. Between young Canadian women whose mothers are university qualified and those with high school qualifications, this difference in likelihood is 27.0 per cent.

The relationship between parental education and the likelihood of participating in university is also strong in both Canada and Australia. The results in Tables 1 and 2 show that in each country, higher levels of parental education are positively related to the likelihood of participation in university (over no post-

https://doi.org/10.1177/103530461102200309 Published online by Cambridge University Press

school) education. For example, the likelihood of participation in university (over no post-school) education by a young Australian woman whose mother is university qualified is 51.1 per cent greater than it is for a young woman with a mother with less than high school qualifications. Young Australian women whose fathers are university qualified are 41.9 per cent more likely to participate in university (over no post-school) education than young women whose fathers have less than high school qualifications. A similar pattern applies in Canada. Young Canadian women whose mothers are university qualified are 71.5 per cent more likely to participate in university (over no post-school) education than young women whose mothers have less than high school qualifications. Young Canadian women whose fathers are university qualified are 58.8 per cent more likely to participate in university (over no post-school) education than leavers whose fathers have less than high school qualifications.

A number of other comparisons can be made of the characteristics of the young Australian and Canadian women making different post-school education choices. First, in Canada, the likelihood that a young woman will participate in college (over no post-school) education is 26.3 per cent higher for those living in a rural or regional location than it is for those living in a metropolitan area. However, this pattern is not replicated in the Australian data for VET, or in the data from either country on university study.

In Canada, there are significant provincial differences in the likelihood of participation in both college and university (over no post-school) education. Quebec stands out as a province where the likelihood of participation in college (as compared to no post-school) education is very high (with the likelihood of a young woman participating in college education 30.0 times higher than it is in Ontario). The difference in this likelihood between Ontario and Nova Scotia is also statistically significant and of a still substantial but albeit much smaller magnitude (2.1 times). In contrast, state differences are not a feature of the Australian data. This may reflect the greater role played by the federal government in post-school education policy in Australia, especially with respect to the university sector, as compared to Canada. In Canada, policy for the sector is largely a provincial responsibility.

Finally, in both countries, young women with a language background that is English (English or French, in the Canadian case) are less likely to participate in university education than students from non-traditional language backgrounds. In Australia the difference between the language groups is 45.0 per cent, while in Canada it is 55.4 per cent. However, language background is not a distinguishing characteristic of the young women who chose VET or college study over non-participation in post-school education.

4. Discussion

The results presented in this article provide a unique cross-country insight into the role individual characteristics, such as academic ability and parental background, play in determining the likelihood that young women will participate

https://doi.org/10.1177/103530461102200309 Published online by Cambridge University Press

in the different forms of post-school education. Through this comparison we can see how different groups of young women 'fare' in terms of their post-school education chances under different educational regimes. This information should be an important resource for policy development aimed at improving rates of participation in post-school education and at targeting the educational opportunities of particular socio-demographic groups.

The most important result presented in this article is the finding of a stark contrast between Canada and Australia in the relationship between academic achievement at school and the likelihood of participation in non-university post-school education. In Canada, high school grades are a strong predictor of the likelihood that a young woman will participate in college education rather than be a non-participant in post-school education. This is also the case with university education in both Canada and Australia, where the relationship between academic achievement at school and the probability of university education is very strong. However, the situation with VET is quite different: there are no statistically significant differences between the school results of the young women who pursue VET and those who do not pursue post-school education.

A similar picture emerges in the article's findings on the role of parental education (a proxy for the young woman's family resources). In Canada, having a parent with high-level qualifications is strongly related to the likelihood of a young woman participating in college (as opposed to no post-school) education. The relationship between parental education and the probability of university education is also strong in both Canada and Australia. VET once again stands out as an exception to this pattern. A relationship between parental education and the likelihood of a young woman pursuing VET (as compared to no post-school education) is virtually undetectable in our results.

These results could be taken to imply that VET provides Australian students with low educational outcomes at school and/or from less advantaged family backgrounds with educational opportunities that are not present in the Canadian system of post-school education. However, less positively, the results also appear to indicate that there is a lack of competition for places within the VET system. This, in turn, could indicate that young women do not rate this educational alternative as attractive. Dwyer and Wyn (1998) reached a similar conclusion on the attractiveness of VET to young people. Their survey of Victorian school leavers in 1991 showed that only a very small proportion (11 per cent) rated VET as their first post-school study choice. James (2002: 44) identified young women, especially those from higher socio-economic groups, as valuing VET at a particularly low level as compared to university study. He described 'lingering perceptions that TAFE courses are more viable alternatives for young males than females, and more work opportunities being available for young males'. Miles and Rickert (2009: 5) also describe how VET has 'struggled over time to offer programs that appeal to women and, more importantly, enable them to gain sustainable employment outcomes commensurate with their skill and qualification'.

The findings of this article demonstrate that young Australian women have a stronger demand for university education than VET education. However, perhaps more importantly, the results also show that there is strong demand by young Canadian women for the programs offered in Canadian colleges. This is where the possibility exists for Australian policy makers to learn from the Canadian experience.

A number of features of the Canadian approach to the role of colleges in the post-school education system — and how this contrasts to the role ascribed to VET in the Australian system — are likely to make it more attractive as a post-school education option than VET. As noted in the introduction, Canadian colleges play a substantial role in the degree-granting process in several key provinces — in some cases offering students the preliminary years of their degree programs, in others offering entire degree programs. As Jones (2008: 20–22) explains, colleges in Alberta and British Columbia offer students the first two years of university degree programs, in addition to technical and vocational programs. In Quebec, students complete secondary schooling at the end of grade 11 and then transfer to a General and Vocational College (Collège d'enseignement général et professionnel, CEGEP), for either a two-year pre-university program or a vocational program. In British Columbia, additionally, some university colleges have been transformed into 'university colleges' with an independent authority to offer degrees. In Alberta, some colleges are allowed to award 'applied' degrees. In Ontario, colleges of applied arts and technology are now able to offer degrees in applied areas subject to government approval.

The Canadian college system also features a set of articulation arrangements between colleges and universities that enable graduates of particular college programs to transition into related university degree programs. Agreements have been forged between individual universities and colleges on how the graduates of particular college programs will be treated by the university, and on the transition from a specific college diploma program into a related university degree program. Collaborative programs between universities and colleges have also developed in several provinces. For example, Ontario has a collaborative program for nursing degrees whereby the delivery of the curriculum is split between colleges and universities, with the degree being awarded by the university (Jones 2008: 23). Some universities and colleges have also developed relationships for the sharing of facilities and joint programming.

All these features move the Canadian college system beyond a focus on vocational education and, thus, enable it to offer a range of qualifications that have some labour market value to women. Young women enter Canadian colleges to pursue a wide variety of courses. Most prominent are business courses, such as accounting and management, which in the Australian system of post-school education are largely limited to university students.[8]

In contrast, the Australian VET sector currently has only a very limited capacity to provide degrees or facilitate students' access to degree qualifications at universities. This limits their ability to enhance the employment opportunities

of young women or to offer a wide range of courses. Until very recently, institutions in the VET sector did not participate in the provision of degrees, with their role in education focused on the provision of 'vocationally oriented knowledge' rather than access to higher education (Kangan 1974: xxxv; Moodie 2008: 33). These institutions have also played a very small role in facilitating access to degree qualifications at universities. Miles and Rickert (2009: 17) also indicate that Australian women's enrolments in VET 'remain clustered in narrow and traditional fields of study [such as hairdressing and child care]'.

The attractiveness of college study to young Canadian women is likely to be further boosted by location and relative cost attributes of the colleges. Similar to Australian VET institutions, Canadian colleges are more common in rural and less economically privileged locations than are universities. By offering degree programs (or access to these at university), colleges may address the barriers to participation in university that students in these areas commonly face (Frenette 2006). In Australia, there is an over-representation of students from rural and low socio-economic areas in VET (Foley 2007). However, young people from these areas are currently undertaking relatively low-level qualifications in the sector, and this may perpetuate their disadvantaged economic position.

5. Conclusions and Policy Implications

The results of this article's analysis recommend a re-evaluation of the role of non-university institutions in expanding the accessibility of higher education in Australia. Such a role has been contemplated before. Indeed, as Moodie (2008: 29–31) recounts, prior to the 1960s technical colleges did have a role in providing professionally recognised degrees in engineering at least. This role apparently changed in the mid 1960s, when the Australian government rejected a proposal put forward by technical colleges for them to become a second sector of tertiary education with dual roles in skills development and the provision of two-year higher education programs. In the 1970s, the Kangan committee of inquiry into technical and vocational education also put forward a proposal for 'community type colleges' which would offer programs up to the diploma level in order to improve the accessibility of higher education to students in non-metropolitan areas. However, again, this was not accepted into policy. Recently, the Bradley et al. (2008) review of higher education has advocated a range of measures to improve progression from VET to higher education, especially by low socio-economic status and regionally based individuals. The acceptance of these recommendations by the Commonwealth government in 2009 implies that Australia's system of post-school education may yet evolve to become more like the Canadian model.

The Canadian evidence assembled in this article indicates that such a change could be positive. The degree programs offered by 'second-tier' post-school institutions appear to play a role in improving participation in post-school education. Large numbers of young Canadian women access degrees and other creden-

https://doi.org/10.1177/103530461102200309 Published online by Cambridge University Press

tials via this route, as indicated by the high participation rates in college-level education. The finding that relatively high academic performance in secondary school is a statistically significant determinant of the likelihood of participation in college-level education further indicates the attractiveness of the college programs to young women. The young women may be attracted by the ability to secure degree-level qualifications in a range of fields and, perhaps, also by the locational and cost advantages that the colleges offer over university study. Australian VET institutions currently have similar locational and cost attributes. What they lack, in comparative terms, is the ability to offer degree programs or programs of study that are clearly articulated with university degree programs.

If the role of VET is to be expanded in this fashion, the possible advantages in terms of improved participation in post-school education will need to be monitored, along with a number of other possible outcomes. These include distributional impacts. It is not certain that such a change will address the barriers to education encountered by students from low socio-economic backgrounds. The results of the current study indicate that the Canadian college system is accessed by young women with relatively high socio-economic characteristics. Young Canadian women from less privileged backgrounds have low rates of engagement in post-school study, despite Canada's extensive system of community colleges. In Australia, the students who currently make use of the relatively small number of opportunities to move from the VET system into university typically come from relatively privileged backgrounds (Moodie 2008: 31). Alone, therefore, expansion of the VET system is unlikely to substantially increase the participation of the most disadvantaged groups in higher education.

It is also important for policy makers to consider whether expanding the second tier of post-school education is a better option than expanding the university sector. The Canadian results presented in this article indicate that the college system may have some attributes that the universities find difficult to match. However, evidence compiled by Alfonso (2006) indicates that outcomes for students in the community college system are not necessarily optimal,[9] raising the question of whether students' chances of successfully completing their degrees would be improved if they were enrolled directly into a university rather than into a preliminary college program.

An expansion in the role of VET in the provision of degrees will also involve costs and benefits for the sector associated with an expanded and more diverse range of educational functions. As Dougherty (2008: 7) notes, 'comprehensiveness has often been decried in both England and the United States', with a preference expressed instead for non-university institutions to specialise in the provision of sub-baccalaureate higher education and vocational education. However, against this, the apparent success of the Canadian colleges in attracting and graduating large numbers of students suggests that a diverse range of programs can be accomplished and a well-functioning second tier in post-school education can serve to promote high rates of participation.

Appendix

Weighted means and frequencies in YITS (cohort B, 2000) and LSAY95 samples: young women

	YITS mean	LSAY mean
Aboriginal	.0340	.0230
Rural	.1950	.4630
Language first learnt was English or French (English in Australia)	.8727	.8791
Physical or mental problem limits school work	.0666	.0200
In lowest 4% of achievers	.0231	.0429
In second lowest group of achievers, 5th to 25th percentile	.1305	.2451
In third lowest group of achievers, 26th to 66th percentile	.4039	.4487
In second top group of achievers, 67th to 93rd percentile	.3685	.2183
In top group of achievers, 93rd to 100th percentile	.0740	.0450
Completed Year 12 or 13	.6417	.8342
Mother has university qualification	.1695	.3217
Mother has other post-school qualification	.2168	.1871
Mother has only high school qualification	.4101	.0523
Mother has less than high school	.1656	.1770
No mother/no education data available (Australia)	.0380	.2618
Father has university qualification	.1918	.2421
Father has other post-school qualification	.1616	.1274
Father has only high school qualification	.2741	.1526
Father has less than high school	.1628	.1723
No father/no education data available (Australia)	.2097	.3056
State of schooling (Australia): New South Wales		.3201
State of schooling (Australia): Victoria		.2460
State of schooling (Australia): Queensland		.1933
State of schooling (Australia): South Australia		.0796
State of schooling (Australia): the Northern Territory		.0079
State of schooling (Australia): Western Australia		.1031
State of schooling (Australia): Tasmania		.0301
Province of schooling (Canada): Newfoundland or Labrador	.0201	
Province of schooling (Canada): Prince Edward Island	.0050	
Province of schooling (Canada): Nova Scotia	.0312	
Province of schooling (Canada): New Brunswick	.0247	
Province of schooling (Canada): Quebec	.2467	
Province of schooling (Canada): Ontario	.3658	
Province of schooling (Canada): Manitoba	.0366	
Province of schooling (Canada): Saskatchewan	.0333	
Province of schooling (Canada): Alberta	.1068	
Province of schooling (Canada): British Columbia	.1299	
Sample N	8651	4210

Source: YITS (cohort B 2000) and LSAY95.

https://doi.org/10.1177/103530461102200309 Published online by Cambridge University Press

Notes

1. The OECD identifies two types of tertiary programs. Tertiary–type A programs are defined as largely theory based and are designed to provide sufficient qualifications for entry to advanced research programs and professions with high skill requirements, such as medicine, dentistry and architecture. They have a minimum cumulative theoretical duration (at the tertiary level) of three years full-time equivalent. Tertiary–type B programs are typically shorter and focus on practical, technical or occupational skills for direct entry into the labour market. They have a minimum duration of two years full-time equivalent at the tertiary level.
2. There are some state-by-state variations in school starting ages, which could result in some students being slightly older or younger than 14 in Year 9.
3. Due to state-by-state variations in school starting ages and the retention of some students in school beyond age 18, a small proportion of LSAY95 students are still at school and not available to enter post-school education.
4. Sample attrition and differences between the original characteristics of the sample and the underlying population of interest necessitated the application of weights in the analysis. A full description of the design of these weights is in Marks and Long (2000).
5. Further disaggregation of qualifications is not possible due to cell size restrictions and issues with the comparability of finely defined qualifications in the two countries.
6. Due to cell size restrictions, this study groups together South Australia and the Northern Territory. It is acknowledged that this limits the accuracy of the measure of economic opportunity for students in each state and territory.
7. The YITS categories are fixed. Thus, it is not possible to organise the results into deciles or quartiles.
8. Although field of study data is not available for all students in the YITS data, college courses with relatively large enrolments of young women include business and commerce, business administration, financial management, accounting, public administration, and marketing (authors' own analysis of YITS cohort B, cycle 1 data).
9. Alfonso (2006) showed that students' chances of success in four-year degree programs are *reduced* by their participation in community colleges.

References

Alfonso, M. (2006) 'The impact of community college attendance on baccalaureate attainment', *Research in Higher Education*, 47(8), pp. 873–903.

Boudarbat, B. and Montmarquette, C. (2009) 'Choice of fields of study of university Canadian graduates: The role of gender and their parents' education', *Education Economics*, 17(2), pp. 185–213.

Bradley, D., Noonan, P., Nugent, H. and Scales, P. (2008) *Review of Australian Higher Education: Final Report*, December, Department of Education, Employment and Workplace Relations, Canberra.

Christofides, L., Hoy, M. and Yang, L. (2009) 'Participation in Canadian universities: The gender imbalance (1977–2005)', *Economics of Education Review*, 29, pp. 400–410.

Curtis, D. (2008) *VET Pathways Taken by School Leavers: Longitudinal Surveys of Australian Youth*, Research Report 52, Australian Council for Educational Research, Melbourne.

Dougherty, K. (2008) 'English education through American eyes' in K. Dougherty, J. Gallacher, G. Jones, G. Moodie, P. Scott and G. Stanton (eds) *International and Contextual Studies*, Universal Access and Dual Regimes of Further and Higher Education: Working Paper 1, University of Sheffield, pp. 4–18, available: http://www.shef.ac.uk/content/1/c6/09/05/55/Microsoft%20Word% 20-%20WorkingPaper1InternationalandContextualStudies.pdf [accessed 21 December 2008].

Dubois, J. (2002) *What Influences Young Canadians to Pursue Post-Secondary Education?* Human Resources Development Canada, Hull, Quebec.

Dwyer, P. and Wyn, J. (1998) 'Post-compulsory education policy in Australia and its impact on participant pathways and outcomes in the 1990s', *Journal of Education Policy*, 13(3), pp. 285–300.

Finnie, R. and Frenette, M. (2003) 'Earning differences by major field of study: Evidence from three cohorts of recent Canadian graduates', *Economics of Education Review*, 22, pp. 179–192.

Foley, P. (2007) *The Socio-Economic Status of Vocational Education and Training Students in Australia*, NCVER (National Centre for Vocational Education and Research), Adelaide.

Frenette, M. (2006) 'Too far to go on? Distance to school and university participation', *Education Economics*, 14(1), pp. 31–58.

Human Resources Development Canada (HRDC) (2000) *Youth in Transition Survey: Project Overview*, Report T-00-5E, September, Hull, Quebec.

James, R. (2002) *Background and Higher Education Participation: An Analysis of School Students' Aspirations and Expectations*, Centre for the Study of Higher Education, University of Melbourne, Melbourne, available: http://www.dest.gov.au/archive/highered/eippubs/eip02_5/eip02_5.pdf [accessed 9 April 2010].

Jones, G. (2008) 'Dual-sector institutions: A Canadian commentary' in K. Dougherty, J. Gallacher, G. Jones, G. Moodie, P. Scott and G. Stanton (eds) *International and Contextual Studies*, Universal Access and Dual Regimes of Further and Higher Education: Working Paper 1, University of Sheffield, pp. 19–25, available: http://www. shef.ac.uk/content/1/c6/09/05/55/Microsoft%20Word%20-%20WorkingPaper1InternationalandContextualStudies.pdf [accessed 21 December 2008].

Kangan, M. (1974) *TAFE in Australia: Report on Needs in Technical and Further Education*, Australian Government Publishing Service, Canberra.

Le, A. and Miller, P. (2002) 'The rising education levels of females in Australia', *Education Economics*, 10(1), pp. 1–24.

Lenton, P. (2005) 'The school-to-work transitions in England and Wales', *Journal of Economic Studies*, 32(2), pp. 88–113.

Marks, G. and Long, M. (2000) *Weighting the 1995 Year 9 Cohort Sample for Differential Response Rates and Sample Attrition*, LSAY Technical Paper No. 15, Australian Council for Educational Research, Melbourne.

Miles, R. and Rickert, M. (2009) *Women and Vocational Education and Training: Strategies for Gender Inclusive Vet Reform*, Security4Women, Canberra.

Moodie, G. (2008) 'The significance of Australian vocational education institutions in opening access to higher education' in K. Dougherty, J. Gallacher, G. Jones, G. Moodie, P. Scott and G. Stanton (eds) *International and Contextual Studies*, Universal Access and Dual Regimes of Further and Higher Education: Working Paper 1, University of Sheffield, pp. 26–34, available: http://www.shef.ac.uk/content/1/c6/09/05/55/Microsoft%20Word%20-%20WorkingPaper1Internationaland ContextualStudies.pdf [accessed 21 December 2008].

Moodie, G., Wheelahan, L., Billett, S. and Kelly, A. (2009) *Higher Education in TAFE: An Issues Paper*, NCVER, Adelaide.

Mueller, R. and Rockerbie, D. (2005) 'Determining demand for university education in Ontario by type of student', *Economics of Education Review*, 24, pp. 469–483.

Organisation for Economic Cooperation and Development (OECD) (2006) *Education at a Glance*, OECD, Paris.

Organisation for Economic Cooperation and Development (OECD) (2008a) *OECD Employment Outlook*, OECD, Paris.

Organisation for Economic Cooperation and Development (OECD) (2008b) *Jobs for Youth: Canada*, OECD, Paris.

About the Authors

» **Associate Professor Siobhan Austen** works in the Department of Economics and Finance at Curtin University of Technology. She is Co-Director of the Women in Social and Economic Research (WISER) unit and Director of the Centre for Research in Applied Economics (CRAE). She is currently engaged in a range of research projects relating to women's status in the economy. She can be contacted at siobhan.austen@cbs.curtin.edu.au.

» **Dr. Fiona MacPhail** is Professor at the University of Northern British Columbia. Her research focuses on labour, inequality, economic security and gender equality in Canada and in Asia. She can be contacted at macphail@unbc.ca.

https://doi.org/10.1177/103530461102200309 Published online by Cambridge University Press