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Apprenticeships should work for women too!

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Apprenticeships should work for women too!

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Abstract

Purpose – The purpose of this paper is to explore some of the issues affecting successful employment outcomes for young women in male-dominated careers, focusing on those generally accessed via a traditional Australian apprenticeship model. Current patterns of participation in trades-based fields of education and training reinforce the highly gender segregated nature of the Australian Labour Force. Women are particularly under-represented in the large industries of construction, mining and utilities, where female employees account for only around 12, 15 and 23 per cent of employees, respectively, an issue of concern both in terms of increased economic participation of women and girls, and gender equality more broadly. The foundations for transition from education and training to employment are established during school. It is during these formative years that young men and women have notions of what is possible for them, and what is not possible, reinforced. Unfortunately, gendered stereotypes and perceptions around certain career options for young women are still reinforced within schools and create barriers to widening young women's participation in a range of careers, particularly in fields traditionally dominated by males. The paper discusses strategies supporting initial apprenticeship opportunities for young women, and supportive structures to help women and girls build careers in these industries.

Design/methodology/approach – This paper draws from a mixed method study, involving a national electronic survey of educators, industry and community groups, and a range of semi-structured interviews. Whilst the major study focused primarily on career exploration in relation to young women taking on careers in science, technology, engineering and mathematics and non-traditional industries, this paper focuses on one aspect of this study, young women taking up an apprenticeship in a male-dominated career. The research around career exploration was undertaken in 2014, and this paper has placed it in the current context of falling apprenticeships and increasing pressures to increase the number of women and girls employed in a wider range of careers.

Findings – The findings of this particular study consider the barriers to young women taking on apprenticeships and identify strategies that hopefully will produce more successful pathways. This paper can be seen as adding to the public discourse to address the Australian Government's stated reform objective in vocational education and training (VET), that trade apprenticeships are appropriately valued and used as career pathways.

Originality/value – This paper can be seen as adding to the public discourse to address the Australian Government's stated VET reform objective, that trade apprenticeships are appropriately valued and used as career pathways.

Keywords Partnerships, Gender, Apprenticeships, Career exploration, Educational models

Paper type Research paper



Introduction

Apprenticeships have been a key mechanism of skill development since the pre-industrial ages, and have been positioned as an essential ingredient of an efficient education system as they secure qualifications, workforce and competitiveness. In their history of apprenticeships, Karmel and Misko (2009) note that “the traditional apprentice was a young man working full-time in a trade”, but that this model of

employment and training “now applied to a broader sector of occupations and a wider sector of the population”.

Current patterns of participation in trades-based fields of education and training reinforce the highly gender segregated nature of the Australian Labour Force. Far fewer young women than young men are entering post-school studies in these industry areas underpinned by an employment-based model of training. Whilst women represent almost 46 per cent of all Australian employees (Australian Bureau of Statistics, 2014), in the industries of construction, mining and utilities, women account for only around 12, 15 and 23 per cent of employees, respectively. Negative experiences and/or perceptions of workplace cultures in some industries with low-female participation, discourage young women’s engagement in associated study pathways. These anomalies indicate a need for a range of interventions including career exploration whilst at school.

Despite consistent evidence of the economic demands and returns of apprenticeship training (Australian Apprentices Taskforce, 2011; Karmel and Mlotkowski, 2008) the number of women and girls taking on apprenticeships has changed little over recent years. This is further evidence of a dilemma in Australian employment-based training: it appears that apprenticeships as currently configured are not working for women and girls.

This paper draws from a study undertaken by researchers from Women in Adult and Vocational Education (WAVE) and the Centre for Vocational and Educational Policy in 2014. Whilst the larger study included ways to support young women taking up careers involving science, technology, engineering and mathematics (STEM) studies more generally, this paper focuses on one part of this study, that is in relation to young women entering male-dominated careers through apprenticeships. The research questions used to focus this study were:

- RQ1.* What are the current barriers to uptake of apprenticeships among young women in the male-dominated industries?
- RQ2.* What changes through career exploration and other programmes would facilitate greater levels of sustainable participation?

The discussion resulting from the research undertaken sets out to synthesise findings which identify implications for how we think about apprenticeships for young women broadly and for young women in non-traditional occupations specifically. It begins by outlining the current research and policy perspectives on Australian apprenticeships and decent work for women and girls. It draws on the existing body of literature and evidence of barriers that exist to a wider participation of women and girls in many male-dominated occupations. This includes a focus on what is already known about the ways that schools support girls in career exploration activities. The paper concludes by drawing on empirical evidence generated through a broad range of consultations, including a national survey and a range of semi-structured interviews, to present a range of strategies that may enable education stakeholders working with young women and supporting apprenticeship pathways. This includes examples of supportive structures and programmes currently in place and suggestions as to how they can be enhanced and implemented more broadly.

There are a number of drivers that made this study of particular interest and concern, including:

- Calls by organisations and governments nationally and internationally for greater numbers of young women to undertake a career in what are considered to be

traditionally male-dominated trades, including the construction and engineering industries. These calls reflect concerns around the need to build economic productivity and to address continuing gender inequality (OECD, 2014).

- Increasing concerns over falling numbers of young people, with particular emphasis on young women, studying science, maths and ICT at school and post-school, whether at a professional or para-professional level (Professionals Australia, 2015). Such subjects are often required for the successful take-up of an apprenticeship.
- Falling apprenticeships numbers in Australia in both take-ups and completions (NCVER, 2015), leading to concerns around the future availability of skilled workers in Australia.
- The need to more vigorously reduce the gender gap in the workforce, with the aim of not just increasing female employment rates, but also to help achieve equality and empowerment for women and girls (UN Women, 2015; Osborne-Crowley, 2014), and to ensure that women's work is valued no matter what job they are undertaking (Pocock, 2007).
- Young women not entering many in-demand and high-income occupations in increased numbers, and gendered stereotypes and perceptions of many occupations which appear to be still reinforced within schools.
- Young women continuing to have negative experiences and/or perceptions of workplace cultures and occupations with low-female participation, discouraging study pathways in male-dominated occupations.

Literature review

The question of gender imbalance within traditional trades occupations and male-dominated industries is not extensively examined within current apprenticeship literature. Rather, the dominant themes emerging focus on changes to the apprenticeship system overall or the economic requirements for expanding the involvement of women and girls in the workforce generally. The literature review provided here will therefore focus on various aspects of the gender imbalance dilemma in Australian apprenticeships. This includes an awareness of where employment-based training is located within the broader youth transitions landscape, cultural attitudes in male-dominated industries and the community more broadly that may shape the perceptions and pathways of young women, and the nature and provision of career advice and gendered participation rates in training.

This examination of the role of employment-based training for young women, is situated within the broader field of youth transitions. The theoretical works of Graaf and Zenderen (2013) and Te Riele (2012) provide a framework for considering the impact of system architecture on the decision-making of young apprentices and the behaviours of providers and employers working with young apprentices within the Australian vocational education and training (VET) landscape. There is a paucity of empirical evidence to consider the labour market benefits of vocational training and its usefulness in supporting youth transitions from school to work (Ryan, 1999). As Bosch and Charest (2008) argue, structural and institutional relations in education and the labour market, play a key role in shaping the efficacy of employment-based training in skill formation.

International research examining the impact or effectiveness of VET programmes and provision for young people has often focused on four key themes: provider type, status and quality (McGregor and Mills, 2012), qualifications and instruction (Construction and Property Services Industry Skills Council, 2013; NCVET, 2014; Wogboroma, 2014), staff/teacher capabilities for working with marginalised young people (Black *et al.*, 2012; McGregor and Mills, 2012; Wogboroma 2014) and holistic measures of support operating alongside or within VET programmes (Sissons and Jones, 2012; Construction and Property Services Industry Skills Council, 2013).

While there is evidence of particular strong benefits for young people undertaking further education and training at the intermediate and tertiary level, the labour market benefits of participation in these programmes are often jeopardised by attrition and non-completion (Stanwick, 2005). This risk is exacerbated within lower level VET programmes (Stanwick, 2005) and employment-based training where a range of factors contributed to low completion and high-attrition rates (Callan, 2008; Volkoff and Jones, 2007; Huntly Consulting Group Pty Ltd, 2008; Group Training Australia, 2005; Harris *et al.*, 2001). In instances of non-completion, there is also evidence that skills obtained in partially completed training contracts, have declining currency in a knowledge-based economy (Stanwick, 2005).

A focus within the Australian literature has been advocating for more women and girls engaging in a wider range of jobs within the Australian labour market (OECD, 2012). Critical examination of the Australian apprenticeship system is also a frequent feature of the existing literature (Dickie *et al.*, 2011; Smith, 2006; Karmel and Misko, 2009; Billett, 2015).

To find a broader discussion around women and girls in apprenticeships, one has to look back over a decade of youth transitions policy and practice. Department of Prime Minister and Cabinet – Office of the Status of Women (1985) identified workforce barriers for women as industry segmentation, women in low skilled and/or low-status jobs, and wage differentials. The report states that: “to increase the status of women in the labour force, it is necessary to move any barriers that prevent women from competing for jobs in a wider range of occupations and to diversify the range of skills available to them”. To achieve such changes the report suggests that support structures for women and girls should include mentors, networks and female-friendly workplaces.

More recent Australian apprenticeship literature has focused on improving the apprenticeship system, increasing completions, the appropriateness of the learning, the nature of contracts of employment and the systemic and employer costs of apprenticeships. Yet many of the issues identified and strategies proposed, relate strongly to the support required by women and girls in taking up apprenticeships in the non-traditional trades, including the balance and partnerships required for a successful learning experience (Mitchell *et al.*, 2008; Dickie *et al.*, 2011).

A key theme emerging from the Australian literature is the need for support infrastructure to enable successful apprenticeship training completion. The Australian Government Skills Connect (2013) report identified support services in making a difference to apprenticeship outcomes, especially for those at risk of not completing, but the report does not identify gender as an issue of account. Other research on apprenticeships (Dickie *et al.*, 2011; Smith, 2006) describe the possible benefits of careful attraction and selection of recruits, matching employers and apprentices and providing career pathways for apprentices, reflecting aspects of effective career exploration and opportunities for young women identified in this study.

The Government convened “expert panel on apprenticeships” (Australian Government, 2011) identified gender issues as being significant, noting that currently there appeared “to be no effective strategies to encourage males and females to undertake apprenticeships and traineeships in non-traditional occupations, such as, males in aged care and child care, woman in the traditional trades”. The expert panel recommended raising the status of apprenticeships, which they saw as having an effective spin-off in addressing the current gender imbalance in a number of occupations.

Feminist literature identifies expanded job and training opportunities as significant in relation to gender equality and economic empowerment, including the recent G20 economic growth targets (OECD, 2012; UN Women, 2015; Osborne-Crowley, 2014; Broderick, 2013). The Grattan Institute in its 2012 report “Game-changers” also noted that within the context of current skills shortages in Australia, attracting and retaining underutilised sources of talent, including women, is essential to economic growth and prosperity (Daley *et al.*, 2012).

Within the apprenticeship literature, the role of workplace cultures and occupational stereotypes is described as having a significant impact on student attitudes to participating in employment-based training in traditional trades occupations. Consistent patterns of gender segregation in the trades has been attributed to the views of male/female roles being perpetuated through popular culture, and the past industrial protection of the manual trades and higher pay for men (Struthers, 2015). Similarly, Shewring (2008) describes cultural attitudes and practices as affecting the access of women and girls to a career in a non-traditional trade. Shewring argues that the breaking down of the divisions of what is men’s and women’s work is an important step in challenging stereotypes, changing gender relations and creating a new and dynamic workforce. Struthers (2015), in considering the question “Where are the female tradies?” suggests that the “blokey” image of traditional trades may put girls off. Struthers argues that female role models from traditional trades occupations are one important strategy for combatting this dilemma of stereotypes.

In their report “Raising the global ambition for girls’ education”, Winthrop and McGivney (2014) explain that getting girls into and finishing school is just the start of addressing the problem. The authors highlight the improvements in life prospects for girls who complete secondary school and the benefits for women and their societies. “Women who are educated and work are more productive, gain greater control over family income and decision-making, and invest more in their families” (Winthrop and McGivney, 2014, p. 9). However, women are more likely to be employed in “vulnerable” jobs, often unpaid and without benefits and security (Winthrop and McGivney, 2014; Hutchinson and Jackson, 2007). The issue of meaningful or “decent” employment for women is picked up by Pocock (2007), who in writing on “decent work” reflects on the gender disparities in relation to jobs:

Women still make up only a small percentage of apprentices and workers in traditionally male-dominated occupations like building, electronics, mining, engineering and manufacturing. Campaigns to increase women’s share of these higher paid, skilled jobs have often met with very strong resistance from men. Women often face harassment, isolation and resistance when entering male-dominated jobs. While mentoring and a “critical mass” of women in any group of workers (for example, more than 10% or five women) have been strategies that help, Australia’s experience suggests that employment programs to help women enter occupations that are long male-dominated have limited success. We have had

more success in encouraging women to enter new and emerging areas of employment – like computing – and into more senior levels of feminised industries and occupations, than increasing their share of traditionally male jobs (Pocock, 2007).

The reasons for the disparities between educational achievement and employment opportunity are complex. According to Winthrop and McGivney (2014) these disparities are firmly based in cultural expectations, which play a significant role in career exploration for young women, and can affect their views of some of the male-dominated occupations. High-achieving female students seem to be breaking through the gender barriers in the typically male-dominated professions more than their peers in vocational education pathways. The enrolment of female university students in engineering in Australia, for example, is around 15 per cent, although it had reached 22 per cent at UNSW. However, the enrolment of female apprentices and trainees in male-dominated vocational courses, such as electro-technology, automotive and engineering, and construction sits under 5 per cent (Struthers, 2016).

The findings from some of the recent studies into the low numbers of girls studying STEM-related subjects at school, or pursuing them in their tertiary studies (Buxton and Westwell, 2014; King, 2008; The Australian Industry Group, 2015), can provide advice also relevant to apprenticeships. A study undertaken by the Australian Council of Engineering Deans (King, 2008) concluded that career advice programmes needed to provide a more accurate understanding of the engineering profession to school students. With low numbers of women and girls entering these occupations, the report stated, there will continue to be few role models for young girls to emulate and the cycle will simply perpetuate itself. Similar issues are identified in this paper.

Despite a strong policy-focus on traditional trade apprenticeships within current approaches to VET in Schools (Clarke, 2013) and current government policy, participation data indicate that apprenticeship pathways continue to be relatively weak for young women (Rothman *et al.*, 2011). Female school leavers aged 15-19 are less likely to enrol in VET study fields (see, Figure 1), suggesting there is an ongoing pattern of gendered educational participation that reinforces occupational outcomes, with women occupying many of the low-skilled and precarious jobs in a highly competitive job market (McMillan and Curtis, 2008).

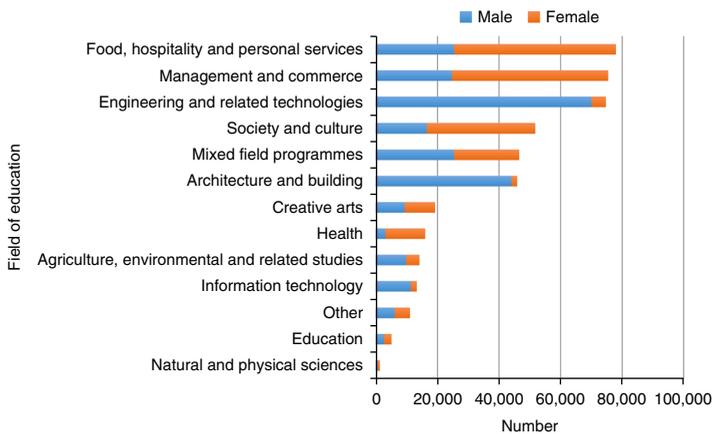


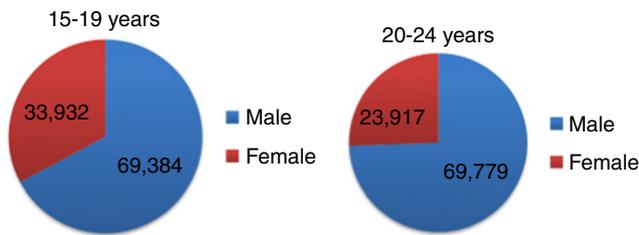
Figure 1. Number of students 15-19 years of age, enrolled in vocational education and training (VET) courses, by field of study and gender, 2013

Source: NCVER Vocstats Students and Courses (2014)

Within this context, effective and coherent approaches to career exploration that support pathways to secure and skilled occupations for young women are important. UN Women found that “In 88 out of 102 countries reporting data in the period 2005-2012, women accounted for the majority of graduates in the field of education. By contrast, in the area of engineering, manufacturing and construction, men constituted the majority of graduates in 99 out of 103 countries with data in the same period” (UN Women, 2015). The same gender patterns apply in the apprenticeship and traineeship groups in Australia, with few females entering architecture and building, and engineering and related technologies fields of study, according to the National Centre for Vocational Education Research (NCVER, 2014).

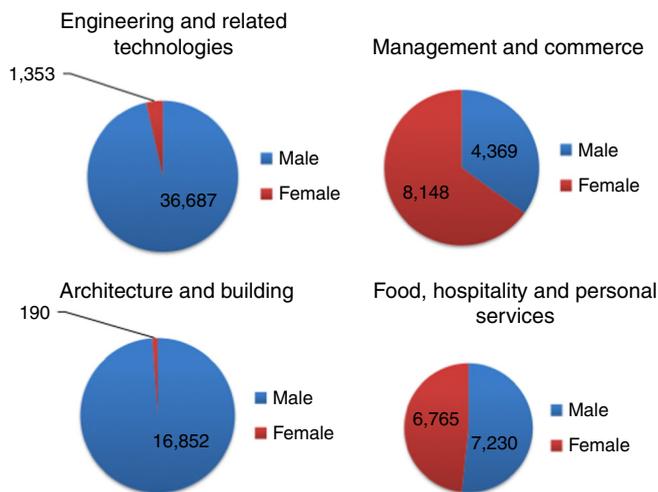
The gender participation patterns in apprenticeships are clear from Figures 2 and 3. The NCVER data classify apprenticeships and traineeships together, although recognising that women and girls are more highly represented in traineeships which include lower paid industries such as retail and hospitality. NCVER data show that from 2009 to 2013, the proportion of women commencing a trade apprenticeship (or traineeship) has remained a steady 15 per cent, compared to 84.9 per cent of males in 2013 (NCVER, 2014). Along with their male counterparts, the numbers of women and

Figure 2. Apprenticeship/traineeship participation rates, by gender, 15-19 year olds and 20-24 year olds, 2014



Source: NCVER Vocstats Students and Courses (2014)

Figure 3. Apprenticeship/traineeship participation, by gender, in key occupational areas, 2014



Source: NCVER Vocstats Students and Courses (2014)

girls taking on apprenticeships has continued to fall since 2012, with the gap between male and female completions also growing (NCVER, 2015). Women are almost wholly concentrated in the lower paid trades of hairdressing and food. This contrasts sharply with the approximate 54 per cent of women making up apprentice commencements in the non-trade occupations.

What a review of the existing apprenticeship and youth transitions literature demonstrated was that while there is a general awareness and concern regarding consistent gender imbalance within a range of key occupations in the Australian labour market, limited empirical work has been undertaken to identify and explore solutions to the barriers previously identified. Within the study from which this paper draws, the researchers aimed to move beyond a re-articulation of the barriers and challenges. The aim was to generate a broader illustration of the strategies and solutions being attempted by stakeholders working with young women.

Methods and research design

This paper draws from a mixed-method study, including a national online survey of career exploration stakeholders ($n = 217$), followed up by semi-structured interviews with those who had either expressed interest in discussing the issues further including possible models of good practice, or who were targeted as having undertaken some critical work in this field.

Invitations for participation in the online survey were sent to federal and state/territory education departments and departments responsible for women and women's affairs, peak bodies responsible for career education, industry bodies and unions, careers advisers and teachers in secondary schools, non-profit organisations, VET institutions and academics with an interest in the field. The rationale for the large target sample was to generate data on a breadth of perspectives on the complex issue of careers education and young women's pathways to non-traditional careers. As one focus of the work was young women entering male-dominated occupations or non-traditional occupations, we specifically sought the views of the relevant industry groups as to their responses and perspectives on strategies that do and do not work. For the purposes of the survey and interviews, and within this paper, "non-traditional occupations" for young women were those defined as male-dominated occupations including traditional trades apprenticeships. Respondents to the online survey held a range of positions and roles relevant to career exploration. Respondents included career education and career guidance practitioners ($n = 56$), practitioners and researchers within the higher education and VET sector ($n = 26$), VET in schools and/or pathways coordinators ($n = 21$), industry representatives ($n = 21$), representatives from government departments and policy making authorities ($n = 17$), school principals and teachers ($n = 10$) and respondents who were playing a mentoring role of young women in industry ($n = 6$).

The questions asked in the survey covered two areas: the weaknesses of current career exploration approaches in schools and what is needed to strengthen them; and the enablers of successful/effective models including at a policy level and those that involved partnerships with industry and community. The open section of the survey asked for details of best practice programmes/services/models, and it was mainly from this latter provision of information that respondents were followed up through the semi-structured interviews. The questions sought to broaden the understanding of the researchers around current barriers to young women taking on a career in a

non-traditional occupation (or a STEM occupation), and to identify approaches/programmes/models that effectively support young women in these pathways.

Following this survey in 2014, a series of semi-structured interviews were conducted with 20 respondents who wanted to add more information to their written answers or who were working with successful programmes. As they covered most states/territories, the interviews were conducted over the telephone. One of the strong findings from the research related to the power of partnerships, between educational providers (schools and/or VET institutions) and industry associations or community organisations. Consequently many of the interviews were with these relevant bodies, including the Australian Workforce and Productivity Agency, SkillsOne, several Industry Skills Councils and those working with school/industry partnerships. In these semi-structured interviews, a range of questions were asked, but those relevant to this study covered the following areas:

- what successful programmes have you or your organisation been involved in that supported women and girls into a wider range of careers, including male-dominated careers;
- what made them successful; and
- what changes do you believe are necessary in current policies, structures and career exploration programmes to ensure the continuation and proliferation of such programmes.

The findings from these semi-structured interviews validated the initial results of the survey and the focus of the literature on programmes supporting girls at school to take up male-dominated careers and apprenticeships, and programmes to support women and girls in the workplace. The interviews also resulted in the inclusion of 20 case studies in the complete research project of models of successful programmes.

Results

The findings presented here relate to careers advice at school and young women taking up a career or further study for an apprenticeship in a male-dominated occupation, one aspect of this larger study. The findings also provided insights into successful models of career advice and the partnerships and practices that may support young women in non-traditional occupations. The online survey of 217 respondents gathered data from a range of perspectives and organisation types (see, Figure 4) from across Australia (see, Figure 5). The responses provided shed light on the following:

- the key strengths of current approaches to career exploration in schools;
- what is needed to further strengthen these approaches;
- the weaknesses, particularly in relation to young women, of exposure to STEM and non-traditional occupation pathways;
- the enablers for successful models of career exploration;
- what needs to happen at the policy level to address these weaknesses and promote positive models; and
- the enablers of effective partnerships between schools; and industry/community, and how they might be strengthened to become part of new, effective and sustainable programmes.

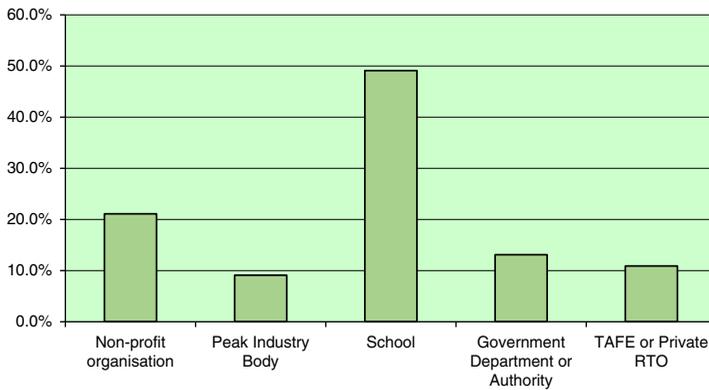


Figure 4. Online survey respondents by stakeholder type

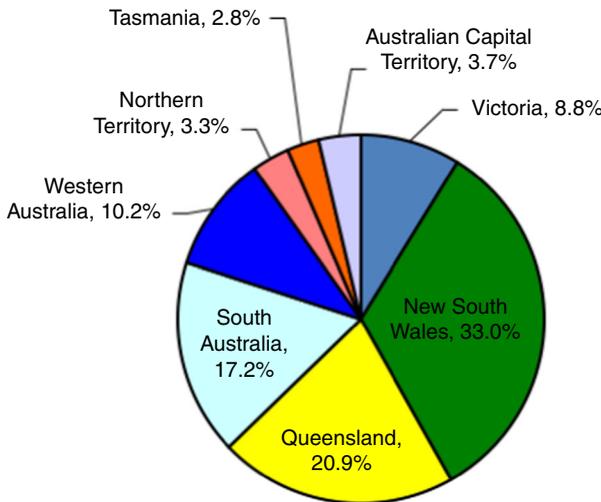


Figure 5. Survey respondents, by jurisdiction (per cent)

Challenges to young women entering apprenticeships

Survey respondents identified a range of factors perceived as contributing to gender differences in employment and study, particularly in industry areas served by apprenticeships in male-dominated occupations. These factors covered both school and post-school contexts, and were both cultural and systemic.

At the systemic level, survey responses indicated that there was general dissatisfaction with career exploration activities at schools, with the overwhelming view that many career advisers did not have the training or knowledge to be able to support young women into a wider variety of careers. There was also the view expressed by around half the respondents, that many schools were still focused on university entry and that VET programmes were not encouraged or if they were, only for those who were not felt to be capable of achieving a university entrance. Comments such as a “lack of real world experience” in schools, a need to be “hearing directly from women who have made it” and “schools are built on girls picking traditional girls subjects” are emblematic of the systemic concerns expressed by survey respondents.

Another consistent theme in the survey data was that young people received advice, which reinforced gender stereotypes, as to careers that they should appropriately pursue. Respondents described perceptions of male-dominated industries as too masculine or “blokey” and non-inclusive, with a higher tolerance of behaviours that could be viewed as sexual harassment, bullying and discrimination. Several survey respondents articulated that whether these perceptions were accurate or not, workplace cultures in male-dominated occupations, with long hours and a lack of support for flexible hours and work-life balance, further reinforced existing bias towards these occupations as being “suitable for a young woman”.

Classroom barriers described by survey respondents included, young girls being “intimidated physically, emotionally and intellectually in classes where males feel they should dominate” and a tendency in subjects related to non-traditional occupations to be “not always well matched to the way girls learn”.

While much of the criticism was targeted at the school level, respondents also described the problematic influence of the home and parental expectation on views of particular occupations and pathways. Respondents described a tendency for young women to discount particular careers where there was no family history, and congruently, where a young woman was enrolling in an apprenticeship, she tended to have a close relative in that industry. The challenge of overcoming family and parental stereotypes was described by one respondent as a perception issue that reinforces “workplaces of male dominated fields [as] not safe for a woman”.

Related to the responses about family and parental expectation, cultural factors that included perceptions, stereotypes and gender specific bias were frequent themes in the online survey. Respondents cited public and media representations of workplace cultures as working to reinforce gendered stereotypes for non-traditional occupations.

Enablers for supporting young women into apprenticeships

There was overwhelming support in the survey responses for sustainable programmes, with mentions that at a government level, specific strategies are required in order to redress the gender issues, and to support women and girls in taking up and remaining in apprenticeships. Responses included calls for “genuine commitment at all levels of government” to addressing gender imbalances in traditional trades, “policy commitment by national industry/business associations to “walk the talk” and “more incentives to employers”.

Respondents to the survey proposed a range of strategies, including mentors, partnerships and government policy supporting and funding significant changes. Enablers consistently described in the survey data include: “Access to industry events and careers days”, “an enthusiastic mentor in the field” and “aligning study with practical experience opportunities”.

The most endorsed enabler for addressing gender imbalances in apprenticeship uptake was role models. The use of role models was described as crucial to addressing the lack of awareness that meant that even with educational support, relatively few young women were choosing to consider and apply for roles within male-dominated industries. As one survey respondent described it, an opportunity for young girls to “hear about why women are sought after in these jobs and industries” was an important way of combatting gender stereotypes reinforced by well-meaning family members and school staff.

Role models were described by over half the respondents as an important factor in both maintaining the status quo and in driving change. This included both family role models and female role models at school, VET institutions or in the workplace. Survey respondents frequently cited the important role parents and families played in informing career decisions of young women. Parents with entrenched gendered perspectives of occupations themselves were described as hindering the take-up of varied careers by young women, or alternatively playing an important role in making young women aware of careers in the trades areas.

Several respondents emphasised that “having parents ‘on side’” was important in achieving changed attitudes. Respondents to the survey also expressed views consistent with research undertaken in 2014, that indicated the importance of female teachers, especially in the male-dominated trades areas, as role models and mentors for young women undertaking study in these occupations (Simon and Bonnici, 2014). Female role models were considered important as agents of change, reinforcing their role in supporting young women in taking up apprenticeships, including the role models in organisations such as Supporting and Linking Tradeswomen (SALT) and Fanelle (Female Apprenticeship Network Australia).

Strategies that work

In addition to identifying a range of factors contributing to a continuing gender segregation in male-dominated apprenticeship occupations and potential enablers to increasing female uptake of male-dominated apprenticeships, the survey data also sheds light on elements in career exploration for young women that could lead to increased participation in apprenticeships and careers in male-dominated industries.

Responses from survey participants tended to focus on strategies and practices that could be accessible to school aged young women. Findings from the survey revealed some common dimensions of strategies that have the potential to address barriers to young women entering training in male-dominated occupations. Feedback suggested a need for modifications to make a traditional apprenticeship a more appropriate mode of learning for women and girls. The findings from the survey and interviews also highlighted possible models of partnerships with industry and community organisations that would enable more effective and sustainable career exploration programmes. Provided below is a synthesis of the key dimensions and practices identified for addressing barriers to young women and girls entering traditionally male-dominated occupations.

In describing the characteristics of strategies that work, survey respondents emphasised the need for critical mass and support networks as vital to the success of apprenticeship programmes for young women. Common networks described were those stemming from workplace-based communities and industry associations. While networks were described as important at a school level, they were described as particularly crucial post-school when they were able to provide access to other females working in similar industries. Networks that enabled access to role models were seen as effective in cultivating the exchange of information and possible strategies to deal with “workplace culture” factors, as well as driving career development and promotional opportunities.

The survey data collected demonstrated that many of the enabling dimensions described above were being adopted and implemented within existing models of effective programmes and best practice. These models were then expanded through the

interviews, and as a result 20 case studies developed. Overall these models of good practice fell into two categories: at school and post-school. Regardless of their timing within the in-school/post-school transition, the strategies and programmes shared many similar traits. They drew heavily on partnerships between educational providers and industry/community and provision of information around “male-dominated careers” by experts/role models (generally female to enable young women to visualise women in these roles). Mentors, tasters and access to a range of work experience in these fields were also common features of successful programmes identified through this study. These strategies were seen by respondents to the survey and reinforced by interviewees in providing young women with both increased information around the range of apprenticeships available, and ways to envisage themselves working in male-dominated industries. They generally formed the basis of the identified successful programmes from the survey and interviews, and were seen as enablers that policy makers could adopt to address the weaknesses of current career exploration in schools and to enable a greater number of effective and supportive programmes for young women both in- and post-school.

Limitations of this study

Whilst there was valuable information collected through the survey and the semi-structured interviews, there were limitations as to the number of respondents who participated. The semi-structured interviews were conducted with each organisation or respondent separately, but the opportunity to bring these interested parties together may well have resulted in suggestions around a wider variety of programmes that could be trialled. Given the importance of partnerships to the ongoing success of programmes supporting women and girls, the opportunity to gather information through mixed focus groups could have generated innovative proposals and strategies to promote them.

Discussion

Whilst none of the data coming through from the 217 respondents to the survey is surprising, it is of concern that the data reinforces the perception of little change or improvement in female uptake of apprenticeships over the last decade or so. In 2004, Dickie and Fitzgerald (2004) wrote of the training choices made by women and girls, the lower number of women in apprenticeships and traineeships and the barriers to career progression for women VET teachers. These same concerns were reiterated by WAVE researchers in 2011 in the report “I can’t think of any occupation that women can’t do!”, which focused on the concentration of women in feminised fields of training and work, their underrepresentation in growth industries, and their lack of parity in wages. Drawing on a thematic summary of the survey data and the suggestions generated by the interviews, outlined below are six key themes emerging from the research, which seek to put front and centre the dimensions needed in response to limited uptake of apprenticeships in male-dominated careers, by young women. They seek to provide some answers to the research questions as to the current barriers to uptake of apprenticeships among young women in male-dominated industries, and the changes through career exploration and other programmes that would help to facilitate greater levels of sustainable participation. They cover a range of areas including those focused on changes in career exploration at school, and the enabling strategies identified by respondents to the survey and interviews.

Early and staged career exploration opportunities are needed

The survey and interview findings highlighted the need for early and coherently staged career exploration opportunities that enable young women to reflect on their own skills and interests while exploring relevant options in a broad range of industries, occupations and workplaces, thus extending the range of informed choices available to them. Staged career exploration adopts a cycle of activities that promote increasing depth and focus of exploration across the secondary school years, and should be commencing as early as possible in secondary school. This staged approach was described by survey participants as ideally including an opportunity for broad personal reflection on interests and capabilities before progressing to research on related industries and finally taster opportunities in roles and workplaces within a chosen industry.

These changes in career exploration programmes went hand-in-hand with professionalisation of career guidance in schools, so that practitioners were skilled in the professional techniques of career guidance and exploration, knowledgeable about learning opportunities and labour markets, and impartial and able to support individual needs of students including gender career opportunities through apprenticeships.

Through such approaches young women would have the chance to initially find out and then explore both apprenticeship opportunities generally and perhaps previously dismissed careers in male-dominated industries, including construction and engineering. This could then lead to taster opportunities in these industries, as expanded further below.

Taster opportunities are needed

The findings from the survey and reinforced by the programmes highlighted in the interviews, demonstrated that young women need low-stakes opportunities to “taste” and experience a wider range of career options prior to and during their senior secondary years of schooling. These taster opportunities are an important chance for young women to “try before they buy”, and were generally seen as crucial to “demystifying” some of the gendered perceptions of male-dominated apprenticeships and a career in the trades. These “taster” opportunities also included work experience and work placement opportunities, which enabled “female-friendly engagements”. The importance of these “female-friendly engagements” in male-dominated occupations, would assist young women in picturing themselves as a builder, engineer or mechanic, for example. Female role models were identified as an important component of successful programmes.

Role models are important in a range of areas

Highly visible female role models and mentors from male-dominated occupations were the most frequently mentioned enabler by those surveyed and interviewed in this study. Role models were described as being a crucial element to exposing young women to a broader range of career options. Respondents described the benefits to bringing successful women from non-traditional industries into schools to speak to classes and career days, and the use that schools could make of videos of successful women through resource kits and websites. Providing access for young women to female-led and female-friendly workplaces was seen as an important part of career exploration options, especially in the male-dominated industries. Young women needed to hear and experience the journeys that other women had made as apprentices in

male-dominated workplaces, and to be able to ask the questions about the barriers that might be faced in terms of workplace cultures and how these could be overcome.

Workplaces need to change

Experiences of negative workplace cultures were also identified by respondents to the survey as significant barriers for young women in undertaking an apprenticeship in a male-dominated industry. These actual experiences may have resulted through part-time roles and work experience during secondary school, or through the perceptions often reinforced by schools and peers, that workplace cultures in industries and occupations with low-female participation did not welcome female employees. Running parallel to changes in career exploration approaches in schools, there were implications for industry and employers to consider how their industries could address perceptions of negative workplace cultures and promote positive exploration opportunities for young women, particularly through apprenticeships. The successful programmes identified by interviewees also attempted to highlight the impact of female-friendly workplaces in helping to expand opportunities for tasters and careers for young women. Industry was a key factor in enabling such changes.

Industry engagement is key

Respondents to the survey and interviews, consistently placed great emphasis on the role of industry engagement in encouraging young women into male-dominated trades and apprenticeships. Industry led strategies that actively invited and supported both career exploration by young women and longer term female participation in male-dominated industries, occupations and careers, were important for the sustainability of programmes and changes to gendered employment patterns. Industry engagement with schools was important to enable access to non-traditional learning opportunities, with industry sponsorship of career exploration programmes identified as a way for young women to access work placements and work experience in female supportive workplaces. Such opportunities were considered particularly important for young women from rural and/or disadvantaged backgrounds. Intermediary organisations, such as partnership brokers, were able to play an important role in supporting career exploration opportunities, and could operate outside the marketised pressures that sometimes negatively influenced school career approaches. These included a range of educational, industry and community partnerships, with a strong message to Australian governments as to the need for policy changes.

Government policies that support these programmes and successful models

A strong case for reform of current Australian national policy emerged from the research data, both the survey and interviews. This includes explicit recommendations on the most effective approaches to career exploration, especially in relation to expanding career opportunities for young women. Such policy would also recognise the need for coherent national leadership to support schools to effectively embed career exploration activities within their curriculum. The need for sustainable resourcing to allow the strategies outlined above to be implemented on an ongoing basis was seen to be critical. Funding was also proposed not just for programmes for young women whilst at school but to enable industry brokers to work with industries and communities post-school. The importance of the continued operation of industry networks with mentors and role models was also highlighted, with support for

governments recognising their role in successfully addressing gender bias and stereotypes in male-dominated industries. The researchers were provided with examples of successful industry networks including Industry Women Central, SALT, Fanelle and the National Association of Women in Construction. These networks provided both ways in which young women could engage with apprenticeships in male-dominated occupations, and supportive mechanisms for those already working in these areas. Interviewees particularly stressed the need for government policy to recognise, expand and help fund these networks.

Research implications

One of the critical issues identified in this research, as well as others, is the need for sustainable programmes. Too often the story was told of programmes that did operate but collapsed when funding was withdrawn by government or other bodies. As part of the study websites were viewed which had been established to support women and girls working in male-dominated occupations, including automotive, aerospace, construction and mining. In a number of cases it appeared the websites were quite out of date and that the programmes were no longer in operation. There are further lessons to be learned in relation to these programmes, including whether they were successful, how did they measure that success and why they were no longer in operation. Such research could guide current programmes and the ways in which apprenticeships could be structured to ensure they worked for women too.

Conclusion

Australia, like many other industrialised education and employment systems, faces a consistent dilemma of women and girls being under-represented in key occupations. While substantial evidence exists of the factors contributing to this gender imbalance, this study set-out to identify possible practices and dimensions for ameliorating this ongoing problem. Outlining some of the findings on apprenticeships for women and girls from a larger research project on career exploration, the evidence provided in this paper has drawn on extensive consultations, including a survey and interviews, to highlight the importance of targeted and focused career advice for young women as an important ingredient in any strategy to address gender imbalances in employment-based training, particularly in apprenticeships in male-dominated occupations.

The findings presented in this paper also provide evidence of the need for changes to commence at the school level with a greater focus on a wider range of opportunities to “taste” a variety of careers, with some emphasis on the male-dominated occupations. Findings from the survey and interviews suggest that if schools can provide career exploration that is well-informed, connected with local industries and community groups, and which breaks down stereotypes and myths about the “right” job for girls, then this will be an initial step in the right direction.

However, solutions to the stubborn patterns of gender imbalance in vocational training and traditional trades are not a dilemma that is straightforward to address. Any reform to practices within schools need to be followed up with changes to the workplace, the visibility of female role models and the establishment of sustainable networks of women in industries. This study focused on the questions of what are the current barriers to uptake of apprenticeships among young women in the male-dominated industries, and what changes through career exploration and other programmes would facilitate greater levels of sustainable participation.

The challenge for policy makers is to provide the funding, knowledge and support so that successful models/approaches/strategies, some of which have been highlighted in this paper, can be adopted by schools and workplaces, and adapted to suit local needs and contexts. Young women both deserve and need the opportunity to pursue a wider variety of career paths than is currently the case, and their participation in a wider range of jobs is necessary for Australia's economic growth. The messages from this study require consideration by governments if Australia is to increase the numbers of women and girls taking up apprenticeships in male-dominated occupations, and remaining in these careers.

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