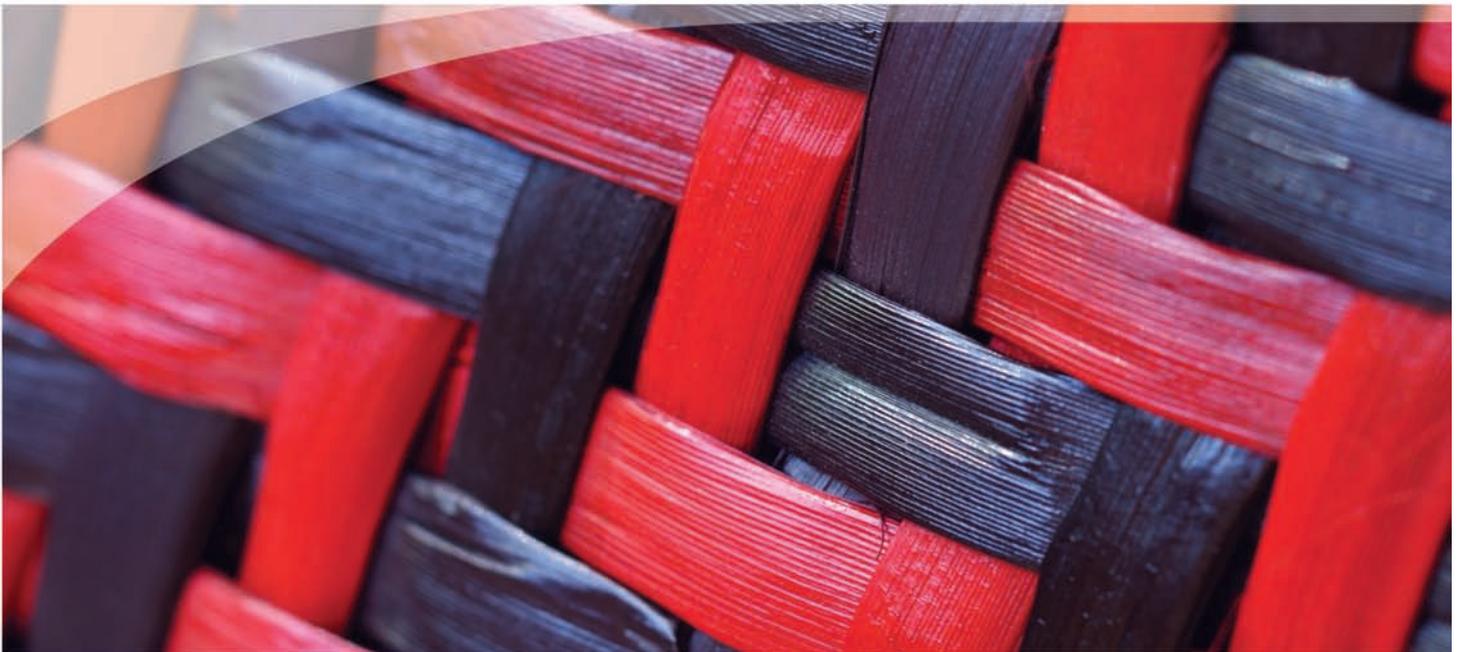


Trading Choices

Young people's career decisions and
gender segregation in the trades




MINISTRY OF WOMEN'S AFFAIRS
MINITANGA MŌ NGĀ WĀHINE



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Young people's career decisions and gender
segregation in the trades

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New Zealand Council for Educational Research

Josie Roberts, Ben Gardiner, Jane Gilbert, and Karen Vaughan

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Executive Summary

The Ministry of Women's Affairs commissioned this study as part of its plan to improve the economic independence of New Zealand women and to decrease gender segregation in the workforce, particularly in trades-related occupations. The research takes place at a time when policy makers from around the world are grappling with intensifying concerns about how policies and practices can best support young people's career development alongside their nation's economic and social well-being (Vaughan & Roberts, 2007, p. 92).

This study aimed to examine the interconnections between gender, gendered ideas, and careers decision making, with a particular focus on *how* and *why* young people navigate or avoid trades-related pathways. Our guiding questions were:

1. Do males and females experience the process of career decision making differently and/or inequitably?
2. If there are differences and/or inequities, where is the problem primarily located?
3. What policy – and other – levers could lead to a better gender balance in the trades, and/or an increase in women's economic independence?

Since recent literature shows that career decision making is now a lifelong journey (not a point-in-time) and career identity is an ever-evolving social process (not a final destination), we sought to answer these questions via focus groups and interviews with young people who ranged in age from junior secondary students to fully qualified employees. We spoke to 86 young women and men who were: in trades-related pathways and/or enrolled in subjects/courses/apprenticeships/occupations dominated by one sex (this could be their own sex or the other). Once our initial analysis was complete, we organised workshops designed to allow participants to give us feedback on this analysis.

Our findings disrupt the New Zealand 'pathways' framework's apparent promise of equal opportunities, limitless possibilities, and individual choices. We found that gender stereotypes and dominant hetero-normative discourse continue to have a major influence on young people as they imagine and try out possible selves. Interviewees' narratives reveal how narrow thinking about – and production of – gender in three contexts (family, friends, and society; schooling; and the trades and trade training process) make some career paths and identities more – or less – accessible to young women. At the same time, the narratives of some of the young tradeswomen we interviewed disrupted – transcended even – gender-normative discourses to varying degrees.

It is not possible to provide an exact 'recipe' of factors that result in particular career decisions or gendered perceptions of occupations; but some of the factors that appear to open up nontraditional trades-related pathway options for some young women, include:

- families that consciously disrupt gender norming (and/or other socially prescribed notions of status and success) and that are interested/active in trades-related areas

- media and careers information that realistically presents (credible) individuals/characters in (realistic) nontraditional careers, in addition to further support for young people's capacity to make sense of (and perhaps critique) media/information messages
- schooling that minimises an academic/vocational divide, and provides active support for girls to explore trades-related learning experiences (in ways that do not close off other options)
- trades training and work that legitimates women's place in the field; challenges its conflation with dominant/hegemonic constructions of masculinity; and resists discrimination and double standards.

Our interviewees put forward a wide range of suggestions that could reduce gender segregation patterns in trades-related occupations, many of which we agree could possibly address some of the individual factors that appear to constrain young women's choice trajectories. We suggest that some of the shortcomings could also be addressed via two 'traditional' strategies:

- improving the distribution, access, quality, and accuracy of information about the trades by marketing them to nontraditional audiences (females in particular)
- the creation of female-centred environments and approaches to (early) trades training.

However, in synthesising the interview evidence with current thinking about education and careers in the 21st century, we argue that a more strategic approach might be to attend to the 'bigger picture' context in which these inter-related factors occur and are experienced, that is:

- acknowledging how 'knowledge society' developments and various 'new' ideas about career make many past approaches less useful
- rethinking trades-related occupations in the new context in ways that allow gender to be less of a constraint on young people's decision making.

Theoretical and practical work that focuses on the knowledge society, a 'new work order', and New Zealand's 'culture of innovation' signal that forging a career is becoming much more complex than it was in the past; employability and workforce *development* issues are superseding previous concerns about training/workforce *participation*; 'old' categories of skills and occupations are transforming into something more fluid and uncertain; and the shape of trades-related occupations may soon change along with the ways that women and men think about such occupations.

We suggest that rather than developing policies designed to 'clean up' the past, the Ministry of Women's Affairs (and other agencies) could develop approaches that focus on crafting a transformed future. This could build on and strengthen policy work and other interventions currently being developed or reworked, as well as acting as a 'bridge' between past-oriented and future-oriented approaches.

Specifically, we recommend maximising policy levers to:

- work with changes to skill sets needed in – and definitions of – trades by feeding into programmes that can meet current ‘skills shortages’ and future ‘dispositions’ needs, and provide bridges between the two (including treating the following kinds of ‘soft skills’ as integral to successful trades-related careers: financial; IT; customer service; people and relationship skills; problem solving and innovation; creativity; design; complex project management; and the ability to adapt to constant (and significant) change in methods, markets, and the overall operating environment)
- support initiatives across and within other agencies that assist young women and men in career decision making and meaning making (such as Secondary-Tertiary Alignment Resource, Gateway, Schools Plus, Creating Pathways and Building Lives, and Better Tertiary and Trade Training Decision Making).

1. Introduction

As part of its plan to improve the economic independence of New Zealand women,¹ the Ministry of Women's Affairs is undertaking work on gender segregation in employment, with a particular focus on women's representation in trade-related occupations. NZCER was commissioned by the Ministry to undertake research designed to look at the interconnections between gender and gendered ideas and young people's career decisions. This report describes the main findings of this research. Its purpose is to inform the Ministry of Women's Affairs' policy work in this area.

Existing research shows clearly that women are under-represented in trades-related occupations, and in particular, that they are under-represented in trades with high wage-earning opportunities. Why are women under-represented in these areas? Are the male-dominated occupations unsuitable for women, or do people in general just think they are? Are women actively prevented from entering them, or do they choose not to enter them? If they choose not to enter them, what are their reasons? Are they not interested? Do they not have the entry qualifications?

Because women's under-representation in these areas reduces the earning capacity and the opportunities for greater economic independence of women as a group, the Ministry of Women's Affairs is interested in investigating the influences on young people's career decision making, and to use this information to develop policies designed to address this imbalance. Past interventions – including advertising campaigns designed to address entrenched occupational stereotypes and provide alternative visions and female role models in traditionally male areas – have been only partially successful. Information provision on its own is, it seems, not enough. Policy initiatives designed to enable women to consider a wide range of options in their career decision making need to be framed by a deep understanding of the context(s) in which information is interpreted and used.

It is for this reason that the research described in this report was designed to investigate the 'how' and 'why' (not the 'what') of young people's decision making in and around gender-segregated occupations. It looks at how ideas circulating in three contexts – family, friends, and society; schooling; and the trades and trade training process – have influenced the career decisions of a sample of young people, and the 'sense' these young people have made of these decisions. However, before looking at what the young people said, we provide a brief outline of – and give some background to – the gender 'problem' as it plays out in each of these three contexts.

Sex, gender, socialisation, and equity: the wider social context

This section outlines how gender – and gender inequity – came to be seen as problematic. The gender 'problem', while now widely acknowledged and discussed, arose, relatively recently, in mid-late 20th century feminist thought. There are, however, many different 'schools' of feminist thought, each of which draws on different ideas and assumptions, and has different goals.

¹ The *Action Plan for New Zealand Women* (Dyson, 2004), launched by the Ministry of Women's Affairs in March 2004, specifies three outcomes for women that the Government wishes to achieve. These are: improved economic independence; greater work-life balance; and improved quality of life.

Liberal feminists, for example, seek women's equality with men. They seek an end to sex-based discrimination, sexist practices, and other barriers to women's participation in all aspects of public life. They work to develop existing social and political institutions in ways that can better include women, not to transform or obliterate them. Radical feminism arose out of disillusionment with this approach. Radical feminists focus on describing, explaining, and undermining the way patriarchal thought oppresses women, mainly by socialising them to accept this oppression.

The distinction between sex – as a fixed biological category, and gender – as the socially constructed set of features 'added onto' each sex via socialisation, is an important feature of radical feminist thought. Gender, because of its apparent amenability to change, is seen as the more interesting – and productive – category. Radical feminists do not seek equality or sameness with men: rather they focus on women's *difference* from men, on women's particular ways of knowing, being, or doing things. The notions of feminist research methodology and/or feminist pedagogy arise in this body of work.

Most interventions designed to redress inequities or imbalances between men and women are informed by a mixture of ideas from these two schools of thought: that is, it is common to see the liberal concepts of 'equality', 'sexism' and/or 'removing barriers' being used alongside the radical feminist concepts of 'socialisation' and/or the sex/gender distinction. This mixing of concepts is also common in popular thought and discussion of these issues.

More recently, feminist thought (in academic contexts) has been influenced by post-structuralist theory: in particular, the aspects of this work that challenge some of Western thought's most deeply held assumptions. Very briefly, this has resulted in an emphasis on 'perspectival' or 'situated' forms of knowledge, and the idea of identity as something that is 'constructed' in discourses.

Because we all function in many different discourses, and are constructed differently in each of these, we have a multiplicity of – shifting – identities, or 'subjectivities', as they are called in this work. Subjectivity is thus a plurality. It is also a process of 'becoming', rather than an endpoint. The idea that we can be one permanent core 'self' is seen as an illusion, an illusion created by splitting off the parts that don't fit with this core identity (the male parts, the white parts, the queer parts, and so on).²

Thus the gender 'problem' looks very different in 21st century thought. For post-modern feminist thinkers, this problem will not be solved by focusing on surface-level 'indicators' (removing barriers, ending sexism, discouraging stereotypes, and so on). It can only be solved via approaches designed to intervene at a much deeper level of our collective meaning system.

What do these lenses mean for how we understand today's young people as they think about leaving school, getting a job, or embarking on job training? Young people are part of the post-modern world of multiple, shifting identities the theorists attempt to describe. They are immersed in it, they function in it, they produce it, and at some level they understand it.

At the same time, however, through family, friends, teachers (and other advisers), and the media, they are exposed to ideas from a different era. The 'sense' they make of

² This phrase is taken from Anzaldúa (1987, p. 88).

these ideas will be influenced by the context, and by the kind of scaffolding they are given. This is one of the roles of schools.

The next section looks at how the career decision-making process is framed in today's schools, and at the extent to which this is gendered.

Schools, 'transition', choices, and career pathways

The careers decision-making context in New Zealand, like many other countries, has been marked by significant and interconnected shifts in recent years. The key shift is away from traditional 'age and stage' models of adulthood and 'transition' to what Vaughan (2004a) calls a 'pathways framework'. In 'age and stage' models, the transition from school is fairly linear (e.g., school, then study or training, then employment) and the milestones of adulthood are also linear and reached around similar and specifiable ages (e.g., school until 17 years, study/training until 20 years, then employment from 20 to 65 years, with marriage and then parenting beginning between 20 and 35 years).

However, these models no longer hold for increasing numbers of people, as the transition from school lengthens in time-span, and as different forms of, and milestones for, adulthood become more popular (e.g., delaying commitment to marriage and parenting later in life or not doing it at all).

In educational terms, three system-wide shifts in New Zealand underpin the pathways framework in order to both make possible, and deal with, increasingly nonlinear forms of transition from school, including periods of combined employment and study throughout life:

- a partially deregulated tertiary system (though some regulation is being reintroduced via new funding mechanisms)
- the development of a National Qualifications Framework, designed to be flexible, credible to employers, schools, and tertiary institutions, and use criterion or standards-based assessment
- an increase in career development support for a wider range of post-school careers, especially vocational ones, together with an increase in the status of vocational careers, in order to improve labour supply, alleviate skill shortages, and provide meaningful work opportunities for all (Vaughan, 2004a).

The pathways framework means 'transition' is no longer a school subject for 'at-risk' young people or early school leavers. Instead, the transition from school is something that concerns all young people regardless of school achievement, presenting educators and most young people with a wide range of possibilities for school subjects, qualifications, secondary–tertiary course alignment, and post-school study and career options. While this presents a wider range of options for young people – a 'maze' of future career possibilities (Career Services, n.d.) – there is an increasing risk that young people will get 'lost' along the way and therefore an increasing need to support young people to make informed career and work decisions (Vaughan, 2004a).

A number of specific initiatives have emerged to try and assist with students' transition from school. The Secondary–Tertiary Alignment Resource (STAR) and Gateway scheme provide tertiary-level and workplace learning opportunities and experiences for

students that are useful in allowing students to explore, (re)adjust, or kick start future plans.

The Creating Pathways and Building Lives (CPaBL) and Better Tertiary and Trade Training Decision Making (BTTTDM) initiatives both recognise the growing complexity involved in young people's post-school decision making and their support and guidance requirements. CPaBL addresses this by focusing on the structure of the careers education in the school. It fosters a school-wide approach that explicitly links the careers advisory team with school management so that information and guidance are better co-ordinated. BTTTDM addresses the information and guidance issue by creating a 'one-stop-shop' service for young people, parents, and other influencers, providing information and support for tertiary education and career pathway decisions.

The Schools Plus scheme currently in development has the goal that 'all young people are in education, skills, or structured learning relevant to their abilities and needs, until the age of 18' and particularly addresses itself to early school leavers with low or no qualifications and 'inactive' young people not engaged in work, training, or education after leaving school.³

While these initiatives are designed to support young people's career decision making, and enable seamless and multiple connections between different possibilities, young people are effectively 'responsibilised' with expanded school subject choice and more pathway decisions (Vaughan, 2005). The pathways framework presents (career and life) opportunities to young people in terms of individual choice (no matter what, there is an individual pathway appropriate for each young person's unique interests).

The assumption is that success is within reach of everybody, so long as the young person is able to identify and articulate their needs and desires, get the information about how to maximise their choices and which option(s) to take, and then do it. The sub-text is that young people, regardless of gender, are free to select and enter any trades-related pathway that might interest them assuming that they have received the right prerequisites, information, and support to locate and line up the appropriate pathway linkages. Specifically, young people need to 'navigate' some of the trades-related training possibilities presented in Table 1.

³ This was foreshadowed in 2003 by the Education and Training Leaving Age Package and a focus on co-ordinating the youth transition services through a cross-departmental Youth Transitions Steering Group which aimed to have 'all 15-19-year-olds in appropriate education, training and work by 2007' (New Zealand Treasury, 2003, p. 9).

Table 1: Initiatives and organisations relevant to trades training and work transition

Initiative/organisation	Description
Secondary schools	Enables students to include subjects and learning experiences of particular relevance to the trades (including technology subjects, external courses, work experience).
Secondary-Tertiary Alignment Resource (STAR)	Provides all state secondary schools with additional funding to access courses that provide greater opportunities for students, enabling schools to better meet the needs of students by personalising learning pathways and facilitating a smooth transition to the workplace or further study.
Gateway	Offers senior secondary students structured workplace learning across more than 50 industries and hundreds of businesses around New Zealand. Students are assessed in the workplace for unit and achievement standards which contribute to the National Certificate of Educational Achievement (NCEA), as well as industry-specific qualifications.
Industry Training Organisations	Facilitate workplace learning for trainees in employment by: setting national skill standards; providing information and advice; developing industry-appropriate training; arranging assessment; monitoring training quality; and providing leadership to industry on skill and training needs.
Industry training providers	Offer pre-trades and trades courses, sometimes linked to apprenticeships. Include, for example, polytechnics, universities of technology, private training establishments, and specialised training providers associated with a particular industry (such as ETCO – which offers a group apprenticeship scheme).
Modern Apprenticeships Scheme	Enables young people (usually aged between 16 and 21) to begin an apprenticeship in the industry they're interested in. Modern Apprenticeships are a key part of the Industry Training Strategy. A co-ordinator liaises between the young person, their employer, and the relevant Industry Training Organisation.
Industry employers	Provide employment to qualified trades people, and take on apprentices either directly, or via a training provider.
Tertiary Education Commission	Funds the Government's contribution to tertiary education and training offered by universities, polytechnics, colleges of education, wānanga, private training establishments, foundation education agencies, Industry Training Organisations, and adult and community education providers.
Career Services	Provides careers information, advice, and guidance to individuals and groups throughout New Zealand.

Note: Descriptors were developed on the basis of relevant websites. This is not an exhaustive list by any means. For example, we could also include CATE⁴, CPANZ,⁵ BTTTDM, CPaBL, etc.

Interacting with the dominant individual choice (and responsibility) discourse, however, are other discourses: in particular, ideas about what kinds of jobs are appropriate for young people with different academic abilities, and what kinds are appropriate for different genders. As Fuller, Beck, and Unwin (2005) put it:

⁴ Careers and Transition Education Association

⁵ Career Practitioner Association of New Zealand

The perception that young people could make nontraditional choices if they wanted to, tends to mask the reality of the obstacles (e.g. teasing, feeling isolated and workplace conditions) to making such choices, and is likely to affect individuals' response to policies designed to dismantle them. (p. 307)

Their work suggests that part of the problem with gender segregation in the trades is that it is not actually recognised as a problem by many of the young people involved. Girls tend to stress that, while they *can* enter any job, they *personally* do not wish to enter male-dominated jobs (Fuller et al., 2005, emphasis added).

Thus the emphasis on pathways and choices obscures the fact that differential access to resources⁶ and structural barriers constrain individuals from 'choosing' particular pathways. As a recent Equal Employment Opportunities Discussion Paper for the Human Rights Commission on the Modern Apprenticeships (McGregor & Gray, 2003, p. 2) puts it, a number of 'historical issues' have led to low participation rates by young women in Modern Apprenticeships:

- participating industries have strongly entrenched gender barriers which make them particularly unattractive to young women
- the parents of secondary school children have traditionally seen apprenticeships as a pathway for nonacademic young men
- secondary schools have promoted tertiary study in the form of university or polytechnic as their priority and young women, in particular, have chosen educational pathways.

The Human Rights Commission report concluded that it is a current policy challenge to combat 'discriminatory attitudes and practices', and provided 12 specific recommendations designed to address these (see Appendix A). Similarly, a report that provided the backdrop to Northland Polytechnic's recent proposal for a women-only trades training academy summarises:

Responsibility for the lack of female participation in vocation trades lies in several hands: those of the employers via the robust application of anti-discriminatory practices; those of parents via their support for vocational trades as a career option and, in our general societal culture which reflects the status quo.

Broad societal changes in gender desegregation in New Zealand have barely impacted on the vocational trades sector. This will continue until an effective and efficient approach is adopted at both regional and national levels. Previous attempts to reduce this gender imbalance have failed to adequately resolve the multi-faceted challenges. An integrated change programme across government agencies, parents, schools, tertiary educators and employers is needed to support women entering and building successful careers in vocational trades. (Scripps, 2006, p. 9)

⁶ Including social and cultural capital (Bourdieu, 1986 in Osgood, Francis & Archer, 2006) and 'resourcefulness' (Thomson, Henderson, & Holland, 2003).

Thus a great deal of work is currently going on in schools to assist students to make 'good' transitions from school to further education and training. Recently, there has been a greater focus on providing better information and support to students – particularly girls – who are considering trades-related training opportunities. Why is this? What problem is this designed to solve? Is it working?

The trades, trade training, and gender: is there a problem?

New Zealand has high levels of gender segregation in employment, with women concentrated in a small number of occupations and both women and men working in occupations dominated by their gender. The 2006 Census showed that close to half of all New Zealanders work in occupations in which 70 percent or more of the workers are the same sex as them⁷ and 33 percent of the female workforce was employed in only ten occupations (out of a total of over 550 occupations). Seven of the ten occupations employing the most women (including nurses, caregivers, primary school teachers, and secretaries) were more than 80 percent female. There are similar patterns in the male workforce. In 2006, 24 percent of males were employed in only ten occupations. Occupations that were more than 90 percent male-dominated include trades such as builder, plumber, and motor mechanic.⁸ Dixon's (2000) analysis shows that gender differences in occupations could account for around 20-40 percent of New Zealand's gender pay gap. In 2007, the median hourly earnings of women were 12.1 percent less than those of men, and overall the average weekly income of women was 38.7 percent less than that of men.

In 2005, the Ministry of Women's Affairs commissioned research into wages and costs of education and training in male- and female-dominated trade-related occupations. This research indicated that although many of these occupations have similar entry-level wage rates, wages increase more rapidly in the male-dominated occupations. The male-dominated occupations also tend to have more formal training, which is often paid for by the employer (Moyle & Hendry, 2006).

Recent and pervasive skills shortages in traditionally male industry areas have produced a renewed urgency about attracting skilled workers and have possibly made employers more open to female workers in these areas. Some attempts to attract workers are nongender-specific but include women, such as the dairy industry's recent Go Dairy campaign. Others have targeted women directly as part of an attempt to change the culture of their organisation, such as the New Zealand Army's use of a Lara Croft/Tomb Raider female character as the face of their recruitment campaign over the last few years. However, we are aware that these recent campaigns must contend with a schooling system that still lacks good relationships with Industry Training Organisations and still tends to regard university as the best pathway for high-achieving students.

Thus, despite recent efforts, gendered patterns persist in young people's participation in trades-related learning in New Zealand. In February 2008, the Minister for Tertiary Education, Pete Hodgson, announced that 'The Labour-led government has exceeded its target of 14,000 Modern Apprentices by the end of 2008 with more than a year to spare' (Modern Apprenticeships, 2008). However, women still represent only 29 percent of all industry trainees, with 50,462 participating in 2006 – a one percentage point

⁷ Specifically, 47 percent of women work in occupations that are 70 (or more) percent female, and over half (52 percent) of men work in occupations that are at least 70 percent male.

⁸ Ministry of Women's Affairs (2008).

increase from 2005 (Tertiary Education Commission 2006, 2007).⁹ As at 31 December 2006, women represented only 8.7 percent of 9,466 Modern Apprentices, up from 8.2 percent in 2005 (Tertiary Education Commission 2006, 2007). Thus, this situation is still a major area of concern to the current government.

It's all about choice – but is it?

This background information points to a highly complex problem. Young people nearing the end of the compulsory years of schooling find themselves in a context in which the variety of different pathways and choices available to them is emphasised. They – and their advisers – are encouraged to frame their career decision-making process as a series of individual choices, which will lead them down particular pathways. Information and advice are available to help them make these choices, some of which is formal, explicit, and structured (e.g., from school careers advisers) and some much less so (e.g., informal comments from teachers, parents, and other adults, and from friends). Because these messages can be very mixed (e.g., the 'girls can do anything' message is likely to be mixed up with other, competing ideas about what is appropriate for males and what is appropriate for females), the meaning that is made from them is also likely to be mixed. We think that the choices available to young people are in fact constrained by a raft of factors and processes that are not necessarily visible to them (or to those advising them).

In the research described in this report, our aim was to investigate how and why young people make the decisions that lead – or do not lead – them down particular career pathways. We have attempted to identify the factors and contexts that, according to the young people we interviewed, enabled or dissuaded them from 'choosing' occupations traditionally dominated either by their own gender, or the opposite gender. Our purpose in doing this was to investigate whether or not there are factors (including information about the trades) that can and do influence the extent to which different occupations are perceived as gendered, and whether or not these factors are amenable to change. The ultimate aim is to provide information to inform the development of strategies that could widen the choices available to young people, particularly girls, so that the statistics cited earlier can be improved.

The report is structured as follows. After describing how the research was designed (who was interviewed, what they were asked, and why), we outline the findings in three chapters corresponding to the three contexts outlined in this introduction: family, friends, and society; schooling; and the trades and trade-related training. Our aim was to explore how – if at all – males and females experience the career decision-making process differently. A second aim was to attempt to investigate where the 'problem' (if there is one) is located – in the young people, in society, in the education system, or in the trades themselves. The three findings chapters are followed by a discussion of suggestions made by the young people we interviewed for improving the gender balance in the trades. The report concludes with a discussion of the findings and their potential policy implications.

⁹ A longitudinal study of 53,000 students who left school in 2004 found that 'the predicted odds of a male school leaver transitioning into industry training were almost 300 percent higher than the predicted odds for female school leavers' (Ussher, 2008, p. 12).

2. Methodology

As outlined in the introduction to this report, the aim of this research was to examine the interconnections between gender and gendered ideas and young people's decisions about careers, in order to develop useful understandings for policy work aimed at ensuring young people's career choices are not constrained by their gender. The study focuses on the trades, where gender segregation is particularly apparent.

Research questions

The research questions were as follows:

1. Do males and females experience the process of career decision making differently and/or inequitably? If so, are there any patterns to the differences, and/or are there similarities?

In line with our focus on gender equity rather than gender equality (as discussed in Chapter 1), our concern is not difference *per se*. We have treated gender, not as an independent variable, but as one of a great many factors drawn on by young people as they 'produce' themselves and their identity – in work, and other contexts. Our starting point was that the wider socialisation contexts (home/family, friends, school, work, wider society) are likely to mean that young men and women will experience the process of career decision-making differently. However, because these contexts are different for different individuals, and different individuals use them in different ways, while we expected to find some broad general patterns, we also expected to find many gender similarities.

2. If there are differences and/or inequities, where is the problem primarily located?

In posing this question, we are assuming that the gender imbalance in the traditional trades is a problem (in line with the discussion on page 7). We are also assuming that, if there are gender inequities in young people's career decision-making experiences, that this is also a problem. We are interested in exploring how the following factors might help to explain the current situation:

- certain features of today's young people and the influence of wider society (their information/experience-seeking and sense-making strategies, gender – and other – identities, socialisation experiences, individualisation, etc.)
- the current 'pathways' framework (school structures, the connections between schools and post-school opportunities, pathways information provision, etc.)
- the trades themselves (information about the trades, training opportunities, work demands and culture, historical developments, etc.).

3. Given our answers to the above questions and our knowledge about recent educational and occupational changes, what policy – and other – levers could lead to a better gender balance in the trades, and/or an increase in women's economic independence?

Our aim in this research was to explore whether or not young people's stories about career decision making can provide insights into how to shift the deeply and historically entrenched gender divide in the trades. We were interested in what the young people had to say about the source(s) of the problem, and/or how their stories could inform future policy work in this area. For example, should effort be put into:

- information provision and/or support for sense making?
- school learning environments, planning, structures, and options?
- Industry Training and/or the Modern Apprenticeship Scheme?
- the pathways framework, including connections between school and post-school?
- workforce planning for the future in general?

We used focus groups and interviews to elicit young people's stories and perspectives. These were then analysed to understand the different inter-related factors involved in their decision making. This qualitative methodology was designed to help us explore the 'how' and 'why' of young people's career decision making, rather than the 'what'. We interviewed a total of 86 young people, in 33 different focus groups or individual interviews.

Focus groups

We used focus groups for two main reasons. Firstly, focus groups (or 'group interviews') can establish a wide range of participant-defined issues and perspectives on a topic in a short space of time as well as offering insight into shared meanings (Stewart & Shamdasini, 1990). Thus they were an efficient and economical way to gain a lot of data from a lot of young people. Secondly, by bringing a range of participants together in discussions we hoped to facilitate an active and dynamic environment to facilitate the social construction of meaning (Madriz, 2000). That is, the focus groups produced data on the interactions between different participants, giving additional insight into the ways in which young people process information and opinion. This was particularly important in this study because we believe that career decision making is not an entirely individual pursuit, but is intimately tied to the people and discourses young people are linked to. We were able to see how ideas were bounced around and recreated between the young people, rather than each interviewee simply responding to the interview questions (Dupuis & Neale, 1998).

We organised the focus groups into female-only or male-only groups to help participants feel comfortable about sharing their ideas and experiences. We limited the number of participants in focus groups (two to six individuals per group) to encourage debate but also to enable enough time and space for everyone to have their say and be listened to by others. We supplemented focus groups with individual interviews.

Individual interviews

We carried out individual interviews in circumstances where privacy or accessibility was an issue. Specifically, young people were interviewed on their own if they were not part of an easily identifiable group to interview together. We conducted face-to-face interviews with participants in the local region, and phone interviews with participants further afield.

In comparison to focus groups, individual interviews can be more sensitive to individual stories. It has been argued that interviews have become a 'natural' context in which to articulate experience and make sense of our lives (Atkinson & Silverman, 1997). While interviews cannot provide a mirror reflection of the interviewee's social world, actions, and meanings, in-depth interactive discussion in an environment of rapport and trust can allow respondents to give honest and full accounts of their opinions and social situations (Miller & Glassner, 1997, p. 101).

Due to the extremely small numbers of women in trades-related pathways, we conducted more individual interviews than we had initially planned for. This means that our participant sample was smaller than we expected, but the one-on-one approach enabled us to explore these young people's decision-making experiences in greater depth (Marshall & Rossman, 1999). Our sample of young people is described next, followed by an outline of the interview questions.

Sample definition

In order to establish the sample of young people we were to interview, we needed to identify – and therefore define – what we meant by gender-segregated trades training pathways. The 'vocational trades sector' has been defined in New Zealand as the group of occupations in which:

- job applicants require a well-developed range of literacies and demonstrated attainment
- fundamental competencies are acquired and practised on the job
- competencies are developed to advanced levels through the apprenticeship system
- the majority of day-to-day activity is manual and practical, being supported by processes and systems that grow in complexity during the apprenticeship period. (Scripps, 2006, p. 13)

However, ideas about what a trade is have changed over time. Origins stretch back to a live-in guild system for artisanal trades, such as building and printing. Live-out work-based trade apprenticeships later developed in the growing metal work industries, including engineering, shipbuilding, electrical, and plumbing, and then spread to particular specialties such as footwear, papermaking, and furniture-making (Gospel, 1995).

The relatively new Modern Apprenticeship Scheme¹⁰ feeds into a wide range of occupational categories that were not part of more historical apprenticeship systems.

A growing number of other industries are now forming ITOs and are therefore considered trades and as much vocational as any of the others (e.g. IT, care industries, hospitality and public service). (Scripps, 2006, p.13)

While this broader conceptualisation of the trades has brought more women into apprenticeships, some commentators are suggesting that women are gravitating to the newer areas, which may well be less secure and less well paid. For example:

Overseas experience of introducing the apprenticeship system into the office administration, tourism and retail sectors suggests that while female participation statistics improve on the face of it, there is a great deal of 'churning' of participants because of low pay and lack of a genuine career path in these industries. The new industry areas are required to develop qualifications to provide a range of skills 'lifting' young people from low paid and low status jobs and propel them into management. Whether this will overcome the CEDAW Committee's stated concern of perpetuating occupational segregation remains to be seen. (McGregor & Gray, 2003, p. 3)

[T]he more traditional vocational trades... is where the gender discrepancy is greatest... One response to this situation from VT [vocational trades] employers has been to include traditional female industries in industry training initiatives. This may have, perversely, reinforced stereotypical gender roles (Tertiary Education Commission, 2000). (Scripps, 2006, pp. 13,19)

Because there is no accepted male:female ratio that defines an area as male- or female-dominated, we had to make one up. We decided that 10 percent or less of one gender in any Industry Training Organisation or Modern Apprenticeship indicates that it is 'dominated' by the opposite gender. Two tables in Appendix B provide the gender breakdown of trainees and apprentices as at September 2006.

In terms of our sampling, these figures show that there was a wide range of male-dominated categories from which we could have selected interviewees (although women were hard to find), but very few female-dominated categories. Females make up less than 10 percent of trainees in 17 out of 38 Industry Training Organisations and in 19 out of 30 Modern Apprenticeship industries.

The only female-dominated Industry Training Organisations (more than 90 percent women) are: Community Support Services, Pharmacy, and Hairdressing (of which only the latter is considered a traditional trade). No Modern Apprenticeship category has greater than 90 percent women: in fact, the only two areas where females make up more than half of the apprentices are Tourism and Public Sector.

School students' STAR and Gateway¹¹ options roughly mapped against the apprenticeship and industry training categories noted above. However, other school subjects do not necessarily match clearly onto industry training or occupational groupings. We classed these as male- or female-dominated in two ways. First, we

¹⁰ Established in 2000 to help rebuild work-based trades training in New Zealand and rectify the skill gap which had emerged.

¹¹ See Chapters 1 and 4 for explanations of these terms.

took account of the types of occupations that a subject might logically lead towards. Second, we took the advice of teachers and careers advisers who knew the extent to which the subject was generally gender segregated (if it was an optional choice for students).

Interviewee subgroups

We conducted focus groups and interviews with young people from four different groups:

- junior secondary school students in general and trades-related subjects (especially in technology subjects that could be viewed as trades-related)
- senior secondary school students in general and trades-related school pathways (especially in STAR and Gateway which provide trades-related training and work experiences)
- trainees and recent graduates in gender segregated trades-related occupations
- young people avoiding gender-trades-related gender-segregated occupations, especially ex-trades trainees.

Within each of these four groups we wanted to talk to young men and women involved in gender-segregated options that were either traditional or nontraditional for their gender. Arranging this gave us four categories per group. These four second-tier categories were as follows:

- nontraditional females: young women either employed or training in male-dominated trades, or doing traditionally male school subjects, such as woodwork technology
- traditional females: young women either employed or training in female-dominated trades, or doing traditionally female school subjects, such as fabrics technology
- traditional males: young men either employed or training in male-dominated trades, or doing traditionally male school subjects, such as metalwork
- nontraditional males: young men either employed or training in female-dominated trades, or doing traditionally female school subjects, such as fabrics.

The table below shows the numbers and spread of individuals across these four groups and four categories. The table also records the number of data collection episodes that were carried out with each subgroup, either as a focus group or individual interview. The total number of individuals taking part in each data collection episode is indicated in brackets '(x)'. Initially we had expected to include more nontraditional recent graduates and employees, but such individuals proved extremely difficult to locate.¹² To increase the numbers, especially in the nontraditional category, we included students from a school that requires all students to study all of the technology subjects in Year 9.

¹² Three of our interviewees were fully qualified employees.

Table 2: Spread of participants across the four groups and categories

	Junior secondary school students in general and trades-related school subjects			Senior secondary school students in trades-related school pathways		Trainees and recent graduates in trades-related occupations		Young people avoiding trades-related occupations
	Both	Trad. for gender	Nontrad for gender	Trad. for gender	Nontrad for gender	Trad. for gender	Nontrad for gender	Trad. for gender
Female	1 (3)	1 (4)	2 (7)	1.5* (4)	4 (11)	-	7 (11)	6 (6)
Male	1 (8)	2 (7)	1 (2)	4.5* (16)	-	2 (7)	-	-
Total	8 (31)			10 (31)		9 (18)		6 (6)

* One focus group was mixed gender (i.e., 0.5 of a data collection episode).

These subgroups do not represent the homogeneous categories that our labelling suggests. What emerged was a jumble of identities and positions, which, while it is a much closer representation of the diversity in society, makes it difficult to talk about each group as an entity, or as representative of their categorisation. For example, in the 'avoiding group' we only included women who had left post-school trades training. However, many of the secondary school students we spoke with did not intend to follow through into trades-related work, and could therefore also be categorised in the 'avoiding' group. At the same time, many of the senior secondary students were in some kind of trades apprenticeship or training course run by another provider, and so we could have categorised them as trainees.

Also, the Year 9 students from the school we added in later were doing traditional and nontraditional subjects that had been decided and structured for them by the school. Their participation was therefore not the result of their own decision making, nor of their so-called nontraditional or traditional interest. On the other hand, this group provided us with a useful insight into a school-based strategy that could impact on gendered perceptions of occupations.

Table 3 below provides details of the ethnicity of the 86 participants. Nine participants gave two or more ethnicities, and have been multiply entered. As the table shows, there were no clear patterns by ethnicity in relation to participants' nontraditional or traditional choices. However, we set out to meet a range of young people and since this is not a quantitative study the information cannot be generalised.

Table 3: Participant ethnicity by options traditional or nontraditional for their gender

Ethnicity	Traditional	Nontraditional	Both (junior secondary)	Total
Pākehā/NZ European	24	22	8	54
Māori	6	4	4	14
Pacific	3 (Samoan, Cook Island, Fijian)	2 (Samoan, Niuean)	-	5
Asian	1 (Cambodian)	3 (Taiwanese, Chinese, Indian)	-	4
Other	2 (British, Canadian)	5 (British, Dutch, Australian, Brazilian)	1 (Other European)	8
Did not respond	5	4	-	9

Recruitment

We made use of NZCER's connections with organisations and individuals to create a snowballing sample of young people. For example, we used previous – and built new – relationships with secondary schools, Modern Apprenticeship co-ordinators, Industry Training Organisers, training providers, polytechnics, and universities to create our sample. We also asked interviewees whether they could recommend others to participate. Participants were officially invited to:

take part in a research study about how different things (especially being male or female) can influence young people's career decisions or experiences in trades-related training or jobs.¹³

Interviewee questions

In all focus groups or interviews we used a semi structured interview schedule to provide a balance between open-ended questions, discussion points, statements, and visual prompts for participants to respond to. The questions needed to make sense to interviewees, but also to provide access into some of the deeper analysis we hoped to do: for example, our focus on system-level barriers, gendered narratives, demographic patterns, occupational status, etc. They also needed to generate the young people's personal stories of how they came to be in their current pathway, as well as their reflections about the current gender divide in many of the trades.

The main question areas are described next, although we used the schedule flexibly to follow the young people's stories as they emerged (see Appendix D for a copy of the interview schedule).

The first questions we asked were about childhood, and early considerations about occupations. We were interested in how gender normativity might have been an influence, as well as stories about 'critical moments' that encouraged or discouraged people to follow their dreams.

- *Thinking back to your childhood, what did you want to be when you grew up?*
- *What happened to that dream?*

The second set of questions asked how they came to be in their current pathway. We were particularly interested in how this might relate to other structures in society (such as gender, class, ethnicity, family background). We were also interested in knowing about the information and people that impact on young people's decision making.

- *What attracted you into this subject/training/job?*
- *What did you know about this subject/training/job before you started it?*

¹³ This was the wording used in the information sheet provided to prospective participants (see Appendix C for a copy of this sheet).

The third set of questions related to wider socialisation influences, and the impact that others have on a young person's career-related decisions and experiences.

- *Before you started this course/job, had you known anyone in training or a job that was not traditional for their gender?*
- *What do people in your family think about what you do? Friends? And people you interact with (colleagues, boss, tutor, customers)?*

The fourth set of questions focused on the (potentially unexpected) realities of their experiences, the positives and negatives. We were also interested in how their descriptions or rationalisations might fit with stereotypically gendered narratives.

- *Have you found anything different from what you initially expected from this course/job? (If so, what?)*
- *Things that could make you stay/leave?*

The fifth set of questions came with visual prompts. We provided a list of occupations, and asked the interviewees to estimate the proportion of men and women in them. We then produced pie graphs showing that there are less than 5 percent of women (or men) in these occupations. Later we showed them posters of women and men carrying out trades-related work that was not traditional for their gender. We were interested in how they view gender (in)equality, the extent to which their perceptions match reality, the ways in which young people rationalise/theorise gender differences beyond their individual situation, and their reactions to (and assumptions about) people who challenge the norms. We asked them the following questions:

- *What do you think is the percentage of males and females in each?*
- *Are these numbers similar to, or different from, what you thought? Why?*
- *Which of these occupations are the most appealing [to you/society generally]? Why?*
- *What kind of person/man/woman do you think you need to be to do this job? (skills, personal characteristics)*
- *Do you think there are any differences in the way that males and females are treated in trades-related jobs today?*

Finally, we asked the interviewees what they thought could be done to improve the current situation.

- *What do you think might help other [males or females] get into, or stay in, this training or job?*

The next four chapters outline and comment on what the interviewees told us in response to our original questions and prompts. We reviewed the first draft of these chapters in light of feedback from participant analysis workshops and posted comments.

Participant feedback

Later, after the main data collection work was complete, we ran two small workshops designed to elicit participants' feedback on our analysis. These workshops, organised as male-only or female-only groups, brought together some of our original interviewees in trades training or work (including an ex-trainee). We presented a PowerPoint summary of our main findings, stopping regularly for comment and discussion. We also provided a hard copy of the PowerPoint to the young women who could not attend the workshop. Three of these later provided us with written feedback on the presentation. The purpose of this was to allow the young people to engage with, and critique, the researcher lens that had been put on their stories. This extra tier of data (participant reactions to our initial analysis) provided us with further insights into how young women and men make sense of their own and other people's (gendered) experiences, and what they think could be done to address the issues that are raised by the analysis. It was also an opportunity for participants to reflect, not only on their own experiences, but also the experiences of others.¹⁴ We reviewed our draft report in the light of this feedback, and the participants' comments have been woven into this final report.

There are a great many ways to analyse the data produced in the interviews and feedback workshops. We have drawn, somewhat eclectically, on a variety of theoretical lenses to address the research questions. This pragmatic approach means that each of the following chapters takes a slightly different angle on the central problem. Our dominant – far from 'pure' – frame is post-structuralism,¹⁵ although we also draw on socialisation theory¹⁶ and structuralism,¹⁷ especially in Chapters 3 and 4.

¹⁴ Previous NZCER research shows that young people struggle to obtain and process quality information and perspectives about careers, and relate best to personal stories and meeting real people. Most workshop participants said that they had discussed things further with family or friends after being interviewed the first time, and thought that our analysis was not surprising but made things 'more obvious'.

¹⁵ This approach is informed by the elements of post-structuralist theory described on page 2 of this report: in particular, the emphasis on identity/subjectivity as 'constructed' in different 'discourses', and as therefore multiple and contingent. The trades are in part treated as one of many different (and competing) discourses in which a young person's identity is constructed (and in which they construct their identity).

¹⁶ This approach is linked with – and draws on – the liberal feminist approach described on page 2: in particular, its emphasis on how sex role stereotypes influence human development.

¹⁷ This approach is informed by Marxist/Gramscian accounts of society and the economy: in particular the role of 'hegemony' and/or 'false consciousness' in the development of social structures which – apparently objectively – 'channel' people from different social groups into particular social (and economic) roles.

3. Impacts of family, peers, and media on young people's emergent career identities

Throughout life people respond to – and actively participate in – social contexts that enable them to ‘make sense’ of the world around them, and to construct and reconstruct their identities. New research perspectives on career identity suggest that ‘a sense of self is acquired, refined and retransmitted through community interaction’ (Law, Meijers, & Wijers, 2002, p. 434). This calls into question earlier models that assume career identities as the final *destination* of a skills-accumulating staircase, where a stable sense of self is co-opted into the prescribed roles of a fixed occupational entity that exists independently of the young person her/himself (Collin, 1997; Vaughan, Roberts, & Gardiner, 2006; Woods & Jeffrey, 2002). This chapter takes the position that career identity is an ever-evolving *process*, by which young people experiment with different identities from early childhood, reviewing and recasting their career (future) selves in response to emergent social signals.

Young people are presented with a multitude of messages as they mature, through their interactions with people and other socialisation agents, such as the media. While some gender and career decision-making discourses predominate over others, each young person participates in a unique combination of social experiences, which often produces conflicting message systems that must be navigated and reconciled to develop (and recast) their career/life identities. Young people are not passive actors who simply absorb all or any of the ideas and expectations that they come into contact with. They are active and discerning agents, who direct, select, evaluate, and position themselves in relation to different information flows. Previous research suggests that girls may take a more collaborative approach to career decision making (Reay, 1998), suggesting that family and peers could have a stronger influence on women.

In this chapter, we examine the ways in which young people make meaning from the various messages they are exposed to. Each interview narrative provides insight into the socialisation contexts and factors that influence the young person's ever-evolving relationship to study and career pathways. We explore whether (and why) young males and females differently receive (and react to) messages about what careers are open and interesting to them, through their interactions with family, childhood play, peers, and popular media. Specifically, we look at how some social contexts and/or individuals allow some young women and men to pursue pathways that are nontraditional for their gender. We take our analysis beyond ‘what’ or ‘who’ influences young people, to examine ‘how’ certain people/agents make a difference. We pay particular attention to the socialisation experiences of the young women who made the move to male-dominated trades.

Family

The family environment is the first and primary agent of socialisation for most people. Family relationships and activities continue to have a powerful influence on young people's sense of self throughout, and beyond, their upbringing. Learning that takes place in family settings can shape how young people interpret discourses about gender and careers encountered in their later interactions with peers and wider society. Past research has suggested that parenting – and the relationship

between families, communities, and schools – plays a key role in forming children’s learner identities, as well as their educational decisions and achievements (Biddulph, Biddulph, & Biddulph, 2003; Desforges & Abouchaar, 2003; Epstein, 1995; Maani & Kalb, 2006). One explanation puts it as follows:

Sex stereotyping is making assumptions about that women should play different roles in society... Stereotypes affect what young people do at home and how they are treated, which influences the subjects they take at school, restricting their choice of future jobs and career, and again contributes to stereotypical views in the home. (Equal Opportunities Commission, 2001)

Discussions about families strongly featured in our interviewees’ stories of how they came to be in their current pathway and their future career planning. In this section we draw from the interview narratives to explore the gender and career discourses that permeate family interactions and shape young people’s study/career decision making. We also consider how the young people we interviewed reconciled message conflicts (for example, between their two parents) and whether young women and young men face different expectations/experiences.

Before we focus our attention on how families can act to encourage or dissuade young people from seeking out nontraditional pathways, it is important to note that when we asked interviewees *directly* about their family members’ reactions to their current and predicted pathways, most said that their parents were happy if they were happy. The subtext was that their families just wanted them to make a [good] choice, regardless of what that choice was. Parents appeared to focus on their young person being happy *in* a pathway rather than focusing *on the* pathway itself. For example:

My mum didn’t care, as long as I was happy with it [choice to be a builder].
(Trainee, female, nontraditional)

My mum says I should do what I enjoy: if I enjoy it, just go for it. (Senior secondary student, female, nontraditional)

They [parents] think it is good for me, knowing what I want to do. (Senior secondary student, male, traditional)

They’re [family] just happy that I want to do something instead of being a bum.
(Senior secondary student, female, nontraditional)

My mum is sweet as with it. Whatever I want to do she’s sweet as with. (Junior secondary student, male, traditional)

My parents are happy that I’m doing something that will give me a job for the rest of my life. (Apprentice, female, nontraditional)

This idea of unconditional family support fits with NZCER’s previous research on young peoples’ pathways navigation (Vaughan et al., 2006, p. 57). It also fits with the pathway framework’s choice narrative: however, as we show later in this chapter, this can conceal how family practices and discourses can make some ‘decisions’ more likely than others.

Family contexts that open up nontraditional possibilities

Family activities/conversations can open up or close down the potential for a young person to identify with or pursue a pathway that is nontraditional for their gender (Jacobs, Chhin, & Bleeker, 2006; Francis, 2000/2002 cited in Osgood et al., 2006).

Families' connections to trades-related occupations can expose young women to environments that, for others, might be considered unusual for their gender. Several young women in nontraditional pathways spoke about their family's interests or work in trade-related areas. This appeared to have two major implications for their future career planning. Firstly, it normalised the participation of women in the area. For example:

My parents and family are into cars and stuff – we've always gone to hotrod shows even when I was little... Dad's a panel beater and my bro is an engineer and my other brother is a kind of mechanic. (Apprentice, female, nontraditional)

My stepdad is right into DIY. We have good yarns about tools and they [my mum and stepdad] do up houses and have a builder that helps them out. Both of my parents think it's cool that I have learnt this stuff. (Senior secondary student, female, nontraditional)

Secondly, it provided these young women with authentic and detailed knowledge of an area, which they could use to offset any conflicting stereotyped messages about who (specifically which gender) is considered best suited to the work. They were able to develop a genuine sense of what the trades entail. For example:

Because my dad was in the [avionics] industry, and I could see what he did, and learnt about the tools and how stuff worked... Grandfather mainly [gave me advice/information about building] then I got a lot when I was doing work experience – they were happy for me to be onsite and learn. (Ex-trainee, female)

You always hear the trades are out there but you never really see what is involved unless you have a family member in that trade... I might have stuck with hospitality if I hadn't hung out with granddad – probably would have regretted it. (Ex-trainee, female)

I got into cars because dad was building one when I was little. You always think it's a man's job but it's not. (Junior secondary student, female, nontraditional)

These women's nontraditional family experiences are similar to traditional young males' narratives about their early interests in trade-related work and play. However, we found that such stories are more common for young men overall. Some of the young men's explanations loosely connected to traditional 'blue collar' trades systems where sons were expected to follow in the footsteps of their fathers and grandfathers (Gibson & Papa, 2000):

Interviewee one: *I wanted to be a builder like my granddad. He gave me tools and stuff and I've had the chance to work with him.*

Interviewee two: *I did some plastering work with dad and I enjoyed it. (Senior secondary students, male, traditional)*

My old man is a sparkie – he kinda pushed me towards it. (Apprentice, male, traditional)

As one of our feedback workshop participants told us, having a father in the trades is likely to influence young men more than young women, due to different gender expectations:

My dad's real practical 'cos he's a joiner, and my brother is a mechanic. I don't want to sit around in an office. I wanted to be proud and make dad proud... If your family is based around trades, you'll definitely think towards being in the trades. My little brother who's only 14 wants to be in trades. He sees me and wants to become a plumber. I'm an electrician and my other brother is a mechanic and my dad's a joiner... I reckon family and friends do have an influence. [Do you have any sisters?] I've got four sisters. They're a lot tidier than we are. They don't want to be in the trades. My brother comes home dirty and me too. One wants to become a hairdresser, one's in travel and tourism, and one accounting. My second sister was influenced by her friend in Christchurch who's a hairdresser. She's still at school, but she's doing work experience once a week for it. (Apprentice, male, feedback workshop)

Conversely, another participant (in the all-female feedback workshop) noted that families without trades connections *and* without gender-specific expectations could be very supportive of their daughter choosing a trades pathway. A similar point was made in a (posted) feedback comment, which suggested that it is not helpful to assume family ties to trades:

A lot of people assume that being a female in a trade means you must [be] following your dad's footsteps; [they assume] that the only way you could get in was from outside help. (Female, feedback comment)

Unlike young men, young women often contend with social signals from other contexts that suggest that a woman's place in the trades cannot be taken for granted. Overall it seems that, in some families, family scripts outweigh other gender scripts.

Negative, neutral, or mixed family messages about females in the trades

Not all interviewees were so well supported by their families. We saw the occasional examples where family members had reacted negatively when a young person expressed an interest in a nontraditional pathway. For some young people, their parents presented a unified front of disapproval, but it tended to be only one parent who actively discouraged their nontraditional choice making:

My father doesn't like it, but my mother is alright. (Senior secondary student, female, nontraditional)

My mother was absolutely aghast [with my decision to be an electrician] – she wanted me to go to university – she's a school teacher. My dad was stoked – he was in the military and he wanted me to find a direction; he wanted me to have a goal and not keep floating. He thought that I was suitable for this job. My mother didn't want her daughter to be in a trade – she was of the mindset that if you are in a trade you are stupid. [She's] old school. She wanted me to go to uni. (Apprentice, female, nontraditional)

The second quote above illustrates that family members' perspectives are not solely influenced by dominant gender norms. In this case the mother's opinion seemed to emerge from an interaction between gender norms and the higher status of academic pathways. Given that the interviewee continued as an electrician we might suggest that her father's approval outweighed her mother's disapproval in this situation. But it does raise questions about how young people might be prepared to negotiate variable or inconsistent levels of family support.

Rather than experiencing direct disapproval, another participant mentioned that she had not received any active support or advice from family members even though they had expertise in the area:

No-one gave [me] advice about the electrical job – not even [my] stepfather who is an electrician. (Ex-trainee, female)

Contrasted against the experiences of young men with fathers and grandfathers in the trades (noted in the above subsection), it is plausible that family-based trades-related knowledge may have been withheld from this young woman because of her gender. Parents do not necessarily set out to deny young women from fully exploring their options, but they still endorse traditional female roles:

I really liked animals and mum told me I could be a farmer's wife...I think she was like a lot of women in her generation and just really shaped by gender roles and gendered career paths, so access to that world [of animal-related work] would have been through being a farmer's wife. Also, with her being from Malaysia; I wanted to work with animals so it automatically meant farming. (Ex-trainee, female)

It is interesting to note that the young women who mentioned negative reactions from family members tended to have made a 'surprise' decision to enter a trades-related pathway in their late teens or early twenties. Although the numbers are tiny, one possible explanation might be that these young women were less likely to come from families who normalised trades-work or non-normative gender roles throughout their childhood. Another might be that playing with nontraditional identities becomes 'higher stakes' the older a young woman gets. Perhaps at that stage a young person's interests/decisions become a 'more real' threat to parents' preconceived ideas about their child's future, or perhaps they are just anxious for their child to avoid 'about turns' at what they consider to be the key time for career development.

Thus the interviews show that young people are exposed to different family experiences and comments that can open up or close down different career possibilities. Although gender differences are not clear cut, it seems that young men receive more support for trades-related pathways than young women. An obvious strategy might therefore be to provide more information to family members, not just to young people, about the spaces available for women in trades training and work.

Childhood play

Children are introduced to career experiences, opportunities, and possibilities through the experience of play. They try out various roles in pretend play, and experiment with different gender and fantasy roles. For example, they act out parental roles, imitating what they have absorbed from the life experiences surrounding them.

As outlined in Chapter 2, we asked all interviewees to cast their minds back to their earliest memories about what they might want to 'be' when they grew up. We were interested to see the extent to which their early career dreams fit with dominant gender roles, and what had happened to their dreams over time. It is perhaps not surprising that a large proportion of both male and female interviewees had imagined themselves in a career that would be considered traditional for their gender. For example, young men had wanted to be soldier, pilot, farmer, doctor, fire-fighter, builder, architect, policeman, truck driver, etc., whereas young women saw themselves as dancers, singers, actresses, hairdressers, nannies, fashion designers, dressmakers, etc.

Very few male interviewees said that they had aspired to female-dominated occupations as a child, but, in contrast, a large proportion of female interviewees saw themselves in traditionally male-dominated¹⁸ occupations. This was especially the case for young women who were current trainees in male-dominated trades. The tendency for both girls and boys to aspire to traditionally male occupations fits well with the interviewees' responses to a later question. Here we provided them with a list of female- and male-dominated occupations, and asked which they thought held higher status in today's society. Consistently, the young people selected historically male-dominated 'professions', such as doctor, lawyer, and policeman (although very few selected the male-dominated trades). The pattern also fits with other research that suggests men are more concerned about taking up 'cross sex-typed' work than women (Gottfredson, 1996 in Blanchard & Lichtenberg, 2003; Razumnikova, 2005).

We looked closely at their narratives to see how childhood play might have enabled them to try out different career identities at an early age. According to the young women, their pretend play often cast them in gender-traditional roles:

I wanted to be a celebrity singer...I made up routines and dances. (Senior secondary student, female, traditional)

I was getting really creative when I was little and then I started sewing and I wanted to be a fashion designer or seamstress or something. (Junior secondary student, female, traditional)

I wanted to be a hairdresser 'cos my mum was one... I was four 'cos I was dressing up in my mum's clothes. (Senior secondary student, female, traditional)

I wanted to be a fairy princess; I had a Barbie doll princess and I wanted to be like her. (Junior secondary student, female)

Other young women had tested themselves in a role less traditional for their gender, occasionally explicitly noting that they rejected gender stereotypes:

I just wanted to be a doctor because I had this doctor's set when I was little. (Junior secondary student, female, traditional)

¹⁸ In this case we have used the term 'gender-dominated' more broadly than the 10 percent cut-off we used to select interviewees (see Chapter 2).

I wanted to get into building – when I was little I built a fort. (Trainee, female, nontraditional)

I wanted to be a vet 'cos I liked playing with animals. (Apprentice, female, nontraditional)

I wanted to be an astronaut, then a vet...and have moved on to wanting to be a motocross driver... I never had a Barbie doll, and the first time I did, I gave it a Mohawk. I've grown up in quite a boyish way. I'm the only girl in the family. I don't know, just the atmosphere in the house, my parents didn't want me to become all soft and girlish. I like being different. (Junior secondary student, female)

I wanted to be a professional BMX rider... I used to do BMX riding for fun when I was little. (Senior secondary student, female, nontraditional)

The following comments from young men in traditional pathways are in contrast:

I've wanted to be a computer technician – well I liked building computers – always trying to make my PC better and stuff. It's been a strong interest, ever since I can remember. (Junior secondary student, male)

I wanted to be a professional skateboarder or basketballer – too much Tony Hawk Play Station... I liked playing Play Station games. (Junior secondary student, male)

I always considered building or carpentry. Since intermediate that is what I've wanted... I guess it is 'cos my dad always had planks of wood and nails for me to play around with. (Senior secondary student, male, traditional)

These comments provide an insight into how children develop career identities through childhood play. The retrospective – and re-storied – nature of the data means that we cannot make any strong claims about the different influences for young women and men, but it is telling that there were more women who talked about exploring traditionally masculine roles than there were men talking about exploring traditionally feminine roles.

Media

The influence of media such as advertising and television in socialisation, especially around gender identity, has been recognised for a long time now. Debates have been wideranging, from links made between the promotion of gendered toys (such as guns) to male violence, and from portrayals of thinness in the fashion industry to connections with female eating disorders. Today, more than ever, the youth demographic is targeted by entertainment and marketing companies, through a host of television shows, movies, video games, music, advertisements, Internet sites, etc. Young people are not just passive consumers. They actively pick and choose which messages to accept, alter, or subvert to suit. If young people deconstruct what they view, there may be both hegemonic and emancipatory messages in the same text depending on the reading of it (Sanchez & Stuckey, 2000 in Hylmö, 2006). In this subsection we explore interviewees' narratives to demonstrate the media's role in influencing young people's ideas about gender roles and career options.

Television portrayals of nontraditional occupations

Participants talked about the portrayal of males and females in nontraditional roles on television. Several suggested that these characters can make young people think, and potentially change their ideas, about what is considered an appropriate career choice for a man or woman:

[There should be] more advertising, on TV and stuff – even in programmes. If you see more and more of it [people in nontraditional roles] in everyday situations then it might make people think about it. I just think they should do more of that as young people are quite influenced by it and at least that would start them thinking about it. (Ex-trainee, female)

Several referred to male nurses on a variety of popular medically themed television shows. They tended to suggest that characters can be introduced to change people's thinking about the sorts of jobs men and women can do:

When I was little I thought nurses were women but now I know they are men too. TV [and being] in hospital has changed my perceptions. (Senior secondary student, male, traditional)

There are heaps of male nurses. You see them all the time on Shortland Street – they deliberately introduce them I guess to make the point that it's not a problem that males can be nurses. (Senior secondary student, female, nontraditional)

In contrast, a group of young women suggested that some character portrayals actually undo this potential, especially when male nurse characters are the butt of humour/ridicule/abuse:

Student one: *I don't really think that a nurse is more of a woman's job.*

Student two: *It can be both.*

Student one: *Like on TV shows and movies and stuff they're always bagging the male nurse except I really don't see a problem. (Junior secondary students, female, traditional)*

Interestingly, in comparison to male characters in stereotypically female roles, no interviewee mentioned female television characters in traditionally male-dominated trades-related careers. This was addressed directly by the following interviewee:

On Scrubs and Shortland Street it is half and half [men and women nurses] but it is just for social reasons. For building TV shows the girls are only in the garden area. In Mitre10 Dream Home there are no [female] plumbers, only the host. The professional builder has never been a female. (Senior secondary student, female, traditional)

Some perceived the media to conflate sexuality with nontraditional gender roles, especially for men:

Media always seem to portray people in nontraditional roles as gay, especially on TV. (Senior secondary student, male, traditional)

On Ugly Betty, everyone knows Mark is gay. If guys start working in the fashion industry, people expect them to be gay. (Junior secondary student, female)

But these [sexuality] stereotypes give you something to fight against. There aren't any ads that tell you that sparkies are gay so no one ever ties sexuality to the job, not the same as hairdressing. For those sorts of jobs that don't have such advertising you don't instinctively think people are gay because they do X, Y, or Z. (Apprentice, male, traditional)

Media and young people's early career ideas

The media can impact on people's thinking about the world and their identity construction from a very young age (Garner, 1999; Hylmö, 2006). For example, there is ongoing debate about how television violence and junk food advertisements potentially influence young people's behaviour and eating habits. Do these arguments have any connections to how media portray gender and careers? Our interviewees' comments about their early career dreams suggest that they were often attracted to jobs they perceived to be 'cool'. Their retrospective accounts included the following direct links between television and emerging career identities. It is clear that the media plays a role in glorifying or selectively representing career options, to the extent that some portrayals are substantially different from the realities of an occupation:

I wanted to be a chef and that was my main focus when I was young, from seven or so...thought it looked cool – from TV and books and stuff. (Ex-trainee, female)

I actually wanted to be a police officer when I was a kid. That's the main thing I remember – or a lawyer. I think that's about it... I just liked those TV programmes with lawyers. (Ex-trainee, female)

I always wanted to be a doctor when I was younger. I didn't really follow through with that as I got older... I was always interested in those kinds of TV programmes and stuff. (Ex-trainee, female)

[I wanted to make] music. I watched music videos every day and played music. (Junior secondary student, male, traditional)

...Jamie [Oliver, a TV cooking celebrity] makes everything good. (Junior secondary student, male, traditional)

I moved to wanting to be a motocross driver because I saw it on TV, pulling stunts on bikes and going fast. (Junior secondary student, female)

[I wanted to do archaeology] from watching Indiana Jones – thought it was cool and stuff. (Junior secondary student, female, nontraditional)

The above quotes show that, at least as children, some female and male interviewees identified with different television characters and work possibilities regardless of their own gender or the gender of the main characters.

Nontraditional roles and authenticity

Similar to television shows, interviewees had noticed that current advertising campaigns appear to consciously challenge traditional gender roles to open up the option for both genders:

Well there's that Army ad. [Oh true, so does that stick out?] Yeah because you would probably expect a guy. (Senior secondary student, female, nontraditional)

Often these adverts stick out from a wide array of gender-stereotyped marketing:

The [polytechnic] ads have girls doing interior design and the guys doing automotive – it could be that those are the people who have done the course etc. but it has an impact. (Senior secondary student, female, nontraditional)

Stop having them advertise buff men for building and pretty women for hairdressing. And for chefs it's always a guy. They make it seem impossible for women to do building, but it's not. (Junior secondary student, female, nontraditional)

There is one [advert] for logging on TV at the moment and you only see men on the ad. (Trainee, female, nontraditional)

There's a building thing [brochure] at [a local university] but there's a boy on the cover. (Senior secondary student, female, traditional)

Most interviewees believed that advertising should represent 'real' people in 'real' work:

I've seen the [polytechnic] ad and that has girls doing plumbing and stuff – it gives other girls a chance to see that they could do it too. I guess more stories would be good – you can't tell if people are enjoying things in photos or what it is about the job that they like. It could even be a setup for the promotion. (Apprentice, female, nontraditional)

Sometimes when there is a girl [in a trades advert] you can tell that she's a model. (Senior secondary student, female, traditional)

The New Zealand Army's digitally generated Lara Croft/Tomb Raider advert suffered some criticism due to its lack of authenticity:

The female Army ad, it's cool but it'd be cooler if it was a real person. I definitely noticed that it had a female in it. (Senior secondary student, female, nontraditional)

[What do you think of the Army ad?] With the hot chick? With tits out here and a waist this big? It appeals more to the men than the girls. It is a big turn off to the women. And when the men see women with tummies they think – god this is not what I was expecting. It really pisses me off that ad, because it's not realistic and they are just selling it to young men. It would be better if she was realistically built then I wouldn't have a problem with it. The Navy ads are better, their women are real women. (Trainee, female, nontraditional)

However, while they quite rightly suggest that it is too easy to dismiss unrealistic pictures of people in nontraditional pathways, it also seems that young people draw on pre-existing gender scripts and previous knowledge about a job to tell them what is authentic. Interviewees' evaluations of authenticity are not always correct, as we found when we showed them a picture of a New Zealand female builder – many suggested she that was a model, not a builder, and presented us with 'evidence' to support their claim (for example, her shorts were too short, she was too pretty, her toolbelt was on wrong, her hands weren't dirty enough, etc.).¹⁹

Seeking and producing career-related media

In narrowing down – or opening up – their study and career pathways, some young people navigate a broad array of media, including magazine articles, newspaper adverts, flyers, brochures, posters, and tertiary course booklets. For some young people, sorting through these various sources is a strategy to help them decide where they might like to head; for others they merely provide concrete information to help a young person access a training institution that provides what they have already decided on. And for others, seeing an advert can spark a sudden interest in a new area.

The Internet is one arena that allows young people to direct their own searching, and it can explicitly encourage consumption and interaction at the same time. Several participants mentioned their use of the Internet as the first point of information gathering about specific career options and related training:

Wasn't even looking till I decided so I just jumped on the Internet. I did a search on electrical apprenticeship and came up with [this training provider] and Modern Apprenticeships – because [this provider] is the link into that too. I applied online not even knowing if I'd really do it.... This [provider] was first on the Internet even though it's a 'minority' in the industry. (Apprentice, female, nontraditional)

I went onto the [polytechnic] website and asked about the course – it was starting the following year. (Ex-trainee, female)

I didn't know much about the training course at the [polytechnic]. I had looked on the Internet to see how long it would take and what the apprenticeship would cover in a broad sense. (Apprentice, female, nontraditional)

These few insights into the effect and influence of television and other media on young children's future career possibilities tell us more about the *missed* opportunities that could be produced through the media, than what *is* produced. It is a powerful medium that could be used to portray realistically a range of occupations, including the trades, which could reduce the level of gendered thinking around careers.

¹⁹ The female feedback workshop participants discussed their annoyance at these comments, especially the one about the toolbelt (which, as they pointed out, is incorrect). Two told us about recent advertising campaigns that had featured photographs of them. It seems that with so few tradeswomen, individuals quickly become marketable commodities.

Friends and other peers

Friends are a vital element in young people's social environments, and play a key role in young people's identity development (Sheriff, 2007). Young people share ideas about study and career possibilities, and together make meaning from the barrage of messages they receive about gender and careers. For the purposes of this section we treat friends and peers as two separate groups, looking at the role each can play in opening up or closing down nontraditional pathways.

Impact of friends on those pursuing nontraditional pathways

As with families, friends appear to offer unconditional support for study and career exploration. All are 'in the same boat':

My friends didn't care about my job choice – we were all finding our own ways, we were all finding our own place in life. I was the only girl doing an apprenticeship. I've got more male friends than female. (Apprentice, female, nontraditional)

My family and friends were really supportive and encouraging. (Ex-trainee, female)

Several young women in nontraditional pathways spoke about the active approval of their friends, even when their choices were considered to be rather unusual:

One of my friends is a hairdresser and she loves telling people her friend is a joiner... It's funny to see people's reactions when I tell them what I do. (Employee, female, nontraditional)

My friends are quite proud and tell lots of people. (Apprentice, female, nontraditional)

A lot of my friends weren't too surprised. I'm a bit of a tomboy at heart; they expected me to do something quite mannish anyway. They wanted to come and sit at the site. (Ex-trainee, female)

However, not all of the young people's friends were entirely positive about their choices:

They [my friends] didn't expect it. Rather than doing furniture they'd expect me to do cooking or something. I'd tell my friends I was doing furniture and they would laugh. (Senior secondary student, female, nontraditional)

At first they weren't expecting me to do that (electrical)... Some of my friends are pretty neutral about it (some thought I'd get either really butch or really feminine when I started). (Apprentice, female, nontraditional)

While such responses signal the powerful gender norms that continue to be perpetuated by today's youth, reactions of surprise, disbelief, and/or amusement seemed in most cases to be transitory. Some expressed pleasure and pride in having a friend who was doing something nontraditional for their gender. Friends were also a key factor in helping young people pursuing nontraditional pathways to build resilience and deal with less positive reactions to their choice. There were, however, exceptions to this:

Your mates are the ones who would frown at you wanting to do something different... If guys want to do design it's there for them to do but your mates push you into [gender-specific] classes. (Ex-trainee, female)

This fits with Osgood's et al., (2006) research which suggests that:

Stereotypical views held by teenagers at a crucial stage of adolescent development, when they are seeking to construct 'acceptable' and normative constructions of gender identity combined with neoliberal, individualistic 'freedom of choice' approaches to equal opportunities has resulted in persistent gendered attitudes and experiences of work. (p. 318)

The influence of peers on those pursuing nontraditional pathways

A peer could be described as any young person an individual interacts with in a learning and/or social environment (such as classmates, fellow trainees, sport team members, etc.). Young people in nontraditional pathways tend to be surrounded by peers of the opposite sex, and how these peers respond can influence whether or not the individual develops a sense of legitimacy about their choice. Consider the following two quotes in which two young women describe their expectations about how women in nontraditional pathways might be treated and perceived:

If I went into woodwork I probably would have got teased, and [it would have] undermined me. (Senior secondary student, female, traditional)

But you kind of got the impression [from other students, particularly boys] that if you did furniture you were a hard bitch or something – you were really tough because it was a guy's thing. (Senior secondary student, female, nontraditional)

Thus peers, more so than friends, were likely to rely on stereotypes when attempting to make sense of young people's nontraditional pathway choices:

Interviewee one: *The boys thought we were there [in woodwork class] as a joke.*

Interviewee two: *The first time we showed up to class it was pretty crazy. All the boys were going 'What is she doing here?' but I was in that class last year as well. (Senior secondary student, female, nontraditional)*

Disapproval can be motivating as well as offputting, as feedback workshop participants discussed:

Participant one: *Some people didn't approve so I did things to prove them wrong. Most people approved though.*

Interviewer: *Has anyone else found that disapproval motivated you?*

Participant two: *It motivated me to do my advanced trade once I'm qualified. I wanted to do it maybe 60 percent anyway. Even though I've already done three years, people don't see it as enough. They see me as a one-minute wonder. If I do two more years people will take me more seriously.*

Some of these ideas are taken further in Chapter 5, where we explore how gender is constructed in trades training and work. Before that we demonstrate that interviewees' narratives about other young people's reactions to the nontraditional career choices of their peers clearly contradict their assertions that successive generations have become more supportive of gender equality.

Generational change

We asked interviewees to describe how they thought males and females are treated in nontraditional jobs today, and whether (and why) they thought things differed from what their parents or grandparents would have experienced. An overwhelming majority believed that attitudes have changed, and that there is much less pressure for today's young people to stick with stereotypically gendered roles. For example:

Way different. Now you have the option to do whatever you want. In older times there were stricter roles with women cooking and cleaning. It's definitely a good thing that it's changing – it's still occurring though. (Trainee, male, traditional)

Like society has more open views on what females and males can do now. [My parent's perspectives are] closer to ours... they can do either... like my dad's a nurse. So he does that. (Junior secondary student, male, nontraditional)

I think a lot of people are more accepting – realise that not everybody wants to do the same things. A more diverse workplace means more people bringing in ideas and stuff. (Ex-trainee, female)

Several young people specifically commented on changing social reactions both to male hairdressers and to females in the traditional male-dominated trades:

'Cos if you wanted to be a male hairdresser years ago people would have frowned upon it. (Senior secondary student, female, traditional)

I had a mate that wanted to be a hairdresser – I reckon it's sweet if he wants to do that. Definitely more accepted for guys to be hairdressers these days. (Senior secondary student, male, traditional)

Very different from my grandparent's time – unheard of for women to be plumbers then. In our parents' day it was getting better. (Ex-trainee, female)

Females have more self-esteem now and we are not beholden to males and not so under males' thumbs. When my mum was a kid they had issues with bikinis, short shorts. They would be told to go home and change for sexual promiscuity. Back in my grandparents' day women were encouraged to get married and have kids and cook, and now you can do it all or what you want. Back then people were worried about what other people thought, now people don't give a shit... People then didn't want shame, and working in a nontrad job hanging round with boys all day people would think there was something going on. Youth today have had enough with the old ideas. (Apprentice, female, nontraditional)

Hairdressing is ok for guys now because guys care about their hair now [and] get all different styles... My uncle used to think I was gay because I talked about hairdressing. Now it is cool though. Guys play netball now. Sometimes people laugh at us but everyone plays netball now. (Senior secondary student, male, traditional)

These comments do not necessarily match with the actual male:female ratio in different trades. When we asked interviewees to estimate the percentage of females in a range of trades-related areas,²⁰ the responses varied widely. It is difficult to see patterns, but overall estimates for the male-dominated jobs were more accurate than for the female-dominated jobs. It was not uncommon for interviewees to argue that girls *can* follow trades, they just do not want to (see Fuller et al., 2005). People often recognise that gender inequality exists, but are reluctant to talk about their own experiences as inequalities and tend to cite ‘natural differences’ and ‘freely made choices’ to argue that it is not a problem (Howard & Tibballs, 2003, p. 52). As one of the participants in a feedback workshop put it:

If the reason why those percentages are so low, it's probably partly because they are scared about what people will say about them; but then again if people aren't doing those trades because they just don't have a passion for it, then they should just leave it. (Junior secondary student, female, traditional)

Summary

Our interviewees' comments make it clear that messages from family, peers, and media are an important influence in ‘setting the direction’ for young people’s career decision making. These messages were, it seems, particularly important for the young women who have gone into the traditionally male-dominated trades. The messages from family, friends, and so on appear to lay the foundations onto which other influences are later added. As outlined in the next two chapters, these later influences, depending on the context, can support – or subvert – these early messages.

²⁰ We asked them to estimate percentages for: electricians, builders, plumbers, community workers, pharmacy staff, and hairdressers.

4. School structures and discourses: providing choices, or screening and sorting?

This chapter reports and comments on what the young people we interviewed told us about how school structures and systems affected their career decision making. It also looks at the quality of the careers education advice they received, focusing in particular on the influence of the ideas and assumptions that organise 'school' thinking.

It is clear that the young people's school experiences were an important influence on their choices, and that their schools (intentionally or not) played an important role in 'filtering' the opportunities available to them, in many different ways. Some of these are quite visible (for example, the way subjects are organised into timetable lines). Others are the result of tacit assumptions about what is appropriate for different 'types' of young people (for example, the continuation of the 'old' academic/vocational division between subjects, despite recent major changes to the assessment system that were, at least in part, designed to blur these boundaries). The experiences of the young people we talked to show that this filtering operates at nested levels of school organisation, and that a reconsideration of some of the assumptions that underpin it is an important precursor to the development of effective strategies for encouraging more young people into the trades.

This chapter synthesises the young people's stories in terms of their experiences with:

- the way schools are *organised* (timetables, subject clustering, and other structural issues)
- the *advice* they received (from careers advisers, deans, teachers, and peers) about what was appropriate for them in relation to their abilities and interests, and in relation to their gender
- the types of 'transition', careers education, and/or work experience *programmes* they were offered.

School organisation for curriculum delivery

All secondary schools have to balance the goal of educating many young people with diverse learning needs with the finite resources (money, time, etc.) available to do this. They must make critical decisions about how best to deploy the resources available to them, in ways that can achieve their local goals and their national obligations. Obviously, there will be no one way which is 'right' in all cases, but there are some practices that are well entrenched by tradition and expediency. Foremost of these is the organisation of the school timetable to accommodate as many subjects as possible within the finite constraints of the 'periods' of time available. Schools need to weigh the anticipated uptake or popularity of subjects (to avoid classes that are too small – which in turn must be counterbalanced by other classes that are too large) against how well the overall combination of subjects offered will

meet student learning needs. Most schools seek to offer a broad yet balanced curriculum, and to avoid undue restriction of subject choices too early in students' secondary career (Hipkins, Vaughan, Beals, Ferral, & Gardiner, 2005), but nevertheless they must make choices. This is important for the present purposes, as there is clear evidence that these choices impact on how students see their future options.

In two recent research projects, NZCER researchers have found that school timetabling practices effectively create subject 'clusters', and that those clusters are populated by quite distinct student groups. The school timetable functions to spread a given number of students and teachers across a set number of timeslots available in the school week. For a variety of reasons, 'academic' subjects tend to be plotted first and are often allocated multiple lines²¹ which means that there are fewer spaces available for 'alternative' subjects (for more detail see Hipkins & Vaughan, 2002). Each of these 'alternative' subjects is often given only one line on the timetable, effectively placing it in direct competition with other subjects offered in the same slot.²² On an individual level, this situation – with its knock-on effects – means that some subject combinations are easier to take than others, while students with 'alternative' interests have a greater likelihood of being in classes that are not of their first choosing. Multiply these constraining logistics across the full school timetable and student body and the result can be the unintentional formation of distinct groupings or clusters of subjects for different 'types' of students.

Typically, there will be about four clusters in each year of the senior secondary school (Hipkins et al., 2005; Wylie, Hipkins, & Hodgen, in press). Two of these clusters are likely to have a more 'academic' focus – one with an arts orientation and one with a science orientation. The other two clusters will provide some combination of contextual (subjects that make connections to life outside school such as media studies, photography, or environmental studies) and vocational subjects. Evidence of structural inequalities in the ways students are filtered into these clusters can be found in the social characteristics of the students. In both the Learning Curves study of the implementation of NCEA (Hipkins et al., 2005) and the Competent Learners longitudinal study (Wylie et al., in press) Māori and Pasifika students were more likely than Pākehā and Asian students to be taking nonacademic subject combinations. Males were also more likely to be taking these types of combinations while females were more likely to be taking academic subject combinations.²³

Clusters are associated with post-school decision making. For example, students in academic clusters are more likely to be headed for full-time university study, and to aspire to work in a professional occupation. But there are some suggestions that this is not a direction undertaken lightly – in the Competent Learners study, students in nonacademic clusters were more likely to say that lack of qualifications would be a barrier to the sort of life they wanted – and indeed to see a range of barriers that did not seem to be as constraining for other students. Students taking nonacademic subject combinations were more likely to be contemplating earning-while-learning options, to aspire to a trade, and to see connections between current and future work options (Vaughan, in press).

²¹ For example there could be three lines of English for a student to choose between, such as: Monday, Wednesday, and Friday at 10am; or Tuesday, Wednesday, and Thursday at 2pm; or Monday at 11am and Thursday and Friday at 1pm.

²² For example, automotive may only occur at 2pm on Wednesday, Thursday, and Friday.

²³ See also Hipkins, Roberts, Bolstad, and Ferral (2006) for gendered cluster patterns in science-related subjects.

Adding to this picture of inequalities in opportunities, the Learning Curves analysis suggested that even the 'core' subjects such as English and mathematics, seemingly taken in common by most students at least until the end of Year 11, will look very different for students in these different clusters, and will be assessed by quite different combinations of achievement and unit standards (Hipkins et al., 2006). This point is not just of academic interest – entrance to university is enabled or constrained by having the correct combination of four factors:

- total number of Level 3 credits
- a literacy requirement
- a numeracy requirement
- having certain *kinds* of credits (these credits, mostly from achievement standards, must be distributed in certain ways across 'approved subjects' from a published list generated in consultation with university vice chancellors).

Recent research from the Star Path project at Auckland University has shown that, of those four factors, not having the correct distribution of credits across subjects is the main 'choke point' for Māori and Pasifika students from low-decile schools. Even if they satisfy the other three requirements, 'choosing' a subject combination that does not yield the necessary pattern of credits prevents them from taking up university study immediately after they leave school (McKinley, 2008). Since clustering practices mean these students are more likely to find themselves in subjects that are not on the 'approved' list for entry to university, it is not difficult to see how school timetabling practices contribute directly to this outcome.

Subject clustering also has an effect on students not aiming towards university. The resource-intensive nature of practical subjects such as woodwork, metalwork, and other technology options adds a further complication. These subjects require specialist learning spaces and tools and generate ongoing material costs. There are compelling reasons for schools to restrict their availability in the timetable lines. These subjects are frequently the site of the most visible gender imbalances within schools. Already restricted in availability, gendered decision making may act to close out choices for students of the 'wrong' gender. Evidence of the impact of these structural constraints on the young people we interviewed is now presented.

Subject clustering and student 'choice'

Students are, in theory, encouraged to make their own combination of choices from among all the available subjects: however, the strong clustering patterns described above suggest that they are in fact operating within constraints (and that they may not be aware of these constraint). They are subject to the framework of possibilities available in schools. These frameworks are shaped by the school, and by the decisions of various adults associated with them (Hipkins et al., 2005, p. 15).

When the timetable (and the adults who design the structure and then make it work) acts to filter student choices, a 'hidden curriculum' is implicated. There are hints of this 'tacit teaching of social and economic norms and expectations to students in schools' (Apple with King, 2004, p. 42) in the findings from other research (reported above). In theory, all things being equal, any type of student could choose any type of combination of subjects to fit their aptitudes and interests. But this is precisely the point at which tacit value judgements come into play. What 'types' of students have the aptitudes for what types of subjects? What ought females to be interested in?

What should males be interested in? How are perceptions of learning abilities implicated in the choosing? How *adults* in schools answer these questions has an impact on the spaces in which the students ‘choose’ their subjects. When choices are visibly constrained, the values that underpin the filtering process come clearly into view. In the following comment, one of the young people we interviewed describes trying to ‘choose’ carefully as required, only to be confronted by the prosaic attitude of the school dean entrusted with providing guidance:

And it also depends what your other options that you know you're going to be doing because it all has to fit in. They have to all fit in with each other. If there are two [subjects] that you want to do that are in the same time slot then you can't do both. So he [the dean] said it was more about the logistics rather than actually helping you make the decision about if that's what you want to do more. (Junior secondary student, female, traditional)

We see a clear illustration here of the limits of ‘choice’ for students who don’t fit the traditional ‘academic’ mould. Practical subjects of interest to them are less likely to be offered on more than one timetable line (which provides a means of avoiding clashes in academic subjects with a larger uptake). A forced choice on this line could well result in a second forced choice – between offerings of little or no interest – on another timetable line. This influences the range of learning experiences to which these students are exposed at school, and in turn, the possibilities they can see for their futures.

It is no accident that a dean was implicated here. Other research has shown that their perceptions of what is appropriate can have a disproportionate influence on students’ subject combinations, especially where students are perceived to have ‘learning needs’ that may not be met by the traditional ‘academic’ subjects (Hipkins et al., 2005). Deans generally fulfil a role involving a mix of subject administration, student support, and behaviour management. Conflation of these roles can colour the way they see students’ options, especially when timetable clashes arise for students who have been in trouble for one reason or another. This young person’s comment reveals an anger that is highly informative in the context of this report:

Teachers could be more encouraging about encouraging girls into trades-related courses. When I was at X college my dean asked what I wanted to do in the long-run, what am I good at? And I said something with my hands. So she said, ‘So do you want to do sewing?’ I said ‘No, fixing things like metals and things’. She said ‘What! There’s woodwork but there’s lots of guys in it’. I said ‘I don’t give a XXXX’ and she tossed me out of her office because I swore at her. But I didn’t give a toss that I’m the only girl. I just wanted to do what I want to do. I ended up doing the course and passed it. The teacher was fine and so were my classmates. It was just the woman dean who freaked out. (Trainee, female, nontraditional)

Perceptions of what is appropriate for more ‘academic’ and more ‘vocationally - oriented’ students undoubtedly also act as a filter. Already built into the timetable structure, they are given additional impetus via the thinking of those who help students ‘choose’:

You get told that university is the next step if you want your life to go anywhere. (Apprentice, male, traditional)

Some students would take them as they are interested in it and others to avoid work, especially academic work. I found there was a mix of those people in there. Definitely some who were keen and completed it like myself but others weren't really interested. (Senior secondary student, female, nontraditional)

Here we see the perception that a choice of a vocational orientation is an inferior or default choice, one that ought not to be made by any student who has more academic options available. In the Learning Curves project, both technology and arts curriculum area leaders lamented the role played by deans in discouraging able students from taking their subjects, even though they were well aware of the levels of learning challenge (both practical and intellectual) they could provide, and of the range of career options that could open up (Hipkins, Vaughan, Beals, & Ferral, 2004). In the Competent Learners at 16 research, not one student in the highest quartile for total number of Level 1 NCEA credits said they intended to head for a career in a trade, compared to 33 percent of those in the lowest quartile for this factor (Vaughan, in press).

It is likely that the implementation of the NCEA has exacerbated this hidden value judgement even though the intention was to do the opposite, by introducing 'parity of esteem' for all subjects. The distinction made between achievement standards (perceived as the assessment instruments to choose for academic subjects) and unit standards (for vocational assessments) seems largely responsible here, even though many teachers do hold a much more nuanced view of their relative strengths and will typically choose the most appropriate for the context (Hipkins et al., 2005). Within schools this filter has impacted on the ways in which some students view vocational subjects and the value they place on the skills and knowledge learnt in them:

Most of my friends thought I should be doing more academic courses as I was mainly doing unit standards. They might have thought that I was limiting myself if I did those practical subjects etc. I wasn't worried; I do well for me, not other people or prizes. (Senior secondary student, female, nontraditional)

The overall impact of this perceptual filter is that there is a strong preference in schools for young people to pursue more academically-orientated pathways. Students are exposed to a range of negative stereotypes about the types of people that take vocational subjects, the value of those subjects, and the robustness of assessment occurring in those subjects. In schools this can result in academic options/pathways being more visible and accessible to large numbers of students while vocational subjects are seen as an 'easy option', targeted at smaller groups of students who are perceived as not 'having what it takes' to succeed in the academic subjects. One young woman in our feedback workshop strongly supported our analysis, and shared her unsatisfactory experiences in attempting to combine her practical interests with her desire for 'rounded' academic success:

They [her school] count workshop as a bum subject and everyone who has a subject clash just gets put in there. When I talked to my careers adviser and said I wanted to be a digger driver or builder, she said to do Gateway. But it's a whole day once a week and there's a high workload. You can't do Gateway and also do other things you want to do... In Gateway the unit standards are only 6th Form level but you have to do Gateway in 7th form, so it doesn't look good. (Female, feedback comment)

She also thought that girls were expected to opt into hairdressing, not the male-dominated trades. We explore this issue in the next section.

The impact of gendered and hetero-normative thinking

Gender (and sexuality) 'norming' is experienced by students through interactions with their peers and teachers. They also play out in ways subjects are structured and, as we have already seen, ways in which the timetable is organised. While there is explicit superficial support for students of either gender to pursue roles considered 'normal' for their gender, young people who express nontraditional gender interests may experience both direct and indirect messages about 'appropriate' gender/sexuality roles:

I think people laughed at first [about me taking furniture making]. All our friends, boys and the girls, they would ask 'Why are you taking that?' Some of them think you are a dyke. Everyone thought we were crazy. (Senior secondary student, female, nontraditional)

In 5th Form science I got 100 percent for electricity course, and my teachers should have given me the chance to explore this area more...should have given me the possibilities that this could lead to. (Apprentice, female, nontraditional)

I took those courses at school [woodwork etc.] because I enjoyed them. I didn't think of it as a career at that stage. It wasn't until it got pointed out to me at the expo that I could actually be a builder... it made me really happy to find that out [and be told]. (Trainee, female, nontraditional)

Organisational decisions made by management in single-sex schools reflect tacit gendered thinking, and thus provide opportunities to explore how this can act to filter students' choices:

You can see that things have changed in some areas like cheffing and nursing but there is a long way to go before you have hairdressing as a subject in a boys' school. (Senior secondary student, female, nontraditional)

I went to an all girls' school and they didn't have woodwork classes, we had technology. (Ex-trainee, female)

At co-ed schools both genders have more options to do different stuff. At boys' schools it's all technical and at all girls' schools it's about fabrics and cooking. (Senior secondary student, female, nontraditional)

My dance friends are mainly from a single-sex school and they have very little idea about practical skills like set construction for stage performances. Had I gone to an all girls' school I wouldn't have been able to do the subjects and get interested in these [building and automotive] things. I think it's sad that girls' schools don't have those subjects, I'm pro co-ed education as it's closer to the real world and people have the chance to develop good skills. (Senior secondary student, female, nontraditional)

However, it is important to note here that, if young people can get past the structural and perceptual filters described above, there is evidence that supportive subject teachers can make a difference by ameliorating the pressures of normative thinking from elsewhere, and by confirming and supporting nontraditional choices. Their specialist knowledge and skills are likely to give weight to the views they express to students about their likely ongoing success in any chosen pathway:

My technology teacher was really happy as I was the first girl from my school to pursue being a builder. (Trainee, female, nontraditional)

One teacher noticed I had a knack for building and said I should follow it up. At that point I was choosing between building and hospitality so it was good advice. (Ex-trainee, female)

Student 1: *Mr X is good about it. He doesn't see it as weird. He knows we're there to enjoy ourselves and he helps us out and stuff.*

Student 2: *He's really good at helping us out. I think he really likes when he sees us learning something.*

Student 3: *Yeah, it's like he's really determined that we do well. (Senior secondary students, female, nontraditional)*

Subject teachers are also a potential source of subject-focused careers support:

The HOD [head of department] of technology got me involved with the course at X... My graphics teacher also took some of us to meet lecturers at university and we visited another university. All of this was good as it showed me different options, places to study as well as topics. (Senior secondary student, female, nontraditional)

We have no evidence of young men being explicitly encouraged to choose subjects that are traditionally taken by girls, but this could of course be because we had a smaller number of interviewees taking traditionally female-dominated subjects. A young woman considered this in her posted feedback to our analysis presentation:

I think it has become more acceptable for a female to do a workshop class but males tend to still get ridiculed for taking fabrics. (Female, feedback comment)

The influence of careers advisers

Students typically have contact with the school's careers advisers at a number of points in their schooling experience. External visits by tertiary providers and other training organisations are commonly arranged, whether from regional, national, or international groups. Here again there is evidence that gendered thinking (by careers advisers or by those who design and provide publicity material for schools) constrains schools' ability to help students who are considering nontraditional choices. There is also evidence that students considering such choices need to be determined and persevering if they are to bypass this kind of thinking. According to some of the young people we interviewed:

Need better steps in place for when a girl does want to do it [plumbing or trades in general]. It's not just about posters in guidance counsellors' offices. (Apprentice, female, nontraditional)

[At school] it was just 'choose something and we'll help you follow it up'. They weren't really showing you different things that you hadn't tried or considered. If you didn't indicate an interest they wouldn't tell you about it. (Ex-trainee, female)

[They need] flyers or brochures about more jobs and better careers advisers. All they asked me was if I was going to university. (Apprentice, female, nontraditional)

When you think about the apprenticeships that might be up for grabs, where are they looking for people? Probably going to the places where students are doing the subjects. This has an impact on what sort of information is sent and displayed in schools, so you won't get trades information at a girls' school etc. (Senior secondary student, female, nontraditional)

Other New Zealand studies have found evidence that haphazard school-based careers guidance and poor advice from careers advisers (for example, about industry and trades) inhibits young people's ability to make career decisions (Higgins & Nairn, 2006; Vaughan & Boyd, 2004; Vaughan et al., 2006; Wilson & Young, 1998). However, there is also evidence of systemic constraints and weaknesses in the school-based careers education system, i.e., this issue is not solely the responsibility of individual careers advisers. Constraints include a school-based careers workforce with a low level of professional qualifications in the 'careers' field (and limited professional development); the low status of careers positions compared with other management positions; and the association of careers education with (low-status) vocational transition programmes (Vaughan & Gardiner, 2007).

At a systemic level, providing *information* (often marketing brochures) is privileged over assisting students to *make sense* of the information or to learn decision-making skills. There is a mismatch between National Administration Guideline 1.6 (which emphasises the former) and the Ministry of Education's careers guidance handbook to schools (which emphasises the latter) (Vaughan & Gardiner, 2007). These constraints and systemic weaknesses mean that school-based careers advisers have been slow to recognise – or be assisted to understand and work with – a wider shift away from careers 'guidance' as vocational matching (what job are you suited to?) towards careers *management* (how can you manage yourself as a lifelong learner-worker?).

The Gateway, STAR, and work experience programmes

In addition to the trades-focused subjects, there is a range of programmes and systems in place within schools to assist young people with careers decision making related to vocational pathways. They are connected to the wider school system and are designed to do certain things within it. In some cases these programmes are not taught within the school. Rather, links to other educational providers allow students to pursue these subjects/educational experiences in other settings. In many cases students need to explicitly express an interest in vocational training, and to complete an interview/selection process to gain entry. Once they have been chosen for a course, some rule it out as a potential pathway by deciding it does not suit. Students need to 'search' within vocational areas, just as they do in academic areas. A preference for practical or 'hands-on' work and learning does not imply that any trade will do, and there is often a scoping element to work experience:

My work experience was really valuable...to realise that the way you might be thinking could be too narrow. Broadening your horizons and give things a go, you won't know till you try. (Ex-trainee, female)
When I came to college I didn't know what I wanted to be. Gateway helped me out because it gave me a lot of options. (Senior secondary student, male, traditional)

Gateway really helps you find something to do – plus there are the courses you can take (defensive driving, engineering, plumbing, etc.). You can also get ITO training paid for by the school. (Senior secondary student, male, traditional)

In the light of this, the actual experience young people have on work placement becomes important to their potential continued participation. Here again, gendered thinking may be a negative influence. How will the people at the placement treat female students? Will they consider their interest genuine or that they are capable of succeeding in this area? The following comments from the young people we interviewed provide some insights:²⁴

Oh well I did a [Gateway] course in April and I went to X and did four days of work experience up there and it sort of made me want to go there and study. (Senior secondary student, female, nontraditional)

I did do outdoor experience at school which was how I got interested in rafting. But I decided that I didn't want a big student loan and you don't get very good money doing it. (Trainee, male, traditional)

When I went to work experience with X they made me wash cars all day. The next year they obviously thought 'Oh, she is really interested' so I worked on cars that time. It was like they didn't believe a girl was really interested the first time. (Trainee, female, nontraditional)

In 6th Form there was a timetable muck-up and I got to do automotive [STAR course]. It was really good and now I understand a lot more about cars and engines. In 7th Form there was another timetable muck-up and this time I took carpentry. I had known there was a good teacher there who had skills. I really liked being able to fix things and learn more about the construction side of subjects like graphics etc. (Senior secondary student, female, nontraditional)

For one of my [school] courses I got to work with second-year mechanical engineers at X and saw how they did stuff and where I could be if I followed it up. (Senior secondary student, female, nontraditional)

Still, not all of our female interviewees had taken up – or been offered – Gateway, STAR, or work experience opportunities:

I didn't do any work experience. It wasn't really available at my school and what there was had a tourism and travel focus. That wasn't interesting to me. (Ex-trainee, female)

²⁴ Not all of our interviewees said (or necessarily knew) whether their course or work experience was part of STAR, Gateway, or another initiative.

I guess the Gateway programme is encouraging. If I had been able to do that I would have. You would get good experience and stuff. It'd be easier for girls to try it out and learn without the commitment of a polytechnic course, huge debt, or a year of full-time study. (Apprentice, female, nontraditional)

I didn't hear a lot about trades, only saw info about it at the expo. Didn't hear anything about it at school, only reps from universities visited our school. No trades places [visited] or even polytechnics...hmmm actually maybe one polytechnic did visit. (Trainee, female, nontraditional)

Schools don't do it [work experience] early enough. They organise work experience two months before you leave school and by then you've taken all the wrong subjects. They should do it in the 4th Form. Get them interested in the 4th Form and do it then. (Ex-trainee, female)

Some of these quotes support the findings of UK-based research which suggests that work experience take-up is gendered: that is, it channels males and females into different areas (especially when students are encouraged to set up their own engagements) (Osgood et al., 2006).

Careers expos

These events also play a role in assisting students to think about subject/career/job choices. Career expos aim to present a broad range of options to large numbers of students looking to refine their existing interests or prospective pathways. They can be useful, for example:

I really got into it [building] at the end of 7th Form. I went to a careers expo and saw a display. I had planned to do a joinery course then I found out I could do the carpentry one and if you did that it gave you pre-trade for either building or joinery. (Trainee, female, nontraditional)

However, students frequently do not attend these events until Years 12/13. By this point many have left school, or are committed to particular pathways, so that change is difficult. Some students experienced negative reactions to nontraditional pathways while attending these events:

They have careers days in Wellington, but I didn't feel like it was for me. When I asked questions [about trades training] the guys gave me strange looks, like 'What are you doing here?' and I just felt sort of awkward. (Trainee, female, nontraditional)

I think events like careers expo are really good. All schools (single-sex or co-ed) get shown the same material. You get areas that are more set up for boys or girls but at least you have a chance to have a look. (Senior secondary student, female, nontraditional)

Some of the young people made suggestions for improving the careers days. For example:

Get local companies involved to show them what they'd do rather than a brochure or an ad on TV. Seeing the real parts of the job rather than the glossy pamphlet. (Ex-trainee, female)

Schools' attempts to change the status quo

Many interviewees suggested that schools could do more to disrupt gender-related pathways:

But they [girls] need to be aware that it's an option for them. So maybe in school when you do woodwork they could do some more courses to give girls a little taste of it. And if they knew that there were other females doing it it would give them a boost. (Employee, female, nontraditional)

School is a big part of it [helping people into the trades]. Being offered a range of subjects earlier, having careers people coming in to talk to the single-sex schools. (Senior secondary student, female, nontraditional)

One school we visited was doing just that. As noted in Chapter 2, we had difficulty recruiting sufficient young people in the nontraditional category and, to increase the numbers, we included students from a school that requires all Year 9 students to do 'taster' courses in all of the technology subjects. These students take a total of 12 electives/options during the four terms of their Year 9 year. These include fabrics, technology (practical), and food technology, subjects that are typically gender-segregated when participation is a choice. The intention is to help students make more informed decisions about their Year 10 subjects: however, there is some evidence that this strategy encourages students to take a wider view of the options available to them. Below are two focus group discussions about the schools' approach. Both involve students from a Year 10 design technology class looking back at their Year 9 experience. The first conversation is from an all-male focus group:

Student one: *I think it's a brilliant idea...but can be annoying with classes you don't like. But you get more experience and this makes the choice easier for Year 10.*

Student two: *This is the same as in England. It's a good idea.*

Student three: *I think it's a good idea. Everyone should try everything.*

Student one: *Fabrics are ok, but I don't like sewing. I liked cooking and I've liked it for quite a while now.*

Student two: *It's a very good idea. You still get the basics. Cooking is great fun! I mean...what more could you want!*

Student three: *I hated fabrics and cooking. But I enjoyed music and drama. But it's still good to get basic ideas.*

Interviewer: *Why do you think this school has all Year 9s doing all electives?*

Student two: *To stop people from being sexist. They are stopping that...to show that everyone can do it.*

Student three: *By making us do all the classes, they want us to have a good idea.*

Student one: *They definitely should keep it going.* (Junior secondary students, male, traditional)

Similar opinions were shared by this next group of young women:

Student one: *At [a local girls' school] you choose your options in Year 9. I thought it [our school's approach] was really good. You get to know what they're all like.*

Student two: *Looking at the [local girls' school] options, I would have chosen to do graphics. But now I know I hate graphics and I hate sewing.*

Student one: *They're getting us to know who we want to be and what we want to do.*

Student two: *If you know what you want to be you can do options related to it.*

Student two: *It's nice seeing they [boys] have a feminine touch [in sewing]. It's annoying when they are more fashionable than you. It's cool when you outsmart guys on more masculine stuff.* (Junior secondary students, female, nontraditional)

When we mentioned this school's strategy at our feedback workshops, both the young women and young men (none of whom had experienced it) expressed some caution. They supported nontraditional options being *actively offered* to male and female students, and they recognised that schools and peer groups make some paths more accessible to one gender. However, they were not comfortable with the idea of 'forced choice', especially at secondary school. Their discussion illustrates the dilemmas that emerge when the discourse of 'individual choice' meets the 'equal opportunities for all' discourse within a model of educational progression based on prerequisites and a privileging of the academic curriculum. Some of the participants explicitly said that school influences hadn't been that important in their decision making:

Participant one: *We had compulsory subjects like art and music. It depends. It does slow you down.*

Participant two: *Maybe more in primary but in college it shouldn't be forced. Otherwise it could feel like a waste of time being forced to do something. It's good at intermediate though.*

Participant three: *I've done a late apprenticeship, at 24. I don't regret that. I was academic at school, I hadn't been exposed to the manual side. I went to a girls' school and those options weren't there. Yeah a bit of exposure to it [is good] but school isn't the be all and end all. There are other opportunities.*

‘Transition’ from school and ‘practical’ aspects of decision making

Work-based learning in schools and the permeability between schools and other training providers are part of the ‘bigger picture’ of a rapidly changing labour market that demands different skills from workers and different kinds of connections with the education system. These ideas are underpinned by shifts in the way knowledge is understood and used. As ontological forms of knowledge or how we can *be* in the world (Barnett, 2004) become at least as important as *what* we know or can store up (Gilbert, 2005), workplaces will increasingly be seen as learning environments (Billett, 2006).

Some aspects of the current school–work transition environment encouraged our interviewees to either consider or take up trades training/work. For example, the ‘learning-while-earning’ aspect of apprenticeships was a definite incentive for many:

What was attractive was the pay because there was such a shortage.
(Ex-trainee, female)

I want to do an apprenticeship next year. I was going to mechanical engineering at Weltec in 2007 but I didn’t have the \$5k for the course. (Senior secondary student, female, nontraditional)

With an apprenticeship you make money, it’s only 3.5 years, it’s internationally recognised, and hands on. (Apprentice, female, nontraditional)

However, this was not necessarily the deciding factor, and many of the participants commented on the low wages received by apprentices, particularly those who had started apprenticeships when older. Some also had stories that contradicted recent media messages about trades shortages and/or the financial benefits of trades apprenticeships and employment:

Earning-while-learning influenced me because I came from a full-time job but didn’t have any formal qualifications that would help me get overseas. But I didn’t know how much the wages would suck. The cost of training is pretty good though. It’s cheaper than uni. If there were higher costs it would put people off. (Female, feedback comment)

I’d like to do mechanical engineering – but my dad doesn’t want me to [because I] won’t earn much money. If you’re a dentist you earn a lot more money.
(Senior secondary student, female, nontraditional)

They’re not paid that well. (Female, feedback comment)

Also, perceptions about whether or not the trades are sufficiently well paid and the *meaning* of money varied considerably amongst the young people we interviewed:

Nothing is really stopping me – you can find solutions money wise; you just need to focus on what you want. (Senior secondary student, female, nontraditional)

- Interviewee one: *Even though it doesn't bring you happiness you need money to look after family, pay your mortgage. It's always good to have. Money doesn't equal happiness but it helps you do what you want.*
- Interviewee two: *Money to do what you want. Be stable and then I could race cars*
- Interviewee one: *I'd kind of prefer a low-paying job cause the more money you have the more money you want and money really doesn't make you happy so why chase it.*
- Interviewee three: *Yeah it doesn't make you happy but how are you going to do that course that you wanted without it? (Senior secondary students, female, nontraditional)*

Another NZCER study has shown that young people's pathways navigation is driven in part by the importance of security, and in part by the ability to explore (Vaughan et al., 2006). Each of these parts has a different meaning and is weighted differently for every young person. The young women we interviewed for this research project saw both as being possible through trades training and work. For example, many hoped that a trade 'ticket' would assure them of a long-term career should they choose to 'stay on the tools'. This security also had the potential to help them explore the trades further (for example, through specialisation or management opportunities), explore overseas countries as a tradesperson, or to explore quite different careers. These 'exploring' narratives might be unsettling for policy makers and industry leaders who might expect trades shortages to be filled by people in a 'job for life'. However, it seems to us, such expectations are now outdated, considering 21st century society's pace of change and economic development drivers. Here are some comments participants gave in response to our question about what would encourage women to stay:

Decent pay rates and lots of travel opportunities. (Apprentice, female, nontraditional)

Nothing would keep me in joinery unless I was getting paid big bucks – I never did it to become a joiner, just to learn the skills and move on. (Employee, female, nontraditional)

I like the lifestyle, money's not important. (Ex-trainee, female)

I probably might not be an electrician for the rest of my life. I'm only doing it to travel on OE. (Apprentice, female, nontraditional)

I've got [franchise] training that I'll keep doing – you do the same training all around the world and there are different levels of it. You keep doing that throughout your career... there's about 50 exams or something... why would I turn it down. It's good for my career – I can go to another branch with these certificates. (Apprentice, female, nontraditional)

Overall, many of the reasons for young women's attraction to trades-related work appear to be very similar to those given by men (practical work, good money, earning-while-learning, good humour, career security, career development opportunities, skills for life, alternative to academia, and so on). However, their 'identity investments' (Hollway & Jefferson, 2000) do not necessarily fit with old-fashioned notions of what it is to be a tradesperson. Rather than it being the final destination of what they wanted to be, they spoke of their trades skills as being a 'pathway' to who they wanted to be, where they wanted to go, and what they wanted to do.

Summary

If the experiences of the young people we interviewed are typical, then schools clearly make a difference to the career decision-making process for most young people. The structures and systems they have in place, and the advice they give students, in many cases acts to direct students, especially girls, away from careers in the trades. There is some evidence (but this is not strong, as the study was not set up to do this) that 'alternative' school structures can facilitate better decision making by students (or at least that they help students consider a wider range of options). There is also evidence that individual teachers of specialist subjects are often an important influence on students who 'go against the tide' of other advice they are given. It appears that where students feel supported by their school (or by individual teachers), they are more likely to be influenced by school factors, and less reliant on external factors (such as family and friends).

As outlined in Chapter 3, young people bring a variety of different views to the career decision-making process. Schools can add to and support these views, or they can discourage and close them down. The experiences of the young people we interviewed point to the need for more and different kinds of information at an earlier stage, and for ongoing 'personalised' systems that are designed to co-ordinate, monitor, and take responsibility for supporting young people as they explore the different options.²⁵ Recent literature on careers management, as opposed to careers matching, suggests that more emphasis needs to be placed on 'understanding the ways that certain jobs or pathways give access to *the kinds of people* they would like to become' (Vaughan & Roberts, 2007, p. 92) and on seeing careers as a *process*, not a structure (Wijers & Meijers, 1996).

...young people 'produce' careers in that they do not simply enter or follow them. The combinations of training, study and employment they undertake, together with different employment structures and institutional arrangements, can create a variety of unique careers – careers which are dynamic, rather than pre-conceived entities... (Vaughan & Roberts, 2007, p. 91)

²⁵ The development of more explicitly focused approaches of this kind is currently being canvassed as part of the Government's recently announced multi-Ministry Schools Plus initiative.

Career decision making is clearly a highly complex interaction of ideas and influences that can be very different for different students. While schools are a major source of information, they are also a major site of 'screening and sorting' (Gilbert, 2005).

Today's schools are still very much based on the Industrial Age model in which a major function is to sort students into one of two main employment destination channels – the management/professional channel or the worker/ vocational/trades channel. These structures are of course no longer appropriate in the post-Industrial Age 21st century contexts (Bolstad & Gilbert, 2008): however, they continue to have a major influence on young people's career decision-making processes. When taken together with other outdated (but still common) assumptions about gender roles, these structures work against the goal of increasing the numbers of young people, especially women, heading for trades-related careers. However, as we argue in Chapter 7, the 'problem' of gender and career decision making is a highly complex one, one that is unlikely to be solved via interventions that focus simply on *either* attempting to change people's assumptions about gender, *or* changing school structures – without a deep understanding of the context and the *reasons* why these need to change.

5. The nature of trades work and training: implications for young people's career decision making

Experiences of – and information about – the trades functions as a critical context of career decision making. In this chapter we focus on how gender and gendered identities play out in what the young people we interviewed had to say about trades training and work. For them, the trades are described in a gendered way, and we found that common gender discourses (explicit and implicit) position young women in a way that makes it appear less appropriate or realistic for them to enter male-dominated trades-related pathways. Messages about individual choice prevail, but they conflict with other – powerful – messages about gender roles and identities. Interview narratives suggest that gender differences in expectations for women and men still have a profound influence on young people's decision making in the 21st century.

From our interviews with young people at various ages and stages of career decision making (junior high school students through to fully qualified and practising tradespeople) it seems that *messages about* the trades are as strongly gendered as *experiences of* the trades. Our analysis shows that there is a powerful maintenance of gender norms in the trades, and that gender is constructed in a way that may act against better balance of the sexes. Women who choose to enter become responsible for working with – or against – those norms. Our interviews show that both women and men construct and resist the conflation of trades training and trades work with men and masculinity in their everyday talk and actions.

In the chapter we draw on our research evidence to respond to the following questions:

- Does male or female participation in the trades make more sense in relation to the way gender is constructed in the trades?
- How do women and men maintain or resist the conflation of trades training and trades work with men and/or masculinity?

Does male or female participation in the trades 'make sense' in relation to the way gender is constructed in the trades?

This section argues that the trades are not only male-dominated, but, and probably more importantly for the present purposes, they are also dominated by the expression of particular forms of masculinity. We found the characteristics that interviewees associated with the trades, like hard physical labour that requires strength and involves getting dirty, were also what they associated with men more broadly. Men are assumed to 'fit' in trades training and work, while women and particular forms of femininity are set up in opposition to the trades.

Although women can and do access trades pathways, narratives suggest that these women generally want to – or are 'forced' to – be part of this pervasive dominant masculine culture. Below we draw on excerpts from the interviews to highlight four common binaries; each of which fits with the constructed masculine/feminine divide

that impacts on young people's decision making and distances women from the trades. It is easy to see how these gendered constructions may make it less likely for women to see trades work as an attractive pathway.

Strength versus weakness

Most interviewees suggested (or thought others believed) that men's bodies were generally better suited to the trades. Their narratives suggest that men tend to be stronger than women, and that strength is a known benefit to – if not a requirement of – trades-related work. Both men's and women's narratives contribute to this picture:

Most females are not strong enough so there are physical barriers. Also, not many females are interested in it. (Senior secondary student, male, traditional)

I know that the spotlight is more on a woman, and at the same time I can understand that when you're a six foot tall quite muscly man and you're looking at a five foot tall, small built, Asian woman that I don't think that's a completely sexist or racist path that would take you to that conclusion. (Ex-trainee, female)

I had one friend who was vaguely considering doing building but she thought she would be too weak to do it. (Apprentice, female, nontraditional)

There is that physical side of building that girls can't always do. Girls can't always lift a beam. (Senior secondary student, female, nontraditional)

Some pointed out that the 'strength work' required can be beyond what is necessary or safe for women or men, but many trades' environments still require it, giving men an unfair advantage:

Knocking around for two weeks I realised that probably a good 70–90 percent of work would have been within my capabilities, but when in the part where someone goes 'Can you grab that 50 or 100 litre hot water cylinder off the back of the truck and lift it up six flights of steps and install it?' there could have been lags of difficulty in that. Policy-wise none of that stuff matters – OSH thingimywotsits – they say things like if you lift more than 20 or 30 kilos you must have two people, but I know that those rules apply in kitchens and no one really abides by them. So the reality is you have to lift pretty heavy things sometimes and bigger, stronger people lift bigger, heavy things a whole lot more easily. (Ex-trainee, female)

Very few interviewees noted that strength is neither a fixed state nor a male-specific quality. A few wanted to discuss ways in which women could work around their strength barrier by approaching tasks in a different way or sharing out tasks differently within a team. In this way they disrupted the 'trades = strength' notion:

Instead of using a ratchet I've got a big bar that fits on the end of the socket and it gives you heaps more leverage...[it] makes it so much easier. I shimmy wheels on while the car's lower rather than trying to lift them up when the cars on the hoist/jack. [I'm] trying to work smarter, not harder. (Apprentice, female, nontraditional)

There are some safety issues if you aren't strong enough...so the physical side of things can be an issue [for women]. But there are tools that can help out. (Apprentice, male, traditional)

The [bosses] look at the job and if it's heavy lifting they'll get one of the boys to do it. We pick which jobs we want. (Apprentice, female, nontraditional)

At the end of the day I know I'm not as strong as them, but I make it up in other ways. (Apprentice, female, nontraditional)

Even fewer challenged the 'male = strength' connection. One female trainee mentioned women could increase their strength at the gym, and, according to one male trainee:

I know girls who are stronger than me. (Apprentice, male, traditional)

This idea was taken further at the feedback workshops:

Interviewee one: *Guys who are really strong will get the job done faster.*

Interviewee two: *Faster than a guy who is not as strong.* (Female, feedback comments)

As one woman rightly pointed out, these ideas are underpinned by a great many assumptions:

I wonder how class and race influence masculinity and femininity as well. Physical labour is set up very differently in other countries. For example, there was a study in a country where women carry heavy buckets on their heads, and the men couldn't carry very heavy things. (Female, feedback comment)

Despite such challenges, in general our interviewees associated both men and the trades with strength and physicality, and this contrasted with their own (or others') stereotypes, expectations, or experiences of women.

Dirt versus cleanliness (activity versus appearance)

As well as strength, young people see that trades can involve dirty work. Throughout their lives women and men are exposed to signals about gender appropriateness. Secondary students, males especially, cited their own – or other people's – stereotyped assumptions that women generally do not like to get dirty. Several used this as an explanation for why they thought fewer women than men choose trades-related training:

Guys like to get dirty, girls like to be clean. (Senior secondary student, male, traditional)

[What might help females get into, or stay in, this training or job?] Don't worry about getting dirty or your appearance. (Senior secondary student, male, traditional)

Most women I know wouldn't want to get dirty. (Senior secondary student, male, traditional)

The major difference I can see between those groups of jobs [male-dominated versus women-dominated vocations] is that the male ones are dirtier... Female ones seem to be more about people interacting. (Apprentice, female, nontraditional)

Many of the female apprentices also talked about their initial expectations that trades work would involve 'getting their hands dirty' either metaphorically or literally. In some cases this appealed to them, and sometimes not:

I thought it would be a lot more dirty – it's pretty clean actually. The cars themselves are quite clean... I don't think this garage is quite like your usual one where there is only one or two mechanics and it's dirty and grungy. (Apprentice, female, nontraditional)

I asked him [future potential employer] about poo – and he said these days you call the specialists in. (Ex-trainee, female)

You've got to get in there and get dirty and you don't whinge about it 'cause you decided to be there... Going into tiny little gaps under houses freaked me out (spiders etc.) but I did it although I didn't like it. (Ex-trainee, female)

Some mentioned that their work prevented them from some of the 'appearance work' that young women are encouraged to do. They work against a subtext that suggests women (should) care too much about their hair, nails, and overall appearance to enjoy the trades:

There are some people I know who couldn't handle it – girls and guys. You get horribly dirty, and go eat your sandwiches – can't clean your hands. See spiders, dead animals. You can't paint your nails. People who are high maintenance couldn't handle it. (Apprentice, female, nontraditional)

I've got a friend who is a beautician and hates the fact that I don't have long nails and that my hands are always dirty and stuff. But she likes the idea that I could fix her car if she needs it. I think she cares about my nails etc., but doesn't care about the job – she doesn't seem to really know about cars etc., she's more focused on the fact it's dirty. (Apprentice, female, nontraditional)

Female apprentices and employees often mentioned others' (and their own) concerns about jeopardising their appearance and harming their bodies. Females in nontraditional pathways were the only group to mention that they might leave the trades due to physical harm:

I thought I might hurt myself but I gave it a go. They [family and friends] would say I'd end up in hospital the first day I'd go into the class. (Senior secondary student, female, nontraditional)

[Any bad surprises?] A couple of cuts and bruises but that's about it. (Senior secondary student, female, nontraditional)

My hands are getting rooted – with cuts and stuff... (Apprentice, female, nontraditional)

Similar to the strength versus weakness binary, the dirt versus cleanliness binary (which can also be extended to an activity versus appearance binary), has gender-specific implications for young people's decision making – it constructs men as a better fit with what are perceived as the dirty, messy trades than women. Overall, young women and men pick up – and perpetuate – the message that a woman's body is valuable and vulnerable, whereas a man's body is his toolkit.

It is important to note that while none of the interviewees believed that women couldn't do dirty jobs, some thought that it would take a 'special' kind of woman:

Some girls look like they want to drive trucks versus the 'pretty girls'. Those girls who fit in well look the part... some girls don't dress for the job they are doing and others do – the ones that do probably fit in better. (Apprentice, male, traditional)

It would be ok for those girls who are naturally butch and have the strength compared to those who are a bit more ladylike. (Apprentice, male, traditional)

Practical versus theoretical

As described in Chapter 4, trades-related pathways are seen as a lesser-value alternative to 'academic' learning pathways. A couple of interviewees were all too aware of a general public perception that trades training was for 'dropouts':

It's the same now as always – people view it as people who had nowhere else to go – drop kicks. It's a class thing. They assume you're not that bright. It hasn't changed now even though they are in demand. It's not really pushed at school. People assume you are dumb, especially plumbers – but you should see what they have to calculate. When I'm out chatting to people and I say I'm an electrician the only thing they can say is 'You're going to make a lot of money'. It's incredibly rude – they wouldn't say that to a doctor – but otherwise they have to say how dumb they think you must be. (Apprentice, female, nontraditional)

In current times, where girls' academic achievement, on average, outstrips that of boys', practical pathways are considered more appropriate for boys. Reading between the lines, it seems that several interviewees associated men with practical skills success and women with academic learning success. The quotes below imply that even within trades pathways women demonstrate more aptitude for, and commitment to, the more theoretical aspects, whereas men are more drawn to the physical and practical aspects:

The guys [in our pre-trades course] didn't care as much about the study etc. – the girls seemed to go harder on the study though. The girls studied and paid attention in class, took the books home etc. and did the homework. The guys did what they had to do and that was it. Two out of three of the girls passed and only a few of the guys passed. (Apprentice, female, nontraditional)

He might be strong enough but he might not have the brains. (Junior secondary student, male, traditional)

Interviewee one: *Girls don't come into this course thinking 'I want to hot up my car'. They come in thinking 'I want to know everything there is to know about cars'....The boys come in just wanting to do that and half of them leave because...that's not what the course is for...*

Interviewee two: *I'm glad we're learning everything step by step like you get to know everything about cars and motorcycle engines.*
(Trainees, female, nontraditional)

Some of the young people's narratives appeared to locate men (and masculinity) in opposition to academic study and theory. This contrasts with conventional feminist theory, which critiques the assumption that masculinity is equated with rationality and the mind, whereas femininity is equated with intuition and the body. This is worth considering in the light of Gilbert's (2005) examination of the current debate about boys' lowered achievement and schools' failures to engage boys. Gilbert argues that boys have implicitly picked up on a shift in new ways that knowledge is organised in our society – a shift away from traditional tightly-bounded disciplinary knowledge (as with medicine or law) to forms of knowledge that are more fluid (interdisciplinary) and networked. Therefore girls' achievement in school is more about what they are 'allowed' to achieve through their diligence and working of the 'rules of the game', resonating with Walkerdine's (1989) earlier work on girls' school successes being construed as not 'the real thing.' Building on this, Gilbert's analysis means that boys still get to be innovative, and earn a lot of money and status, as they move into occupations in information technology, finance, and the entrepreneurial sectors and leave the traditional professional areas, now less significant in the 21st century, to the girls. Although the trades could well be considered a 'traditional' pathway, Gilbert's (2005) argument highlights the possibility that the association of stereotyped masculinity with academia and mind work may no longer apply, while the association of men with economic capability remains.

The next quote, from a woman aware of a masculine culture in the trades, backs up suggestions that discipline-bound academic pathways may be becoming less lucrative. As did other interviewees, she saw money making (traditionally associated with men) to be within easier reach of the trades pathway:

My brother went to uni and became an accountant and when he got a job he was earning \$25,000 and when I got my first job I was earning \$42,000.
(Apprentice, female, nontraditional)

She quite rightly acknowledges that many boys go to university, and indeed many interviewees commented on women and men's supposed equal access to both trades and university pathways. Our point is that by 'reading between the lines' across many narratives we see binaries which position women and men differently in relation to these possibilities. It is interesting to note comments which suggested that a woman could become a tradesperson if she put her 'mind to it' or was 'mechanically minded'.

Worksite culture versus office culture discourse

Interviewees frequently contrasted their experiences or expectations of a trades 'worksite' against that of a professional office. To us, their narratives draw attention to the unique physical environment and social culture of each, and generally imply (or directly state) that women and men navigate a masculine culture on worksites and a relatively feminine culture in professional offices:

I don't want to do an office life. I've seen the culture and humour and I don't like it – too PC [politically correct]. The office environment shapes your actions etc. – I saw a guy lose his job for a small transgression (he brought in a blow-up doll – not of a sexual kind) and a female workmate complained and he was dismissed. (Apprentice, male, traditional)

There is a general perception that girls should be behind a desk. (Ex-trainee, female)

Women are perceived to fit less comfortably with a trades work microcosm. The following quotes provide insight into the culture that pervades worksites:

I'd never been in an environment like that, being on construction sites – it's not just the fact they are all guys but it's a culture, they own it and it's established. You have to fit in with them. Not so much the company but the sites... I struggle sites-wise – with toilets and sanitary things. I know it's illegal not to give girls a toilet but it's not worth the hassle and I don't want to be 'that chick'. [Gives gross examples of male toilets – such as spreading excrement on wall then getting everyone to look and laugh.] (Apprentice, female, nontraditional)

Touchy feely corporate stuff about work relationships hasn't really come into trades. In my last job there was a lot of blame, lots of yelling, and figuring out whose fault it is rather than fixing it. It's unnecessary stress. The place I'm at now has a good culture. (Apprentice, female, nontraditional)

Sites with the naked chick calendars – they don't offend me enough to make a fuss – but when there's one woman and 40 guys – it's a bit of a pointer about how they view girls. (Apprentice, female, nontraditional)

Some women trainees mentioned that while they struggled with certain aspects of worksites, they were more attracted to it than to their perceptions of a stereotypically feminine workplace culture:

[To do joinery] a girl has to be pretty down to earth and relaxed – 'cos girls and guys think in such different ways – girls like to be bossy, guys don't like girls to tell them what to do. Not to be too hormonal. Jokey – 'cos guys joke a lot. A good sense of humour is a biggie. That's why I like working with guys 'cos they're lots of fun, they don't talk about other people, they just cruise. (Ex-trainee, female)

Being in a male-dominated area – issues are over, done with in a few minutes rather than dragging on for months (like when I was working in retail with females). (Ex-trainee, female)

Interviewee one: *Some guys have no idea how to talk to a client... I've always been a people person – and you don't really do that much except for with your team. If there was a bit of both [people work and physical work] I'd be more likely to stay [in the trade].*

Interviewee two: *That's why I'm happy – I don't like working with people.*
(Apprentices, female, nontraditional)

When interviewees explicitly compared the culture of worksites to the culture of other potential kinds of work environments that academic study often leads towards, it suggested that stereotypically masculine characteristics are associated with the former, and more stereotypically feminine characteristics with the latter. Interviewees' comments signal that women and men may both equally prefer one or the other, but a range of other comments imply that the default position for women is office culture not trades culture. Even when women feel comfortable in the trades, they still tend to recognise it as a male-dominated and masculine-friendly environment.

That said, some trades are more closely aligned with the masculine whereas others move slightly more towards the feminine. Some interviewees explicitly suggested that women might better suit, or prefer, the trades at the 'most professional/least strength required/cleanest' end of the continuum. This also influences some young people's rationalisation of the percentages of women they guessed to be in each of the main male-dominated trades. For example, some thought that plumbing would have fewer women in it than building, because 'it's dirtier and more hands-on':

I knew building was out due to strength so that left plumbing (cold, wet, and lots of shit!) and electrical. I chose electrical as I thought it wouldn't be too hard (physically) and that it tied in well with my other interests, like setting up my own recording studio. (Senior secondary student, male, traditional)

[I was initially interested in] joinery or furniture making 'cos I would have loved to do carpentry but had to think what are my limits. [What do you mean by limits?] With carpentry there's a lot of strength involved, thinking about it now and knowing what's involved. Also thinking about being out in the weather.
(Employee, female, nontraditional)

I wanted to go for joinery initially as I didn't think I'd make it on a building site... but as I've got older I think I could handle a site – not a big one though (or one with heights). I'd like to do residential building. (Apprentice, female, nontraditional)

These five oppositional discourses (strength/weakness; dirt/cleanliness; activity/appearance; practical/academic; worksite/office) conflate a version of dominant masculinity with the trades, and position women and femininity in opposition to this. The message is that women who want to enter and succeed in the trades are considered the exception, not the norm. These messages (be they spoken or tacit) influence young people's career decision making.

When we presented a brief summary of the ideas in this section – and the next – to participants in the female feedback workshop, three challenges were put forward. Firstly, the participants suggested that our findings did not sufficiently emphasise the fact that there is a *range of* masculinities and femininities, and wanted us (and others) not to maintain the ‘girl versus boy; boy versus girl mentality.’ As one put it:

It seems that there is a lack of clarity about what masculinity and femininity are. In this setting femininity seems to be framed as weak and flowery, and masculinity is framed in negative ways as well. We haven't talked about the positive aspects of femininity and masculinity. They're not clashing and negative.

Secondly, they asserted (strongly, in the case of one or two) that their work environments were *male*-dominated, but not necessarily *masculinity*-dominated. Thirdly, they noted that some worksite cultures are much more ‘inclusive’ than others.

Thus these participants were strongly resistant to the idea that maleness is *necessarily* equated with masculinity (and the same for femaleness and femininity). They wanted to argue that males as a group differ internally in major ways (as do females as a group), and that these differences could be produced by class, ethnicity, and/or sexuality, but also just by individual differences – and that this should be expected. We have attempted to reflect these views in the report: however, at the same time, we have also tried to show how our interviewees’ narratives ‘produce what counts as girls’ (Jones, 1997), how they contribute to the construction of particular forms of masculinity as normal, partly by contrasting it against a stereotyped version of femininity, and to the continued construction of the trades as gendered. Overall, it has to be said, the messages we heard about the trades do not create much space for the presence of women and/or femininity, and so it is not particularly surprising that trades training is not especially attractive to a great many young women.

How do women and men maintain or resist the conflation of trades training and trades work with men and masculinity?

This section has two purposes. One is to show how the conflation of trades training and trades work with men and a certain form of masculinity is continuously (re)constructed by the actions and conversations of actual men and women. The second purpose is to show that while there are alternative discourses that unsettle this conflation, with the potential for allowing women a legitimate place in the trades, this can be risky territory because it poses a threat to dominant trades culture, dominant gender norms, and/or individual women’s sense of self.

First we look at day-to-day resistance against women in the trades, and then we consider counter-resistance from women and men asserting women’s right to be there. We show that it is to some extent risky for women to even enter the trades, and even riskier for them or their male counterparts to explicitly challenge the culture.

Resistance against women in the trades

Previous research on industrial apprenticeships has suggested that, in comparison to other educational settings, apprenticeships are:

an altogether more holistic entity which not only facilitates the passing on of specific work-based skills and ideas but which also engenders the development of individual identities [via practice with others] in accordance with the occupational norms and values of workplace settings. (Parker, 2006, p. 689)

The point is that the social interaction/enculturation that is part of apprenticeship training is a key part of the learning experience. Neophytes slowly become full participants by accumulating skills and adopting the dominant norms and values through almost ritualised performances in the process of *becoming* a particular kind of person. It has been suggested that while some people may *choose* to stay on the periphery of 'a community of practice', the community ultimately determines legitimate access and certain newcomers are likely to be marginalised and 'push[ed] back into identities of non-participation' because they do not have (or are not perceived/allowed to have) access to the right 'resources of practice' (Wenger, 1998 in Kahveci, Southerland, & Gilmer, 2007). While we do not develop these theories specifically in this report, we are mindful of the extent to which interviewees' narratives demonstrated their experiences of resistance to women in the trades, both explicit and implicit forms. We found that resistance against women in the trades is both active and passive, with the latter being more common, and so more difficult to identify and address. This can impact on women's decisions to enter the trades, and the likelihood that they will remain over time. It is for this reason that we have purposefully used the term 'discrimination' in this section.

Active discrimination

Explicit sexism and sexual harassment are two of the most direct ways that women are made to feel uncomfortable in trades training and work environments. Consider the following expectations of a male trainee:

I think female apprentices and male apprentices would be treated differently for sure. Guys would always be hitting on them, verbal and sexual language etc... probably that sort of inappropriate stuff. They might get ordered around more 'Go do x, y, and z'. They wouldn't get the good jobs – even more so than your usual apprentice [who gets the worst jobs]. I think it's a crock of shit how they are likely to be treated – they've all got hands, eyes, and a brain. (Trainee, male, traditional)

For *some* women the reality was not terribly different. The examples below were of varying degrees of concern to the women themselves:

Interviewee one: *Some students treat you like a piece of meat as the only female in the class, but they soon find out I don't like it and then they just ignore me which is just fine by me. Expected it might happen but didn't put me off...*

Interviewee two: *Some of the guys don't have a hell of a lot of respect, I can just tell. So if they don't have it I don't give it. I expected it but it hasn't put me off.*

Interviewee three: *My class is pretty good – they treat me like one of the guys. I was expecting to get a lot of shit for being a girl.*
(Trainees, female, nontraditional)

The older guys didn't think that girls were up to that kind of work at all. They thought we were good for staying at home in the kitchen kind of thing. It wasn't so much about me as females altogether... It was just the fact that I was female 'in a man's job'. I mean I was passing and doing well. I could have done it. It was a definite possibility if I had wanted to do it. But in the end I didn't want to.
(Ex-trainee, female)

I get on with people just as well as usual. There are people who will make an occasional comment or even try and hit on you but most are fine. I've learnt to ignore it and most of the time the guys treat me like anyone else. (Apprentice, female, nontraditional)

One commented that women sometimes navigate comments related to their perceived biological status as child bearers. Time off to have children disrupts the notion that a trade should be a full-time and continuous career for life:

Once I'd done some work experience it [thinking of it as a career] started to wear off. We started off doing once a week for a couple of places. I did some work with a local company over a two-week holiday and I didn't really like it. I didn't like working with just guys and a lot of the older guys had a lot of attitude about it. They would ask 'Why aren't you home making babies?'. And things like that. They'd say 'This isn't just an office job – you can't go off and have a baby and then come back.' (Ex-trainee, female)

Interviewee one: *The guy I work with now does trust me a lot, but for the first time in two and a half years he's said three times this week 'Oh you'll just leave to have babies.'*

Interviewee two: *Yeah, like they see you as a one-minute wonder.*
(Apprentices, female, nontraditional)

I think the maternal instincts of females have an impact – suits other sorts of jobs. (Apprentice, male, traditional)

Some women suggested that they faced the most explicit discrimination from older tradesmen who had more traditional gender ideas:

The older guys didn't think girls were up for that kind of work – I was a female in a man's job... Seemed that they couldn't get their heads around why a female would want to do it. That was mostly the older guys – the younger ones thought it was funny and seemed to like working with females – a bit different for them. They thought it was quite cool that I was giving it a go. [They said] 'good on ya'... (Ex-trainee, female)

[It would be good to] help people realise that it's different from the cliché they might always hear – the older guys are on their way out. Tradesmen are different now. Not so old school. (Apprentice, male, traditional)

But when we looked closely across interviewees' descriptions of differences between 'old school' and 'new school' trades culture, we found that while some women saw the older tradesmen and old school trades culture to be less welcoming towards women, others saw the opposite:

They [older men] can be a little bit hesitant; it's about seeing that you're OK as a woman. Older guys respect women a bit differently – morals and values – they have a wife at home etc. (Apprentice, female, nontraditional)

I assume that girls in a guys' job [20 years ago] was not acceptable, but now it's totally acceptable. But there's just some small things like toilet facilities – if a business has been going for 20 years you need some new things to accommodate a female. There's still some people who don't believe in it, but it's more common. (Employee, female, nontraditional)

Just as gender identities can't be separated from other intertwined identities, gender discrimination cannot be separated out from other forms of discrimination, such as racism, ageism, and homophobia:

There are older Pākehā plumbers saying 'Plumbing will be last man's trade that Asians will get into'... So these Pākehā men were saying that Asians had got into the other trades, most visibly painting and construction, and that's 'cos painting is easy, and plumbing is filthy and hard work so it would be the last bastion against 'Asian invasion'. (Ex-trainee, female)

I guess they saw us as snowy white girls who didn't even know what we were doing. At all stages of training [and work experience] there were people who just doubted the fact that we were there in the first place at all. (Ex-trainee, female)

With most of the groups there were the apprentices who were young and the older qualified guys... There was a bit of a difference in how they [older guys] treated me but it was no different from how you'd act differently around a younger person to an older person (in general). (Ex-trainee, female)

I can't remember if I came out. If I can't remember I probably didn't, which probably means it wasn't safe. But it was also [a short time] so there wasn't a lot of deep and meaningful. (Ex-trainee, female)

From interviewees' comments, it is difficult for us to conclude that the younger generation trades culture is less discriminatory of women in the trades than in the past. That said, modern training providers are seen by some to provide a buffer between the 'old school' trades and women:

I think everything has pros and cons. My understanding of what happens in the trades is that sometimes you get in with your mates – and maybe that's what cooking [training] does to get around it: rather than getting someone to take you on where there are gender, and race, and age barriers. So one answer training in an institution where there is a more equal playing field – but then we find out that they [trainees] come out and aren't good. So you create access but you change the nature of it [the profession]. I think with sparkies, it might work better, where they train you and find you a placement for apprenticeship – and they use their [institution's] name to place you. So it works well theoretically, but I don't know the reality. (Ex-trainee, female)

Sometimes my classmates, a couple in particular, would make you feel like why do you try you're a girl sort of thing. Most of the time it was fine. I got a lot of support. The tutor was really encouraging definitely. They were good.
(Ex-trainee, female)

Passive discrimination

A greater portion of discrimination appears to be passive, and difficult to name as such. Women themselves possibly wouldn't identify much of what we discuss in this section as personal (or gender) discrimination:

I didn't see a whole lot of sexism directed at me, like no one said 'What are you doing here, women can't be plumbers', but there was the general sexist comments about hot ladies in magazines and the male culture banter. They found me quirky... (Ex-trainee, female)

Most women we interviewed in trades training and work noted that they are considered to be somewhat of an anomaly. Even if women don't regard themselves as different from a male tradesperson, they are often well aware of the surprised reactions that result from their presence in a traditionally male-dominated area. For example, one interviewee mentioned a frustrating experience she had on a recent visit to Australia, when the customs officer did not believe she was a plumber. While some women defend against even more negative responses, others face seemingly positive responses to their 'novelty factor':

Meeting that female builder happened on my first working experience out of school. I didn't expect to see a lady working in a place like that. It was quite an eye opener but cool to see. (Trainee, male, traditional)

Interviewee one: *I hardly ever think about being a woman in the trades... it can't be at the forefront of your mind [to be] all self-concerned about being female. But I don't think about it until I go to a new site and wonder why everyone stares. I always wonder why everyone keeps saying 'Wow not many women do that'.*

Interviewee two: *It's the look on people's faces when you tell them. But everyone's accepting – no one's told me to my face you shouldn't be there – they're just interested in why. Sometimes [it is] a bit of a joke at first.* (Apprentices, female, nontraditional)

It is clear that women face gendered double standards in the trades. In an environment where women are considered unusual, they must prove their right to be there in a way that men do not have to. The next few quotes are from men in trades training and traditionally male-dominated school subjects:

Interviewee one: *The more you treat them differently [which isn't good] the more people will think they are actually different.*

Interviewee two: *But for all of that you'd always be proving yourself as a female in a male trade.* (Apprentices, male, traditional)

I think it would be harder for her [the female builder] to prove herself to everyone than it is for me. (Senior secondary student, male, traditional)

Like if a male worker and a woman worker both came on a job at the same time, like they were new, the male probably initially gets more respect, but if the woman worked hard she would probably get more. (Junior secondary student, male, traditional)

Regarding physical stuff there are differences [between men and women] but if the girl tried hard you'd be ok with it. It's only if they don't try or give up that you'd be pissed off with them. You can't avoid heavy work, so you either put the effort in and get smelly; or you don't try and moan about getting smelly etc. (Apprentice, male, traditional)

Even this young man's open-minded comment about equality, also potentially contains a glimpse of different expectations:

I like to believe it's more the skills, not the sex. It's just retarded that people think... 'Wow she's a woman so she can't be a builder.' If she has the right skills... why not. (Junior secondary student, male, traditional)

Nontraditional female interviewees consistently mentioned that they had to prove themselves as a credible tradesperson before the men would take them seriously. They not only had to revisit this process whenever their work brought them into contact with new tradesmen, but also many were aware that any mistake they might make at any stage could be attributed to them being female:

It's not that new for me. I've played drums for six years now and being a girl who plays drums meant that I've had some similar kinds of comments. I've kind of seen all the different reactions you get from people (male and female). But when you show your skills it's not such a big deal (or they think it's really cool). (Apprentice, female, nontraditional)

Interviewee one: *If you stuff up they say it's because she's a woman, not because she's an apprentice...*

Interviewee two: *Chicks have to work twice as hard to be [seen as] half as good. (Apprentices, female, nontraditional)*

Interestingly, when we shared these findings with the male feedback participants, they suggested two important ideas: firstly that females in the trades face the same experiences as males, but probably *interpret* it differently, and secondly that that women might actually 'stuff up less than males':

Participant one: *Because they're facing the adversity of being in a different environment, you kind of think they would pay more attention to what they do. Guys will probably be on auto pilot and sort of wing it to some extent. But girls would be more concerned about making sure they don't make mistakes.*

Participant two: *I agree with him. Girls are more careful. They wouldn't stuff up as much as guys. Guys are more likely to switch off and not use the correct procedures. Girls are more perfectionist.*

Their argument illustrates the next feedback from a young woman, which reiterates (rather than challenges) our point about double standards:

People expect you to be either completely dedicated and really good at your job or complete shit. They don't expect you to just treat it as a job you do to earn a living like everyone else. (Female, feedback comment)

Another difficult to 'prove' form of passive discrimination that emerges from our reading across the narratives is about resistance located at the level of trades training and employment systems.²⁶ Some of the women – but none of the men – we interviewed discussed difficulties they faced in trying to secure an apprenticeship or employment. Perhaps this is because, as suggested in Chapter 3, men tend to be better placed to make use of contacts to enter the trades:

Hardest would be trying to find a job – I need to find an apprenticeship. I've been through most of the people in the phonebook. People's reactions change according to the builder or company. Some are positive and some are negative. The interested ones will always ask questions and keep me in mind – the others just say they are busy. I'll continue to keep calling people and I'm going back to my course tutors to see if they can help. (Trainee, female, nontraditional)

I tried finding a job but there weren't any advertised and I had no contacts in the business. I did read a couple of pamphlets and the odd newspaper article. (Apprentice, female, nontraditional)

You can go straight into a mechanics and get an apprenticeship that way. But I thought it would be worth getting some basic knowledge first and it's really hard to get an apprenticeship – especially when you have no experience at all. I had searched for six months before I got this job after my course... I worked here every Friday for six months for free just waiting to get my foot in the door and a position to open. I looked all around [the region] but I wanted to stay [in this area]. In [another area] this franchise has a few apprenticeships going but [there are] less out here. (Apprentice, female, nontraditional)

I had a talk with him [work experience 'employer'] after two weeks and asked whether he was prepared to offer me an apprenticeship – he said he wouldn't have one till the end of the year but he also said 'but I'm very concerned that you are very small'... I would have taken it if he had given me an apprenticeship – most likely I would have said yes. I would have stayed, nothing would have made me leave that I can speculate. (Ex-trainee, female)

This picture fits with recent Northland research with 24 vocational trades employers that claims:

Overall the employers' responses to the survey clearly indicate that the most significant barrier to women successfully entering and prospering in vocational trades is the attitude of the males who run the businesses. (Scripps, 2006, p. 24)

²⁶ Chapter 4 of this report discusses how school structures and systems guide women into nontrades pathways.

However, it contrasts with the Human Rights Commission's case studies of women tradespeople, which reported that:

The employers who were interviewed also dispel the myth that male employers are reluctant to 'give girls a go'. It is hoped that their voices and the benefits they have identified from employing women will be heard by other employers wanting to recruit apprentices. (Human Rights Commission, 2006, p. 1)

However, the Human Rights Commission report only interviewed employers who had *already* employed a woman.

Our female feedback workshop participants provided additional examples of 'closed doors'. They also outlined their concern that the sector, especially certain trades, appears to be approaching saturation which they suspect will exacerbate the situation. Again, regardless of whether their concerns are 'representative' or reflect 'reality', such messages have implications for decision making.

The quandary of being treated the same or different

Obviously, gender discrimination (whether active or passive) means that women are being treated differently in trades training and employment. In keeping with the pervasive individual choice narrative, when we *directly* asked interviewees whether they thought women and men are treated differently in male-dominated trades, many said no:

I don't think the guys really cared that much [about there being girls on the automotive course]. They got over it in the first week and then you were one of them. They didn't change the way they acted or anything. I never really thought much about training with guys and girls. I knew one of the guys on the course but I didn't care if there weren't any other girls on the course. There weren't any comments about being a girl – no one really cared – it was pretty good.
(Apprentice, female, nontraditional)

In the situation I saw [on a worksite] the girl was treated like they were one of the guys – they didn't make it easy for her and she had to pull her weight. She did though and it was sweet. (Apprentice, male, traditional)

On the other hand, some women stated that they were treated differently:

Course you get treated differently – you're the girl! (Ex-trainee, female)

Males are going to react to a younger female differently than a younger male. For instance, with my work at the moment I'm the head apprentice – there are three other boys who are lower than me – and I've noticed I've never been given those really bad jobs like emptying the dustbins, and the other boys do.
(Employee, female, nontraditional)

No, not treated the same as a male apprentice – you get flak as any apprentice. Whether you are female or male, and females would probably get worse because they are trying to test you to see if you are good enough to do it.
(Senior secondary student, female, nontraditional)

Some women in the same focus group disagreed with each other's response:

Interviewee one: *You get treated a bit better – wouldn't get many pranks on you as an apprentice – they couldn't get away with it.*

Interviewee two: *I had a prank...the fake sledging of my microwave. You should have seen my face. (Apprentice, female, nontraditional)*

We saw some examples of what might be considered 'positive discrimination' towards women – where they were treated differently in an attempt to treat them as fairly as men, but, as other research has found, this was not always appreciated by women themselves (Howard & Tibballs, 2003):

At the start they put the three girls together – they were trying to be PC but I think they were going overboard. I ended up hanging out with the younger guys anyway so it didn't bother me. They [the tutors] were never mean or derogatory but their teaching approach was based on talking to young boys. So some of their examples or humour didn't really work when they tried to change it for females. (Apprentice, female, nontraditional)

Being treated the same or different can appear to be a no-win situation:

Part of being there is you want them to forget you're female, but then they forget you're female and it's a bit much. But I have good convos with guys as well but sometimes it's a bit rough. (Apprentice, female, nontraditional)

I didn't want to be treated like a guy, but I didn't want to get special treatment either. (Ex-trainee, female)

This section has signalled some of the complexities that policy makers need to take account of when it comes to decisions about whether – or how – to treat women in ways that recognise the barriers women face in trades-related careers, and careers decision making. It seems to us that there is a need for deeper theoretical discussion about the assumptions that underpin current debates about equality, equal opportunities, equity, and equitable outcomes. It also seems to us that there are interesting differences between the ways interviewees, researchers, and policy makers think and talk about sameness, difference, and 'other'. For example, Laxton and Knight (1992) suggested that Queensland educational gender equality policies (at the time of their research) 'essentialised' women and perpetuated stereotypical femininity.

Resisting resistance: strategies off/for women in the trades

Women and men both engage (often subconsciously) in strategies that resist discrimination against women in the trades. We noticed that our female interviewees' narratives of their trades-related experiences shifted between asserting their fit with the masculine; asserting their fit with the feminine; and asserting that there is no real feminine/masculine divide. Each of these possibilities (as well as the shifting between them) can be a risky business for individual women (not to mention for trades culture as a whole). While women often successfully maintain these fluid multiple identities, doing this can also compromise their sense of self and/or their physical safety.

Women in the trades clearly need to do different 'work' from men to assert their right to be there. The gender work that they do often helps to maintain the masculine culture that puts off other women from entering the trades. This in turn can contribute to the perpetuation of the gender normativity they want to resist. Our point here is not to blame women for current gender imbalances, nor is it to suggest that all women want to work in stereotypically feminine ways. Indeed, when we look at the men's narratives, it is difficult to imagine any other way for women to 'survive' these industries. Rather, it is to point to the complexities of the situation.

Policy makers may need to decide whether they want to try to intervene in the trades training environment and work culture in ways that lessen the requirement on women to do this extra 'gender work', and/or whether it would be more productive to better support women to deal with the culture as it is.

Asserting women's fit with dominant masculinity

In an environment that explicitly or implicitly favours men over women, one way for a woman to assert her right to be there is to establish her 'fit with' dominant masculine culture. Young women's interview narratives demonstrate this can help them to succeed (or cope):

My workmates could see that I was trying and I was keen to give it a go. I wasn't acting all girly and saying I can't do that. I did everything they asked me to do and I didn't expect them to treat me differently because I was a girl. I mean going into a male sort of type job I didn't expect them to make it easier.
(Ex-trainee, female)

The next quote is a more 'critical' version of this idea, from a young woman attuned to feminist theory:

I don't 'do girl', I 'do boy'. We have gendered relations. We have gendered scripts of how to relate to the same gender or different genders. So a woman might use patriarchal feminine script – asking questions, tone voice, sentence structure, etc. So you engage in protocol to do it. [In male-dominated trades] I 'do boy' – so I will change my language and tone and sentence structures and body language. I think because of the way I look most people don't know how to relate to me so I get to make the first move. So whatever I give them they will work with. (Ex-trainee, female)

Women appeared to use strategies from traditional masculine culture to challenge any resistance towards them, but in doing so they perpetuated the culture that they were reacting against. The difficulty we see here is that this type of masculinity is partly dependent on the notion that women and men are inherently different, and that 'men's men' treat women in particular ways:

Boys will be boys – like winding you up – or [they] say or do something that is wrong. You have to stand up for yourself and tell them to shove off. You need to be hard... I don't give a shit to be honest. (Apprentice, female, nontraditional)

You just have to give it back otherwise they think they can do it all the time. Right back at the start they would tell women jokes... like they'd hassle other guys and say 'If you act like a girl we'll put you in a skirt' and I'm there wearing a little skirt and I said 'You can't say that any more because I'm in the class.'

You learn to stick up for yourself. (Senior secondary student, female, nontraditional)

You establish credibility by not taking any shit. (Apprentice, female, nontraditional)

On the other hand, some women's narratives suggest a reluctance to challenge at all. Their strategy was to make themselves less visible, not more visible:

There's a line between being self-assured and too staunch 'cos you are fitting into a culture that frankly isn't going to change – so you can't go in all guns blazing. (Apprentice, female, nontraditional)

Although many of the participants in our feedback workshops did not agree with our suggestion that their work environments are 'masculinity-dominated',²⁷ they identified with the general thesis. Here are three of their responses, the third from a young man who draws attention to the idea that both women's and men's identities are fluid and situational (to maintain/produce the trades culture):

But I'm still a lady though. I plan on getting married and having kids in the future and being a traditional lady. I'm a tradesman at work but a chick out of work. At work you can't be a full-on girl, so you fit in with the guys, and then outside of work you can be a chick. (Female, feedback comment)

I don't see myself as a girly girl. But onsite it's very black and white to any guy. I'm a girl. It's a big deal. It doesn't matter to what degree I see myself as being feminine... I used to put on a persona at work because it was foreign. I used to be staunch and emulate tradesmen. I tried to talk like them. But I don't put on a persona anymore. But it's kind of opened up my mind a little bit. I don't have to defend myself against them. (Female, feedback comment)

Even for me [as a man] – when I go onto a site – like I've got a different front. I don't talk and behave the same at work and at home. It's easier to become like one of them and easier for them to deal with someone who has the same mentality as them. So you cater to that...it's the easiest way. Easier to leave that 'I am who I am' at home. I can see why they [women] become like one of the guys. (Male, feedback comment)

Indeed, interviews suggest that some women flourish either because they feel very comfortable in a masculine culture and/or because they have found a way to complement it with some traditionally feminine qualities that give them an 'extra something' in their trade – an idea that we explore in the next section. The young tradeswomen's narratives appeared to disrupt – even transcend – gender-normative trades discourses to varying degrees.

²⁷ They were happier with the term 'male-dominated' although we would argue that their comments suggest that their workplaces have a particular culture. Their descriptions of this culture matches well with other researchers' descriptions of masculine values and hegemonic structures and practices which arguably serve to marginalise women in other male-dominated occupations (for example, Parker, 2006; Kahveci et al., 2007).

Asserting women's fit with femininity

An alternative (sometimes simultaneous) strategy women appear to use is to assert their stereotypical femininity, either in their trades work or in the interview itself:

If you were to see me – if you think of stereotypes you'd expect people to think I'm quite butch but I'm not. (Employee, female, nontraditional)

Interviewee one: *It [building course] has made me think twice about doing something with building but I can't see myself as one of those really man-looking women who drive diggers and stuff... [We're] doing things differently [from the male students]. I was going to put pink staining on my ladder.*

Interviewee two: *Yeah I wanted to stain my table pink!* (Senior secondary students, female, nontraditional)

I've seen heaps of feminine mechanics – real girlie girls. (Trainee, female, nontraditional)

Occasionally we saw stereotypes about femininity and the trades – and we wonder to what extent this is masked by narratives of dominant masculinity. For example, one woman talked about the caring family-like culture alongside the 'man alone' nature of it:

The camaraderie that you get – there's good rapport between the trades. It ends up like a second family on site – everyone is interdependent, when they trust you and help you, when you do your job well, and they respect you. (Apprentice, female, nontraditional)

Some saw classic markers of femininity as a factor for success:

There's such a room for female electricians...when you go to domestic jobs you can talk to the woman with her kid – they come to you even though there is a man in charge of the job on site. There's a trust factor. (Apprentice, female, nontraditional)

There is a place for slightly niche stuff – a lot of tradespeople don't have a lot of communication skills. My friend who is a sparkie says we could have a women's trade thing – then you push the communication skills. She was saying that she has communication skills that a lot of men she is apprenticed to don't – so she talks to the clients. (Ex-trainee, female)

We find it interesting to note that many of the young women's accounts of how they got to be in the trades emphasise serendipity, luck, and random decision making. This contrasts with many men's accounts of stepping towards the trades in a long-term, planned, and logical manner. On the one hand, this might reflect our earlier suggestion that current systems make it more likely for men to be guided towards the trades with more encouragement and options. On the other hand, the way in which women tell their story 'acts' to show that they did not purposefully seek to enter this male domain. Hence, their narratives minimise their role as challengers of gendered pathways.

Overall, women in the trades are a threat to dominant conceptions of femininity (because they do not fit female stereotypes) and those of masculinity (because they 'act like men'). Constant work is needed to keep things 'safe'. Within this environment there can be physical and psychological risks for women. At the same time, there are also possibilities for women to professionally and personally flourish, as well as to transcend traditional masculine/feminine dualisms:

If you really wanted to do it you can adapt to the environment. It's just about being self-assured. [I would be] loathe to recommend it to a woman just out of school – not having a sense of yourself. I'm not sure if [the identity dangers are] particular to being a woman, it could be all apprentices. You take a few knocks at the beginning so you need a sense of who you are and why you're there, even if you might not love it the first year. (Apprentice, female, nontraditional)

Summary

Women themselves, not just the men they train and work with, maintain a gendered environment that privileges dominant conceptions of masculinity. A core part of the (re)production of dominant masculinity is that it privileges certain expressions/enactments of 'maleness' while women are constituted as 'other'. So can women really ever fit? Some of our interviewees suggested that differences between women and men are/should be invisible in the trades, while others were dismissive of all that is female and feminine. Women need to do more work than men to 'prove' that they are acceptable and capable trade trainees and employees. While some women flourish in these environments, others do not, and many are put off by descriptions (and perceptions) of the trades at a much earlier stage. Some of our feedback workshop participants thought that the culture would change (to become more inclusive of women and a wider array of masculinities and femininities) if a greater number of women entered the trades, stayed in the trades ('on the tools'), and filled management/ownership positions. However, we do not see the proportion of women increasing towards this 'tipping point', partly because we suggest that what is going on here is more than just a 'numbers game'.

Although most of our interviewees (male and female) agreed that women should be allowed to enter the trades, very few wanted to completely transform the trades. Our interview data suggest that there is some superficial encouragement for *women* to join the trades, but there is much less emphasis on encouraging elements of *femininity* in the trades (be it produced by women *or* men). There are fears about changing the nature of the trades towards greater 'feminisation' – either in terms of a more equal balance of the sexes, or in terms of reaching more of a 'middle ground' in a theoretical masculine/feminine continuum. This reluctance to change the nature of the trades is particularly interesting, considering that many interviewees talked about the difference between an 'old-school' and a 'new-school' trades culture: our analysis showed both to be equally masculine – just in different ways.

The question is, does the real 'problem' lie in current gender constructions, in current trades constructions, or in current careers pathways constructions? Either way, we do not see how a gender balance is possible without transforming the trades and/or transforming dominant conceptions of gender. Some parts of the interviews and workshop discussion with some female trades trainees provide us with ideas about

some quite different re/deconstructions of gender and potential for a very different trades future. (These are explored in the next section.) However, rather than targeting gender and trades specifically, the solution might emerge if policy-makers, advisers, and young people could conceptualise and structure pathways and careers decision making quite differently, to create more space for women (and men) to continuously explore, create, and 'hybridise' careers over time.

6. Young people's suggestions for change

We asked participants if they had any ideas about what could help others to get into nontraditional trades-related courses, training, or employment. We also asked young people in nontraditional pathways about what might make them want to stay or leave the pathway. We see young people as 'experts' in both their own experiences and their understanding of peers in their age group. We were aware that their suggestions would emerge from their individual experiences and ways of seeing the world, and that they might not see the 'problem' or possible solutions in the same way that we might. Therefore this section simply describes the interviewees' various suggestions before the final chapter presents our analysis of the location of the problem and potential policy directions.

We list the young people's suggestions under each of our three main areas of interest, as set out in our second research question; that is, their suggestions for addressing the question of:

- how to change today's young people and wider society (such as information/experience-seeking and sense-making strategies, gender (and other) identities, socialisation experiences, individualisation, etc.)
- how to change the current pathways framework (such as the school system, its connection with post-school opportunities, pathways information provision, etc.)
- how to change the trades themselves (such as information about the trades, training opportunities, work demands and culture, historical developments, etc.).

These categories hint at an oversimplified model of career decision making, suggesting that these are three separate domains forming stepped layers. This does not necessarily reflect the complex nature of today's pathways environment nor emerging theories of career management. In fact we did not find it straightforward to match each suggestion to only one of the areas, since they were often relevant to all three.

Also, it is important to note that a number of young people did not see the current gender balance in the trades as a problem, and/or they did not see that there were any solutions. Once again, young people often see the world in terms of individual choice, sometimes with some awareness of socialisation, and this is reflected in the types of suggestions that they make. The underlying assumption was that young women and young men who choose not to enter trades dominated by the opposite gender do this because they aren't interested in them. The following, very thoughtful response from one young woman illustrates this:

I'm very wary of questions like that [about what might help] in this level playing field fetish...[which assumes that] as long as you have a good attitude, there aren't any barriers to anything, so if you fail it's actually all your fault 'cos you weren't chirpy enough. There's heaps of factors that contribute to lots of things – a large part of that is societal, and subject positioning, and your access to physical and ideological resources. And then there will also be a part that is

about your resilience and attitude. They are all really related to each other and can't be separated out... People think 'We know the odds, so we can beat them.' What I've been thinking about lately has been about agency – so you might want to consider that a form of agency and empowerment to these massive, massive shitty barriers is to claim more agency than there actually is – so that can be a survival tactic. I know this happens in diasporic ethnic communities and it happens with coloured women's bodies where people don't care about your body and the only way to be empowered in this place is to claim responsibility, which also means that you claim responsibility for all the shitty things that happen so that you claim agency. So I wonder how much that might be a response to, 'Well it doesn't get me anywhere if I only view myself with the wider social picture, so my empowerment might be to say that it's all up to me and believe that, so it's how I will operate in the world' because otherwise you are essentially disempowered. (Ex-trainee, female)

Qualifiers aside, the following are the suggestions made by young people in our interviews.

Changing young people

- Support young people so that they are confident to go into a nontraditional environment and can ignore any challenges they might face.
- Make sure young people know about all the options on offer in and beyond school (e.g., via advertising, careers planning, careers days and expos, employee visits, etc.).
- Make advertising more realistic so that people know what the work really entails and that the subjects are 'real' (e.g., use videos rather than posters, real female builders rather than models).²⁸
- Give young people less gender-stereotyped upbringings, and support families to provide better information and support to their children.
- Produce more television shows with less gender stereotyping so that young people are more open-minded.
- Ensure young people have more access to open-minded role models who could help them plan their careers, as well as improving access to mentors from nontraditional pathways (for example, one female trainee suggested she would like to offer herself as a mentor or contact person for young women who might be interested in finding out more about her field).

²⁸ When we showed a picture of a female builder to interviewees as an example of advertising, many (especially the males in traditional options) questioned its authenticity drawing on their stereotyped assumptions to suggest she was a model and not a real builder. At least one nontraditional female questioned the authenticity of the New Zealand Army adverts, suggesting that the computer-generated woman did not represent real women's bodies. Others criticised adverts about nontraditional options for men that tended to present them as gay.

Changing the pathways framework and its components

- Make trades-related options more enjoyable and interesting, especially for the nontraditional gender (like doing jewellery making in hard technologies).
- Provide more school-based support for nontraditional pathways.
- Advertise and tell students that both genders attend nontraditional school subjects.
- Provide more encouragement to females who show aptitude in male-dominated subjects.
- Start careers planning in junior secondary school.
- Provide Gateway and STAR experiences to more young people.
- Provide more trades-related work experience opportunities to students of all ages.
- Provide site visits for young people who express an interest and/or ensure all companies have an open-door policy.

Changing trades training and trades occupations

- Offer women-only courses.
- Help develop trades niche areas that are particularly of interest to women and support a more feminine approach to work and social relations.
- Make sure people hear more about the 'new school' trades culture.
- Provide more 'tester' courses that require less long-term/economic commitment at the outset (e.g., night classes, etc.).
- Provide co-ordinators or mediators to 'place' young trainees in workplaces rather than having a direct recruitment link between young people and employers.
- Provide better financial incentives to trainees and employees, including better student and apprenticeship wages.
- Provide better financial incentives to employers so that apprentices cost them less money, for example better subsidise block courses.
- Ensure that trades-related career pathways and progression/promotion is possible and visible, and continue to support career planning throughout.
- Ensure apprenticeships and employment are readily available to young women.
- Ensure employers and managers support women and help to create a culture that is equally supportive.
- Establish better health and safety conditions that are adhered to by all.

These suggestions from young people provide a backdrop to the next chapter, which draws together and comments on the project's findings, and makes some suggestions for the way forward. Our future-focused orientation leads us to acknowledge and maximise interconnections and overlaps between these three domains.

7. Discussion and recommendations

The aim of this research was to examine the interconnections between gender and gendered ideas, and young people's trades-related career decision making. We began this report with three questions in mind:

1. Do males and females experience the contexts of career decision making differently and/or inequitably?
2. If so, where is the problem located?
3. What policy – or other – levers might lead to a better gender balance in the trades, and/or an increase in women's economic independence?

This chapter answers these questions via a synthesis of the evidence from interviews with our sample of young people, and current thinking about education and careers in the 21st century.

Difference and inequity

The research reported on in this report shows that males and females *do* experience the contexts of career decision making differently. While there are many similarities, we have focused on the differences to suggest that gender has a major – if not always visible – influence on young people's pathways navigation, and their steering towards and away from trades-related careers. Gendered discourses inevitably structure the young people's narratives – we are, after all, gendered beings: however, we found that *narrow* thinking about – and production of – gender affects the ways in which families, employers, peers, education organisations, advisers, and other individuals and institutions, explicitly and tacitly, make some potential career paths and identities more – or less – accessible to young women.

The findings presented in this report unsettle the veneer of equal opportunities, limitless possibilities, and individual choices apparently provided by the New Zealand 'pathways' framework. The findings point to pervasive gender inequities, and, in particular, they show that there are not just inequities in *what* young people decide to do (e.g., more builders are men) but in *how* and *why* they come to these decisions. While many of the young people we interviewed argued that women *and* men can enter the trades, a deeper reading of their narratives shows us how social relations and structures smooth the pathway for men, while women are required to navigate more treacherous terrain, with the result that they often arrive later, having had more of a struggle, and/or less of a plan.

Locating the problem: influencing factors

This section looks at the main factors involved in young people's decision making about trades-related occupations, and – most importantly – how we might 'read' or understand those factors. Typically, factors in research are presented as a list, and are often read in isolation from each other as if they were ingredients in a recipe, with each one contributing something different and identifiable to the overall product. However, contemporary social researchers argue that this approach does not 'work' well in complex social situations. Human beings, in particular, their identities, are much more than the sum of their parts (or a set of factors), so that it is more useful to look at the relationships and interaction *between* the parts, than to look at the parts as separate entities.

In the case of this research, though we can point to many influences on young people's decision-making experiences, we cannot know precisely and definitively how these interact for each individual, let alone how these might interact for other individuals who were not involved in this study. However, we can look to the overall context in which these factors occur, are experienced, or are understood. We can understand the way in which gender is 'performed' and understood by young people and how it interacts with their decision making not just as sets of individual circumstances, but in the context of something bigger. This is the approach we take below.

The 'something bigger' we have used to understand the 'sense' the young people we interviewed were making of their experiences is the wider shift from an industrial society to a post-industrial or knowledge society. In this context, careers and work are, increasingly, being conceived and experienced – or 'produced' – in ways that differ in important ways from the Industrial Age model.

Below we draw on our findings to summarise some of the factors that act to close down – and/or open up – nontraditional pathway options for young women within the main contexts that we investigated. Then we look at how these factors 'work' in the context of the industrial to knowledge society shift, and at the implications this has for gender and trades-related occupational decision making.

Gender production

Gender norms play a major role in the production of young people's identities. This becomes especially important in today's environment where career development is about producing 'who I can *be*' rather than 'what I will *do*' (Barnett, 2004; Vaughan & Roberts, 2007; Vaughan et al., 2006). In the research reported here, we found that gender stereotypes and dominant hetero-normative discourse continue to have a pervasive influence on young people as they imagine and try out possible selves.

Our interviewees' comments ranged from the outright sexist, to those suggesting that women *can* do traditional trades-related work, but it is men who (naturally) tend to be more interested in it. This corroborates other recent research showing that many young people will espouse equal opportunities while at the same time (re)producing old ideas about gender and gendered occupations – to the extent that their choice trajectories are constrained (see, for example, Equal Opportunities Commission, 2001; Howard & Tibballs, 2003; Osgood et al., 2006; Thomson et al., 2003).

Women in general continue to seek out work areas associated with stereotypical feminine qualities, in relation to sector (e.g. preferring the caring and service industries over the scientific and technical) and/or work environments (e.g., preferring quality relationships over autonomy) (Francis, 2000/2002 cited in Osgood et al., 2006; Razumnikova, 2005).

The narratives of the young tradeswomen we interviewed disrupted – transcended even – gender-normative discourses – to varying degrees. Many were wary of assumptions about dichotomous gender differences, distancing themselves from, as one put it, 'the girl versus boy mentality'. Others were able to maintain traditional ideas about gender alongside their participation in male-dominated work (for example, one claimed to be 'a chick' at home and 'a tradesman' at work).

Both groups used de/reconstructing discourses around marginalised ‘tradeswoman’ identities, perhaps exemplifying the ‘post modern person, replacing a static identity with a multiple, changing, and fluid notion of self’ (Atkinson & DePalmer, 2008 drawing on Turkle, 1996).²⁹

Many of the nontraditional pathways women we interviewed said that they needed to be very self-assured and self-confident to ‘be’ female in a male-dominated environment. In the next section we look at some of the factors that might have helped to produce some of that resilience, taking into account career identity literature which suggests that a sense of self is (re)produced through community interaction (Law et al., 2002).

Family scripts

Family relationships and activities have a powerful influence on young people’s sense of who they are/can be. Although participants reported that their parents apparently support *whatever* they might choose for study or work, we know from other research that family background, experiences, and conversations throughout a young person’s upbringing clearly make some decisions more likely than others (Berríos-Allison, 2005; Bryce, Anderson, Frigo, & Mckenzie, 2007; Nota, Ferrari, Solberg, & Soresi, 2007; Taylor & Nelms, 2008; Vaughan, in press). As children grow older, family members can provide direct advice about career decisions, helping young people to make sense of all the options on offer, but material from the young people’s interviews suggests that they often use a gender ‘lens’ that was more appropriate to previous generations. These findings are well supported by research that shows how children learn about and construct their future (gendered) selves through family socialisation (see, for example, Equal Opportunities Commission, 2001; Gibson & Papa, 2000; Jacobs et al., 2006).

Some young women navigating nontraditional pathways described having families who consciously disrupted gender norming (and, sometimes, other socially prescribed notions of status and success). This could be particularly powerful when family members were also interested/active in trades-related areas.³⁰ Such experiences can provide young women with hands-on knowledge about an area (to counteract other messages they might be receiving) and/or normalise female participation, making it a legitimate career possibility.

Media and marketing

Young people today consume, interpret, and interact with a wide range of media that varies in the extent to which it entrenches or disrupts gender stereotypes in and beyond careers. Other researchers in this area have argued that media consumption is inseparable from young people’s identity production, and that the media provides limiting messages about gender and vocational roles (Garner, 1999; Hylmö, 2006). For the young people we interviewed, television shows and advertisements do glorify or selectively represent career options, but at the same time (when asked) some young people are critical of what they view. None of our interviewees mentioned female television characters in trades-related careers, but they had noticed current

²⁹ In their research on online discussion forums about sexuality and education, Atkinson and DePalma (2008) similarly found that ‘discourses, no matter how powerful, can shift over time through purposeful acts of reinscription’ (p. 188).

³⁰ Still, the traditional trades-system family script – following one’s father’s footsteps – is more easily accessed by sons than daughters.

advertising aimed at opening up women's career possibilities. While some young women found these campaigns useful, others were far more sceptical and suggested that the potential for change is often disrupted by characters that seem comedic and/or unrealistic.

Media, marketing, and information provision plays a different role in each young person's career decision making; for example, from sparking a sudden interest in a new area, to 'enabling' a prior choice by finding an institution's contact details. Young people are active consumers and the meaning each makes of any given information inter-relates with many other factors in their immediate lives, such as peer relationships and schooling experiences. The structure and opportunities for qualifications and labour market participation also play a role.

Peer relationships

Young people's social groups can be more or less accepting of nontraditional roles, and/or the trades in general. Previous research has suggested that girls tend to have a more collaborative approach to educational and career decision making, and so peers (and family) could be more influential for girls (Mastekaasa & Smeby, 2008; Reay, 1998). Classroom banter in male-dominated learning environments had negatively affected some of our young women interviewees, some of whom sought support from their friends. Some of our interviewees who had taken a nontraditional option without support from friends or classmates were put off continuing, while, for others, this experience made them even more motivated to prove they could do it.

Schooling

Previous research suggests that while the public education system is supposed to provide equal opportunity for all, schools have a 'hidden curriculum' which acts to (re)produce hegemonic ideologies, as well as old patterns of social and economic dis/advantage (Apple with King, 2004). The data from the young people in this study (and other NZCER work) suggest that there are at least four aspects of schooling that serve to maintain traditional gender pathways in terms of subject choices, course design, and work experience(s).³¹ These are as follows:

- *Logistics and clustering.* Schools must balance offering as many subjects as possible against the constraints of time and resources, and understandings about what their students need and want. School timetabling practices create subject 'clusters' (groupings of subject combinations) and some of these clusters are more likely to be populated by girls than boys (Hipkins et al., 2006; Hipkins et al., 2005; Wylie et al., in press). We were told about one (co-ed) secondary school that insisted all students took all subjects in their first year (including the hard technologies), an idea that many of our interviewees approved of. However, this appears to be the exception rather than the rule.
- *The academic/practical divide.* Despite the pathway framework's wide range of possibilities (e.g., for school subjects, qualifications, secondary–tertiary course alignment, and post-school study and career options), timetabling practices (and subject clustering) continue to separate the 'academic-oriented' and 'vocationally-oriented' pathways, and to reproduce the former's traditionally higher status.

³¹ This is not an exhaustive list.

Interviewees told us about their difficulties in combining academic interests with practical courses. They also told us of widely held assumptions that the trades-related options are for the less academically successful – and boys. Since educational progression along particular pathways requires particular prerequisites, some young women do not have the luxury of exploring options and this may close down future possibilities. Some schools struggle to offer technology and/or work experience/work-based learning programmes, as these courses are resource-intensive.

- *Nontraditional vocational learning environments.* STAR, Gateway, and other work experience programmes provide a much appreciated alternative to traditional academic routes. They can provide young women (and men) with a more practical learning environment and can facilitate school/training/work connections. However, the social environment of some courses and/or workplaces did deter some female interviewees.
- *Careers-related advice.* Students select their courses in collaboration with a range of school staff, and taking into account the various ‘messages’ they have been given about their abilities. Some teachers’ (possibly subconscious) reinforcement of gender norms undoubtedly acts as another filter. We were told of the occasional teacher, dean, and/or careers adviser who had actively discouraged young women from ‘choosing’ nontraditional school and post-school options, but more commonly we were surprised by the apparent lack of active support for young women to construct nontraditional pathways. This, we think, is important, as a few of our young women interviewees specifically said that it was the support from a subject-specialist teacher or trainer that ‘made the difference’ in their decision to carry on with trades-related learning.

Thus unacknowledged assumptions about the purposes of senior secondary education, and about differences in male and female interests, effectively filter women away from trades-related paths. This is particularly interesting in the light of our finding that our male *and* our female interviewees were attracted by the same aspects of trades pathways (for example, earning-while-learning, low/no fees, useful for life, earning capacity, high likelihood of employment, internationally recognised qualifications, etc.).

Trades training and work

For many of our interviewees, male-dominated trades-related training and work is associated with dominant/hegemonic constructions of masculinity. For example, their narratives perpetuate the idea that men are more likely than women to be strong, to not mind getting dirty, to engage in physical activity, to follow vocational education pathways, and to have practical skills. From this, it ‘makes sense’ that men are more likely to be interested in this kind of work.

Apprenticeships are powerful ‘communities of practice’. They facilitate the process of newcomers ‘becoming’ community members through the ‘adaptation to and assimilation of various skills, procedures, and institutional norms via informal learning processes’ (Parker, 2006;³² see also Kahveci et al., 2007). Indeed, our interviewees’ narratives suggest that both women *and* men actively produce

³² Parker (2006) studied the ‘hyper-masculine culture’ (e.g., authoritarian, shop floor humour, etc.) of professional football apprenticeships.

particular forms of masculinity in the trades (and therefore, also, particular approaches to the trades). The difference is that men are assumed to 'naturally' fit, while women are greeted with surprise and/or negativity. Many of our interviewees saw the presence of women in the trades, not as disproving these assumptions, but as individual exceptions. At the same time, however, they reported examples of active and passive discrimination in trade environments, including evidence of 'double standards'.³³

Some of our female interviewees were clearly comfortable in current trades environments, partly because they provide access to particular identities, and partly because they unsettle outmoded ideas about gender. Some reported resistance strategies: however, this is tricky in that it necessarily disrupts/threatens the current nature of the trades, current dominant notions of gender, and/or an individual woman's sense of self.

Since career decision making is continually in process, it is important to note that several of the trades-oriented women we spoke to intended to explore other careers (or at least did not want to remain 'on the tools'), while others were looking to craft a niche for themselves that would maximise the potential of what, as they saw it, women can offer to trades-related work.

The pathways framework

The 'pathways framework' represents the spaces 'between' the factors discussed above. It is the organising system that connects (and blurs the boundaries between) learning and working environments, as provided by (or in collaboration between) communities, schools, tertiary institutions, employers, etc. Building on the findings of other recent research, our interviews provide further evidence of the ways in which this framework makes young people overly dependent on the quality of the advice providers they have access to, as well as their own capacity to make the 'best' decisions for their (future) selves. Many school-based careers advisers have not yet grasped the potential for the pathways framework to allow greater fluidity between different learning opportunities and working arrangements, and many of them are reliant on school structures that tie them to an information distribution – rather than a facilitation – role for young people's decision making (Vaughan & Gardiner, 2007). Until this situation changes, we foresee that the structural impacts of the above factors will continue in the current largely invisible ways, as will the uncritical (re)production of gender segregation patterns in employment. We suggest that it is impossible for us to identify one or more of the factors outlined above as primarily responsible for gender-normative decision making. Rather, it is the inter-relationships between these different contexts – including cumulative layering, contradictions, and feedback loops – that make this problem so difficult to define and solve.

Solving the problem by thinking about it in different ways

As outlined above, we can identify some important factors, and describe their interactions, but we think it is important to understand these factors in the 'bigger picture' of the knowledge society. What then do we think should be done to tackle

³³ Cameron (1999 cited in Osgood et al., 2006, p. 314) also points out that vocational gender minorities have 'rarity value', attract scrutiny, and face questions about their ability.

the problem of gender segregation in trades-related occupations in this new environment? We want to argue that past approaches, which do not take account of knowledge society developments, will not be enough, and something more is needed. We suggest an approach that involves:

- recognising the approaches that have been, and are being, used, looking at their successes and their shortcomings
- acknowledging how 'knowledge society' developments and various 'new' ideas about career make many of those past approaches less useful
- rethinking trades-related occupations in the new context in ways that allow gender to be less of a constraint on young people's decision making.

Past approaches

We recognise that we have seen a great deal of progress in recent years towards equal employment opportunity. However, many areas have seen little change. The traditional trades (plumbing, carpentry, motor mechanics, and the electrical trades) continue to be male-dominated (90+ percent male),³⁴ and, since women currently represent under 10 percent of industry trainees and Modern Apprentices in these areas,³⁵ this pattern does not look as if it will be changing in the near future. Gender segregation patterns in the traditional trades remain essentially unchanged, despite many and varied attempts to intervene.

Currently there are two main strategies which attempt to disrupt the gender imbalance in the trades and trades-related occupations. The first one has involved improving the distribution, access, quality, and accuracy of information about the trades by marketing them to nontraditional audiences (females in particular). Course planning material, posters and brochures, and television advertisements aim to engage female audiences and convince them that entering a trade is appropriate for them. This strategy attempts to 'push the buttons' that drive young people's (especially girls') decision making, suggesting that the line of work would be, for example, fun, challenging, financially rewarding, and enabling of ongoing career/self-development.

This approach is underpinned by two conflicting ideas. Firstly, young people today are seen as being responsible for their own decision making and for building their own individualised pathway from school to work.³⁶ The second idea is that young people have been socialised in ways that need to be counteracted by better/more information. This idea is informed by the radical feminist thinking of the 1980s: that is, if gender roles and identities are formed by early socialisation, then they can also be 'undone' by other later forms of socialisation (such as the media). It has resulted in strategies as apparently different as the *Women Can Do Anything* posters of the 1980s and the 2008 digitally animated Lara Croft/Tomb Raider army television advertisement. It fits with a recent recommendation from the Industry Training Federation to promote Industry Training and Modern Apprenticeships using images of women in nontraditional roles and industries (Curson, Green, & Hall, 2004).

³⁴ Ministry of Women's Affairs (2008).

³⁵ Human Rights Commission (2006); Tertiary Education Commission (2006, 2007).

³⁶ For more discussion on 'responsibilisation' and 'choice maximisation' and its significant consequences for young people, see Vaughan (2005), Vaughan (in press), and Vaughan et al., (2006).

The second strategy led to the creation of female-centred environments and approaches to (early) trades training. From the early women-only trades classes of the 1980s to Northland Polytechnic's recent Women's Trades Academy developments, these initiatives are based on the assumption that women have different ways of knowing, being, and doing things; that these don't necessarily fit well with the way the traditional trades are organised; and that if women are to be encouraged into the trades, there needs to be some form of 'transition zone'. They assume that women will flourish in women-only spaces that are tailored to women's specific interests and needs, and that acknowledge, cater for, and celebrate women's ways of 'being'. This idea draws from radical feminist thought, in particular, the idea that women are essentially *different* from men, and this difference should be fostered.

There are some shortcomings with each of these two strategies.³⁷ For example, a problem with the first strategy is that it does not take into account the multifaceted, complex factors that affect young people's career decision making (including the structural and discursive 'barriers' that constrain and enable individual choices). Similarly, it does not take account of the ongoing – and constantly changing – 'meaning making' that young people need to do as they integrate the 'new information' into their current schemas (Hipkins et al., 2006; Vaughan et al., 2006).

The second strategy doesn't take account of the reality that women will eventually have to enter male-dominated trades employment at some stage. Both strategies assume that women are a relatively homogeneous group that are 'essentially' different from men; that gender differences can be predicted, targeted, and catered for; and that gender and/or career identities are stable across time. Neither strategy aims to directly alter current trades culture: the idea is that trades culture will become more inviting to women simply because there are more women present. But this theory of relative numbers – which underpins many diversity policies – fails to take historically-specific cultural and social processes (and productions of gender) into account (Kezar, Glenn, Lester, & Nakamoto, 2008; Laxton & Knight, 1992; Mastekaasa & Smeby, 2008).

However, there have also been some successes – and we are not suggesting that we should 'throw the baby out with the bath water'. The approaches will undoubtedly make a difference for some women in some situations. The proportion of women in the trades may continue to creep up (possibly over the next few decades) as some women are positively influenced by these interventions and not put off when they encounter the realities of trades-based employment. Initiatives could be added in to help rectify some of the problems we have identified. For example, more attention could be given to supporting young people to understand and interpret marketing material (such as through sessions aimed at parents to help them help their children decide what suits them³⁸ or through better training for careers advisers). Female-oriented initiatives could continue to support women through the first few years of

³⁷ Our research did not evaluate such interventions: however, some of the young people's interview comments suggest that such strategies are/would be appreciated (at least by some).

³⁸ Older models of career planning naively suggest that what 'suits' would result from a careful consideration of interests, aptitudes, skills, and market opportunities, probably including some sort of cost/benefit analysis (Ball, Maguire, & Macrae, 2000; Vaughan et al., 2006).

their working life, or they could provide women's networks and peer mentoring for individual women dispersed around different male-dominated businesses.³⁹

While we see that the Ministry of Women's Affairs could support re-energising these approaches, rectifying their past shortcomings, we suggest that this would be to look backwards, to 'clean up' the past, rather than developing approaches focused on crafting the future.

One of the major issues with a pathways framework and its invocation of 'choice for all' is that policies and strategies that are designed to tackle the structural obstacles to those choices (e.g., workplace sexism, careers advice in the form of information, without meaning-making assistance) may be seen as interfering with choice. We therefore think the Ministry of Women's Affairs needs to take account of a broader picture as well and consider ways to work with emerging trends in society and economy, including changing priorities in the organisation of work and careers. In the next section we set out some ideas that, we think, need to be taken into account in developing this future-oriented approach.

Recognising society's transformations: the knowledge society and career development

In order to go beyond earlier approaches to the question of gender segregation in trades-related occupations, we need to recognise that our (Western) early 21st century society is very different from 20th century society, and, therefore, that the very concepts of *gender segregation* and *trades-related occupations* are changing. We need to understand how the 'big picture' shifts taking place – from industrial society to a knowledge society – are likely to impact upon young people's career decision-making processes. These big picture trends affect, not just how young people make decisions, but also what they think their decisions are about. They are also affecting the development of trades-related occupations.

Knowledge society

In using the term 'knowledge society', we acknowledge that there are other names for this, which differently emphasise particular aspects of it: network society (Castells, 2000); post-industrialism, post-Fordism, or post-capitalism (Drucker, 1993); post-modernity and/or late capitalism (Bauman, 1992; Jameson, 1991); and 'fast' capitalism (Gee, Hull, & Lankshear, 1996). Some authors have taken up specific aspects of the societal and economic paradigm shift occurring: for example, the implications of 'accelerated flows' of people, ideas, and money between nations supported by a technological revolution (Appadurai, 1996); the fragmentation of structures and institutions such as the family, leadership, and church, and a heightened awareness and calculation of life risks (Beck, 1999); identities based in patterns of consumption rather than in social class (Kenway & Bullen, 2001); and the rise of a new 'creative class' of knowledge workers (Florida, 2002).

All of these authors and others explore aspects of the shift we are talking about. However, it is Gilbert's (2005) account of the knowledge society that is particularly pertinent in the present context, because it focuses on changes in what knowledge *is* and what it *does*, and on what people need to learn in school in order to participate

³⁹ Recent research on women-only programmes designed to facilitate women's legitimate place in male-dominated fields suggests that women need to be given the 'cognitive, social and emotional tools to maintain their membership' rather than just the practical skills (Kahveci et al., 2007).

in the 'new work order' in New Zealand. Gilbert describes the transition from the late 20th century Industrial Age, where economic wealth was generated by exploiting natural resources to produce commodities through mass production, to a 21st century Knowledge Age, where the creation of ideas, new market demands, and niche markets (personalising of existing products and services) is emphasised. So as the limits of mass production, natural resources, product-specific machines, and semi-skilled workers producing standardised goods were reached, niche markets emerged and the nature of work changed, forcing workplaces to adopt different ways of operating, including changing the roles of workers, owners, and managers (Piore & Sabel, 1984).

The new work order

As Gilbert (2005) explains, 20th century workers were educated to perform repetitive tasks, to respect authority, and to follow rules for a system they did not necessarily understand. However, as businesses begin to adapt to market demands and track their potential clients' everchanging preferences, workplaces are increasingly required to operate more as networks than hierarchies, and to demand different skill sets and attitudes from those coming through school. It no longer makes sense for change directives to be communicated down from 'people at the top' who are disassociated from both the 'producers' and the 'consumers'.

Everybody in the system needs to take responsibility for innovation and communication. The following table provides an example of the sorts of skill changes occurring. Although Reich's 1991 work pertained to the financial sector, the principles could apply equally to other sectors, including the trades (Bertrand, 1998).

Table 4: Changes in the skills required of financial workers

	Traditional skills	New skills
General	Stable activity in a rigid environment	Adaptability to new products, technologies, and methods of organisation
	Direct work on documents	Abstract work on screen, using codes and symbols
	Ability to receive and follow instructions	Autonomy and responsibility
	Individualised work	Work in constant contact with customers and colleagues
	Limited horizon in time and space	Broad horizon in time and space
Specialised	<i>High level</i>	
	General management staff	Specialists alongside general management staff
	Managers of the firm and of personnel	High-level technical staff
	<i>Intermediate level</i>	
	Specialised production work	Versatility in working in sales and relations with the user
	Detailed knowledge of procedures	Broad knowledge of the firm, its products, markets, and customers
<i>Subordinate level</i>		
Specialised work of collecting and processing information	Tendency to eliminate information-gathering jobs through automation and restructuring	

Table reproduced from Reich (1991) in Bertrand (1998, p. 166).

The world of 'employment' is therefore becoming much more complex and uncertain, and the 'old' categories of skills and occupations are transforming into something more fluid. Furthermore, rapid change facilitated by information and communication technologies means it is no longer possible to accurately predict the jobs that will be available in the future. So it is now expected that *everyone*, if they are to be economically active, needs the capacity to adapt, change, and innovate: they need the ability to think 'between the tasks', rather than the ability to follow set protocols.

A culture of innovation

The current emphasis on *innovation* and *fostering a culture of innovation*, first launched in New Zealand through the Growth Innovation Framework (GIF), is part of this shift to develop a more highly skilled population. It mandates increasing the investment in education, especially Modern Apprenticeships, and in improving the pathways between school, work, and further study/training (The Office of the Prime Minister, 2002). The GIF was one of the first official acknowledgements that workplace and employment relations practices were a positive contributor to economic development, rather than a constraint on the ability of firms to grow; it underpins a focus on developing 'high-performance workplace' models where employees (including tradespeople) work in autonomous or semiautonomous teams, use communication 'soft skills', have a voice in the organisation through official mechanisms, and as management practices are improved employees not only have the skills to perform but are *motivated* to do so (Ryan, 2002).

In other words, people and the way they think about work are now central to economic development. Hence when the OECD reports on the strengths and conditions of New Zealand's innovation 'system', it focuses on the skills, capacities, and dispositions of population in relation to physical resources (e.g., having a resourceful entrepreneurial population; a unique physical environment; an open society engendering trust; pro-competitive markets; a predictable political environment; and pockets of excellence in new industries like software, creative industries (Organisation for Economic Co-operation and Development, 2007). Similarly the New Zealand Treasury identifies the development of higher skills, opportunities to re-skill, and 'soft skills' as critical to productivity: 'attitudes and values matter as much as knowledge and technical skill' (2008, p. 2).

From jobs to career development

So what do these shifts signal in terms of gender, careers, and trades-related occupations? Firstly they signal that forging a career is a fundamentally trickier proposition than it used to be because women and men must now take account of *movement* and *shift* throughout their careers and lives, whereas career used to define lives in a more reliable and fixed sort of way, including one where balancing work and other aspects of life was not the issue it is today (Vaughan, in press). As New Zealand's Career Services estimates: 'every year 200,000 new jobs are created and 150,000 disappear or are transformed' and stresses therefore that 'a reliable and enjoyable career cannot be left to chance', especially given the 'maze' of future career possibilities (Career Services, n.d.).

Secondly, they signal that we are dealing with something more than simple participation (counting numbers) in work and in tertiary study and training (which has increased dramatically over the past 20 years at secondary and tertiary levels). Instead we are dealing with employability and workforce development issues.

This study – along with other New Zealand research used to underpin several key careers and youth transition policies and initiatives – has shown that young people no longer have an immediate or fixed ‘destination’ from school. Many do not see a career-for-life, and motivations and identities mean that a pathway from school cannot be taken as a reliable proxy for what it means to the person or what role it has in their lives.

Job security and/or pathways exploration are experienced differentially by young people (Vaughan et al., 2006). Other research shows that young people are on the edge of new understandings about the workplace: they see the new context of ‘careers’ in which having a job is a necessary, but not sufficient, condition for having a career, and they identify strongly with work/life balance or ‘work in life’ ideas. However, they are uncertain about other emergent career development ideas which address future uncertainty at the level of the individual (e.g. career portfolio construction and adaptability); the workplace (e.g., outsourcing and global competition, new skill demands); and society and economy (e.g., technology-driven changes, demands for constant innovation, and equity considerations) (Vaughan, in press). One reason for this may be that there is still a great deal of inconsistency across careers advisory systems in secondary schools, and provision of information is still privileged at the expense of the development of self-management and career management skills. Thus school leavers are often not equipped with the skills they need beyond *entry* to a course of study or the labour market (Vaughan & Gardiner, 2007).

However, an emergent emphasis on *career development* signals an end to the kind of vocationally-oriented forms of career planning and guidance that careers practitioners advising people, particularly in schools, have favoured. Career development is now designed to address people of *any age and throughout* life, as they make education, training, and occupational choices and *manage* their careers (International Symposium on Career Development and Public Policy, 2006, emphasis added). This is focused around shifts from lifelong (fixed and hierarchical) *career* to lifelong *learning*, from career as elitist (only some people have careers; others have jobs) to career for all (Watts, 2004). So careers guidance in schools is no longer just about providing information about options and encouraging young women and men to participate in tertiary learning or the workforce; it is about fostering individual progression and development (Watts, 2001) and, crucially, encouraging *participation as* learner-workers and engaging young people with the ‘production’ and management of their careers (Vaughan & Roberts, 2007). Within the context of a knowledge society, the ‘new’ forms of career development provide a way to blend social and economic goals – this was a key theme at the 4th IS2007 (International Symposium on Career Development and Public Policy, 2007).

The following table (Table 5) shows some of the key features of careers development in the 21st century, contrasted against common models from the 20th century.

Table 5: Old and new orders of career development

Acceptable but increasingly inappropriate (old order)	Emerging but not yet accepted (new order)
Career as destination	Career as process (see Wijers & Meijers, 1996)
Career trajectories decided at school	Career trajectory decisions decided and revisited throughout life
Commitment to a career as vocation	Commitment to building self as enterprise
Security built by long-term commitment	Security through exploring possibilities
Exploration as a discrete, contained phase	Exploration as part of lifelong learning
Commitment defined by long-term interest	Commitment defined by changing mix of short-term and long-term interests
Opportunity costs balanced against labour market rewards	Opportunity costs take into account work/life balance
Individual fits to entity of career	Career is constructed (see Savickas in Collin, 2001)
Goal is to achieve order	Goal is to value and use 'chaos' or unpredictability (see Pryor & Bright , 2004)

Table adapted from Vaughan et al. (2006, p. 94)

What does all this tell us about the problem of gender segregation in trades-related occupations – and what to do about it? The next – and final – section of this report offers some suggestions.

Creating emergent 'solutions' for the unknown future

This section outlines some suggestions for the Ministry of Women's Affairs which arise out of the above discussion of the focus, in the knowledge society/new work order, on constant innovation, and the 'new' career development's focus on lifelong career choices and management. We have been emphasising changes in:

- the conditions of work for women and men (the knowledge society)
- the nature of work (and the nature of 'the trades') undertaken by women and men (the new work order)
- the role of work – or how women and men think about work in their lives (career not job, lifelong learning, multiple qualifications, upskilling, career development)
- the differential individual and collective experiences of gender segregation, occupational participation, and economic development by women and men (the implications of the knowledge society, new work order, and career development paradigms, taken together).

We make the following suggestions in the light of these changes.

Suggestion 1

Work with changes to skill sets needed in – and definitions of – 'trades'

Rather than setting up programmes that have a 'tight' focus on developing the skill sets and dispositions that are needed *now* (which are basically the skills and dispositions of the past), we think the emphasis should be on programmes designed to develop the skills of the *future*. This 'big picture' approach will, we think, eventually produce changes in the culture of the trades, and that these changes, because they

will widen the skill sets required for work in these trades, will make work in the trades more attractive to young women. This work could build on and strengthen policy work and other interventions currently being developed or reworked, as well as acting as a 'bridge' between past-oriented and future-oriented approaches.

For example, UNESCO suggests that TVET (technical and vocational education and training) should provide generic technical principles and practical skills for application in a variety of occupations, rather than highly specialised training for a single trade. It argues that:

the ability to learn independently together with the non occupation-specific training received in the vocational stream will ensure that the individual has the flexibility to respond to the demands of the workplace by acquiring new trade skills as older trades become obsolete. (United Nations Educational Scientific and Cultural Organisation, 2005, p. 15)

Our earlier efforts to encourage more young women into traditionally high-status areas, like medicine and law, have borne fruit just as knowledge society developments have reconstituted these professions as the providers of (specialised) services.⁴⁰ We think we could be heading in the same direction with current work designed to solve the problem of the gender-segregated trades.

We also think it is possible to argue that the development of strategies designed simply to get more women into the trades could be misplaced. Building on the discussion earlier in this section, it could be argued that the traditional trades are an outdated mode of work (at least in their current form), and that the current apparent connection between traditional trades work and ongoing financial security may not continue (calling into question the assumed connection between less gender segregation in trades-related work and women's greater capacity for economic independence).

One way forward could be to shift the focus away from 'trades' to 'apprenticeships' and 'industry training'. Modern Apprenticeships cover a range of jobs across a range of industries, only some of which would traditionally be considered trades. And industry training (skill development and workplace learning) covers both the traditional trades, but also many new areas, in the services, primary industries, manufacturing, retail, and government/community services sectors. Throughout the 20th century, trades apprenticeships have gradually moved away from being conducted solely through a master-learner relationship to taking place through an employer-employee relationship and also involving formal classroom learning (trades school, polytechnic study). Moreover, some entire trades have become obsolete through technological changes.

While traditional trade-related knowledge and skills will continue to be important (and people will still need to know and be able to do these things), this knowledge and skills will not, on its own, be sufficient for a successful career in the future. There are some obvious examples in the case of plumbers, electricians, and builders who will need business skills – including financial, IT, customer service, people, and relationship skills. It will not be enough for them to know how things have always been done: they will need problem-solving and innovation skills, and the ability to adapt and 'personalise' their services for new (and everchanging) 'niche' customers

⁴⁰ See pp. 200–201 of Gilbert (2005) for an elaboration of this argument.

and markets. They will need creativity, design, and project management skills, and the ability to adapt to constant (and significant) change in methods, markets, and the overall operating environment. These skills will not be 'add-ons' to the core skills of, say, plumbing; they will be integral to a successful career.

It is interesting that this is what young people in our feedback workshops said about their vision of trades and trades-related occupations in the future. They expected to see a greater emphasis on brand loyalty coming to define occupations and a related emphasis on installation of systems and replacing parts in systems rather than repairing systems. They saw increasing computerisation of tasks and the possible splitting of occupations into very high-skill, 'thinking' work and very low-skill, repetitive work. They expected a greater need for communication, relationship, and business management skills in the future. Overall, their view was that there would be more:

- **inter-relationships *between* trades occupations** where people would combine different skill sets from across different trades to form hybrid occupations servicing niche markets. This fits well with the 'Confident Explorers' cluster in the Pathways and Prospects research, a group of individuals who had a strong sense of purpose about work in their lives, but who had not attached that purpose or their identities to specific vocations; instead they were willing to explore widely and expected to be creatively linking opportunities and managing themselves as a portfolio throughout their lives (Vaughan *et al.*, 2006).
- **intra-relationships *within* trades occupations** where people develop particular specialisations. This meshes with the 'Passion Honers' in Pathways and Prospects – a group who were looking to build careers from longstanding interests in industry areas and to grow an everdeepening expertise and a strong vocational or industry identity based on the specialisation itself (Vaughan *et al.*, 2006).

At first glance, this approach might seem at odds with current worldwide skills shortages in many trades areas. New Zealand's Department of Labour has repeatedly identified serious shortages in the trades through its Job Vacancy Monitor (JVM) and Survey of Employers who have Recently Advertised (SERA) reports over the past few years. There is also increasing recognition among careers practitioners around the (Western) world of a lack of information and encouragement of young people into trades and trades-related occupations, usually as a result of the lower status these occupations have in societies. It might seem as if we are suggesting something that is a bit ahead of where things are at. We are not suggesting that skill shortages in trades occupations are not real. We are, however, suggesting that the shape of those occupations may change, and that the way women and men think about those occupations will also change. This means the Ministry of Women's Affairs in its policy work would need to maintain a tricky balance between understanding what is currently happening, what is starting to happen, and what has already happened in some specific areas. It will need to be able to sponsor or develop programmes that can meet current and future needs *and* provide bridges between the two.

Suggestion 2

Support initiatives across and within other agencies that assist young women and men in career decision making and meaning making

Another way forward is to work across a number of different government ministries and support initiatives which are currently being developed specifically to take account of knowledge society and career development trends, issues, and priorities: in particular, those that are related to youth transition and pathways from school to work and further education. This could be a way to maximise the Ministry of Women's Affairs resources and thinking by not having to start or run entire initiatives from within its own agency. Recent careers and youth transition initiatives are designed to work across agencies and to eliminate the common problems of agencies repeating existing work ('reinventing the wheel') and/or missing vital information or expertise ('falling through the cracks').

The Secondary-Tertiary Alignment Resource (STAR) and Gateway scheme provide tertiary-level and workplace learning opportunities and experiences for students that are useful in allowing students to explore, (re)adjust, or 'kick start' future plans. They have specific goals around facilitating the transition from school to further education and work and retaining young people in school. These initiatives will now be part of the recently launched Schools Plus scheme, which has its goal to ensure that 'all young people are in education, skills, or structured learning relevant to their abilities and needs, until the age of 18' (Ministry of Education, 2008, p.2). This scheme has a particular focus on early school leavers with low or no qualifications and 'inactive' NEET young people ('not in education, employment, or training'), and building coherence and co-ordination of programmes in different sectors (Ministry of Education, 2008).⁴¹

The joint Ministry of Education–Career Services–Schools Support Services' Creating Pathways and Building Lives (CPaBL) project and Career Services' Better Tertiary and Trade Training Decision Making (BTTTDM) initiative recognise the growing complexity involved in young people's post-school decision making and their support and guidance requirements.⁴² The CPaBL programme addresses this by focusing on the structure of careers education in the school. It fosters school-wide approaches that explicitly link the careers advisory team with school management so that information and guidance is better co-ordinated. BTTTDM addresses the information and guidance issue by creating a 'one-stop-shop' service for young people, parents, and other influencers, providing information and support for tertiary education and career pathway decisions.

These initiatives take different approaches, but they share some common themes. They attempt to provide *more* information, better *quality* information, and better *access* to it. They aim to *co-ordinate* information and guidance within and between institutions, and to provide guidance for students in *understanding* the information. They draw on research that shows an over-reliance on information distribution at the

⁴¹ This was foreshadowed in 2003 by the Education and Training Leaving Age Package and a focus on co-ordinating the youth transition services through a cross-departmental Youth Transitions Steering Group which aimed to have 'all 15–19-year-olds in appropriate education, training and work by 2007' (New Zealand Treasury, 2003, p. 9).

⁴² See Vaughan (2004a, b; 2005) for more discussion on the confusion and overwhelming and complex choices facing young people today who are ill-equipped to deal with requirements that they make choices (decisions) about a greater range of choices (options) within and beyond school – all of which are becoming increasingly multifaceted as schools and tertiary providers attempt to recognise, meet, and shape a wider range of students' needs than ever before.

expense of assistance with students' meaning making in school-based careers advice (Grubb, 2002; Vaughan & Gardiner, 2007); the preference of students for personal contact with careers advisers (Walker, Alloway, Dalley-Trim, & Patterson, 2006); and the importance of structured school management support of careers and transition function (Organisation for Economic Co-operation and Development, 2004; Vaughan and Kenneally, 2003; Wilson & Young, 1998).

Arguably the most significant feature of these initiatives, in terms of the 'pathways framework' or broader landscape of the transition from school, is that they continue to position students and young people as the key decision makers. Even where Schools Plus is looking to place obligations and conditions on young people, there is an emphasis on having a range of options from which young people can choose. This follows the invocation of choice, in the wider context of a (Western) society saturated with (consumer) choice and usually expressed in individualistic terms. It says to young people that no matter what your background or rate of school success, there is a pathway to a good future for you (Vaughan, 2005).

Building on – and adding to – initiatives like this, while apparently focusing on the education sector, actually involves work that *makes connections* between a wide range of different areas (including schools, community agencies, training providers, businesses, and so on). We think that approaches based on connecting thinking – and practices – in these areas will contribute to change in all three areas that have been the focus of this research (society, schools, and the trades). However, we also think schools are an obvious and important site for intervention.

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Appendix A: Human Rights Commission Recommendations

1. Work with Modern Apprenticeship Co-ordinators in developing strategies to encourage the recruitment of young women, Māori, Pacific people and people with disabilities into Modern Apprenticeships as supported by Section 15 of the Modern Apprenticeship Training Act 2000.
2. Encourage the Government to promote Modern Apprenticeships to **parents** as a pathway for young women, Māori, Pacific people and people with disabilities in any industry.
3. Support current industry initiatives (Industry Training Organisations and industry representatives) regarding the recruitment of young women, Māori, Pacific people and people with disabilities through **secondary schools** for Modern Apprenticeships.
4. Encourage the Tertiary Education Commission to make **reporting against targets** for more diverse participation, a contractual requirement for Modern Apprenticeship Co-ordinators as supported by Section 13(1) of the Modern Apprenticeship Training Act 2000.
5. Ask the Tertiary Education Commission to ensure prospective Modern Apprenticeship Co-ordinators undertake **training** in diversity and gender awareness before undertaking co-ordinator roles.
6. Work with '**champions**' of equity issues within Industry Training Organisations to provide ideas, 'role models' and best practice for reducing barriers to participation.
7. Support the provision of **incentives**, including financial incentives, for the recruitment of young women, Māori, Pacific people and people with disabilities, where particular Industry Training Organisations have made a commitment to diversity.
8. Support the Industry Training Federation (ITF) in its continued 'show-casing' of **case studies** addressing equity issues.

9. Support a **review of the funding criteria** for Modern Apprenticeships so that it aligns with the intentions of the Industry Training Act 1992, Section 13b, which specifically encourages the promotion of training to people to whom such training has not traditionally been available.
10. Ensure that **information** and **marketing** of the Modern Apprenticeship scheme is relevant to community groups that focus on employment issues for women, Māori, Pacific Peoples, ethnic minorities and people with disabilities.
11. Encourage the Associate Minister for Education (Tertiary Education), who has responsibility for the Modern Apprenticeships scheme to lead initiatives to increase participation rates of diverse groups.
12. Encourage relevant **Government departments** to increase the number of **public sector** apprenticeships of women, Māori, Pacific people and people with disabilities. (McGregor & Gray, 2003, p. 4-5)

Appendix B: Trainees and apprentices

Female-dominated areas with less than 10 percent of male trainees are italicised; male-dominated areas with less than 10 percent of female trainees are bolded.

Table 6: Industry trainees by ITO and gender as at 30 September 2006

ITO	Numbers	% Women
Agriculture	6,235	23
Apparel and Textile	1,259	47
Aviation, Tourism and Travel	2,735	52
Boating	495	0.6
Building and Construction	8,418	0.3
Building Service Contractors	594	58
<i>Community Support Services</i>	<i>7,409</i>	<i>96</i>
Competenz ¹	13,103	19
Electricity Supply	3,612	5
Electrotechnology	8,299	29
Equine	250	48
Extractives	3,802	5
Fire and Rescue	2,266	7
Flooring	508	4
Forestry	11,253	9
Furniture	492	9
<i>Hairdressing</i>	<i>1,523</i>	<i>94</i>
Horticulture	1,669	25
Hospitality	8,744	60
Infratrains²	2,164	3
Joinery	860	4
Local Government	461	32
Motor	4,058	2
NZITO ³	12,493	22
Painting	850	5
<i>Pharmacy</i>	<i>85</i>	<i>96</i>

ITO	Numbers	% Women
Plastics	631	11
Plumbing and Gasfitting	1,677	0.2
Opportunity Training⁴	746	1
Printing	565	9
Public Sector	3,175	61
Retail	1,430	53
Retail Meat	438	12
Road Transport	5,254	10
Seafood	3,387	31
Sport, Fitness and Recreation	3,250	52
Sports Turf	376	4
Te Kaiawhina Ahumahi	638	77
Grand total	125,204	28

1. Engineering food and manufacturing industries
2. Infrastructure contracting industries
3. Dairy, meat, and leather processing industries
4. Crane, scaffolding, rigging, industrial rope access, and elevating work platform industries

Table 7: Modern Apprentices by industry and gender as at 30 September 2006

Industry	Numbers	% Women
Aeronautical engineering	78	3
Agriculture	550	16
Architectural Aluminium	5	0
Bakery	204	25
Boat-building	328	0.3
Building and Construction	1,403	0.4
Contracting	205	4
Dairy Manufacturing	13	15
Electricity Supply	413	5
Electrotechnology	649	1
Engineering	1,422	0.9
Extractives	31	0
Flooring	205	0.5
Food Processing	4	25
Forestry	420	7
Furniture	80	5
Horticulture	629	21
Hospitality	335	37
Joinery	133	4
Motor Engineering	1,085	3
Painting and Decorating	125	7
Plastics	43	2
Plumbing	192	0.5
Printing	163	8
Public Sector	156	74
Retail	95	47
Road Transport	205	22
Seafood	12	50
Sports Turf	97	1
Tourism	75	81
Grand total	9,355	9

Appendix C: Information sheet



P O Box 3237, Wellington 6140
New Zealand
Education House
178-182 Willis Street
Telephone: +64 4 384 7939
Fax: +64 4 384 7933
Email: firstname.surname@nzcer.org.nz

[Date]

Dear Student / Trainee / Employee / Apprentice

We would like to invite you to take part in a research study about how different things (especially being male or female) can influence young people's career decisions or experiences in trades-related training or jobs.

We are a team of researchers from the New Zealand Council for Educational Research (NZCER). We'd like to talk with young people who are in trades-related courses at school, doing or recently finished tertiary trades training, or have changed from doing a trades training course or job.

The information sheet on the back of this page tells you about how you can be involved, what you get in return, and your rights. This will help you decide if you want to take part – we hope you do!

If you would like to take part, please fill out the Consent Form and send it back to us in the envelope provided or give it back to the person who gave it to you. Then we will get in touch with you to organise a time to meet.

Please keep this letter/information sheet somewhere safe.

Yours sincerely

A handwritten signature in black ink, appearing to read "Karen Vaughan", is written over a faint, light-colored rectangular stamp or watermark.

Karen Vaughan, project leader and senior researcher

on behalf of the research team:
Josie Roberts, researcher
Keren Brooking, senior researcher
Ben Gardiner, research assistant
Cathy Lythe, project co-ordinator

A large, hollow arrow pointing to the right, with the text "Please turn over for more information" centered inside it.

Please turn over for more information

Gender and Young People's Career Decision-Making

INFORMATION SHEET

NZCER is doing a study how different things (especially being male or female) can influence young people's career decisions or experiences in trades-related training or jobs. This information sheet asks you to consider taking part in the study. The study is funded by Ministry of Women's Affairs.

What would you have to do?

You would be in 1 or 2 different discussion groups with other young people similar to you:

- **either** all-female or all-male, **AND**
- **either** all secondary school students, all people in training courses, all people who have finished training courses, **or** all people who started training in one area and changed to something else.

The 1st group (around September and October 2007) will have up to 6 people and take about 1.5 hours. We will ask you about your experiences choosing and being in your course or job. There are no right or wrong answers. There will be two researchers in the group, and one will take notes and use a tape recorder.

The 2nd group (around February 2008) will be larger and take about 1.5 hours. We will tell you what we think we have found out from talking with your group and other young people and ask for your opinions or suggestions about the draft findings. We will include what you think in our final analysis and report to the Ministry of Women's Affairs.

If you want to take part, but not in a discussion group, we may be able to talk to you privately instead. And you can still be part of the 1st group, even if you can't, or don't want to, be part of the 2nd group.

What will you get in return?

We think you will enjoy meeting other young people and talking about your course or job choices. Your views and experiences will influence what we report, and may influence policies for or about young people entering training or jobs in the future.

We will give you a \$30 CD voucher for the 1st group and a meal at the 2nd group. This is our koha or appreciation of the time you will be spending with us and letting us hear about your life.

What are your rights?

You do not have to answer any questions if you feel uncomfortable. All the discussions will be **confidential** so only the researchers and other people in your group will know what you said.

If we want to write something about you individually, we will change your name and any details that might identify you so nobody will know it is you. You can change your mind about taking part at any time, and you do not have to give us a reason.

Who can answer questions?

You can contact Karen Vaughan, the leader of this study:

Email karen.vaughan@nzcer.org.nz Phone (04) 802-1455

You can also contact Cathy Lythe, the study co-ordinator:

Email cathy.lythe@nzcer.org.nz Phone (04) 802-1460

You can find further information about NZCER, this study, and our researchers here:

www.nzcer.org.nz

Appendix D: Interview and focus group schedule

Question		
<p>One</p>	<ul style="list-style-type: none"> • Thinking back to your childhood, what did you want to be when you grew up, and what happened to that dream? <p>P What attracted you to that job?</p> <p>P Did you follow it up?</p>	<div style="border: 1px solid black; padding: 5px;"> <p>What we are looking for</p> <ul style="list-style-type: none"> • Early considerations about occupations and gender. • ‘Critical moments’ (events, times) that encouraged or discouraged people </div>
<p>Two</p>	<ul style="list-style-type: none"> • What were the things you wanted to be? What happened to make you follow that ambition / give up that dream? <p>P Was there a time when you realised you were really into this or wanted what it could offer?</p> <p>P Was there a time when you felt you would/could never do this?</p> <p>P How did other people react when you told them?</p> <p>P Have you ever wanted to do a job that was different from the kinds of jobs that most males/females choose? Who did you tell? What was their reaction?</p>	<div style="border: 1px solid black; padding: 5px;"> <p>What we are looking for</p> <ul style="list-style-type: none"> • See Question One </div>

<p>Three</p>	<ul style="list-style-type: none"> • What attracted you into this training / job? <p>P Long-standing passion</p> <p>P Job security ('having a trade') or job portability</p> <p>P Chance to explore</p> <p>P Knowing others in job</p> <p>P To be 'different'</p> <p>P Lifestyle, flexibility, money</p>	<div style="border: 1px solid black; padding: 5px;"> <p>What we are looking for</p> <ul style="list-style-type: none"> • How whatever attracted them relates to other structures in society (gender, ethnicity, class, family background etc) </div>
<p>Four</p>	<p>What did you know about this training / job before you started it?</p> <p>P Who gave advice or information? (careers advisor, family, friends, school subject teacher, non-school guidance, advertising...)</p> <p>P Did anyone help you think about school subjects for this type of work?</p> <p>P Did you consider any other way of getting into this type of work? (e.g. on-the-job or through polytech; working way up in company)</p>	<div style="border: 1px solid black; padding: 5px;"> <p>What we are looking for</p> <ul style="list-style-type: none"> • Information people had or used, and where they got it from • Also: was gender a consideration? (i.e. if someone knew there wouldn't be any other females onsite) </div>

<p>Five</p>	<p>Have you found anything different from what you initially expected from this course/job? (if so, what?)</p> <p>P Any good surprises?</p> <p>P Any bad surprises?</p> <div data-bbox="1787 204 2101 555" style="border: 1px solid black; padding: 5px;"> <p>What we are looking for</p> <ul style="list-style-type: none"> • Any unexpected realities (benefits, drawbacks) • How descriptions might fit within gendered narratives (e.g. females-caring; males-strength) </div>
<p>Six</p>	<p>Before you started this course/job, had you known anyone in training or a job that was not traditional for their gender?</p> <p>P What did you think about them and their choice?</p> <p>P Do you think knowing them made any difference to your choices?</p> <p>P What's their reaction to your choice now?</p> <div data-bbox="1787 703 2101 914" style="border: 1px solid black; padding: 5px;"> <p>What we are looking for</p> <ul style="list-style-type: none"> • Early considerations about occupations and gender (role models) </div>
<p>Seven</p>	<p>What do people in your family think about what you do? Friends? And people that you interact with (colleagues, boss, tutor, customers)?</p>

Eight	Things that make you stay/leave? P Best things/hardest things?
Nine	What do you think is the percentage of males and females in each? <div data-bbox="1760 791 2085 1066" style="border: 1px solid black; padding: 5px;">What we are looking for<ul style="list-style-type: none">• What people already know about gender segregated occupations and how they rationalise the idea</div>
Ten	Are these numbers similar to what you thought? Why do you think there are these differences/similarities in numbers?

<p>Thirteen</p>	<p>Do you think there are any differences in the way that males and females are treated in trades-related jobs today?</p> <p>P Do you think males and females have different skills or interests or jobs they are more suited to?</p> <p>P How do you think males and females are encouraged or discouraged into (trades-related?) jobs as grow up?</p> <p>P How do you think things are different/similar from when your parents or grandparents were your age?</p>	<p>What we are looking for</p> <ul style="list-style-type: none"> • How do people perceive job-related gender equality, and any shifts?
<p>Fourteen</p>	<p>Do you think there is anything that might help other [males or females] get into, or stay in, this training or job?</p>	<p>What we are looking for</p> <ul style="list-style-type: none"> • Any theorising beyond the individual's situation to a broader picture

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