



Report to Ministry of Women's Affairs

Students' Occupational Choice Study: Dunedin, Auckland

June 2010



RESEARCH TEAM
Gender and Diversity Research Group, AUT University
Judith K. Pringle (AUT)
Miriam Rothman (U. San Diego)
Irene Ryan (AUT)
Jean Lin (AUT)
Audrea Warner (AUT)
Ruth Sisman (USD)

Acknowledgements

We are especially grateful to the participating schools who provided time within a busy year schedule to involve the careers advisors, the year 11 deans, and the students who conscientiously completed our survey.

We gratefully acknowledge the Ministry of Women's Affairs for their interest in the research and for their financial support.

Table of Contents

Executive Summary	1
Recommendations.....	2
Background to the study.....	2
Method	4
Occupational Checklist	4
School selection.....	5
Student samples	5
Ethnicity of Sample	7
Procedure	7
Results	8
Dunedin data over 30 years.....	8
Auckland choices 2010.....	12
‘Additional’ Occupations	16
Discussion Points	16
Societal Contextual factors	17
Recommendations	18
References.....	19
APPENDIX 1	21

Executive Summary

This study surveyed a sample of secondary school students from single-sex and co-educational schools in Dunedin and Auckland about their prospective career choices and investigated how student choices may have changed over time. The project was initially sparked by a US study of high school students' occupational interests as a function of sex-ratios in male-dominated occupations (Heilman, 1979). The Dunedin part of this 2010 study is the third round of inquiry in a longitudinal series. The first study was carried out by Rothman in 1979, surveying students at school certificate level in four schools in Dunedin; two single-sex and two co-educational schools. The study was repeated in the same Dunedin schools 15 years later by Pringle in 1995. We have replicated this study in the same Dunedin schools fifteen years later, in 2010. We also extended the study to include four Auckland schools. The study combines macro labour market census data, with micro level individual choices in the context of a publicly-funded education policy in New Zealand.

The 1979 survey findings demonstrated a clear sex-based preference for female-dominated occupations for girls. There were no significant differences based on the type of school. By 1995, there was a significant shift in girls' preferences in all schools away from female-dominated occupations to male-dominated occupations, particularly the professions such as lawyer and doctor. This trend was especially marked in the single-sex schools.

The rankings of occupations by students in the 21st century show a repeat of the past 15 years with continued preference for some female-dominated occupations alongside a strengthening of preferences for male-dominated professions of lawyer, doctor, architect, and veterinarian. The most significant feature of the results between 1995 and 2010 is the lack of change and the consistency of occupational choices.

The Auckland sample was drawn from larger schools and the ethnic composition of the Dunedin and Auckland samples are significantly different. Overall the Auckland results of 2010 are consistent with the findings from Dunedin. The differences arise in the stronger preferences given to male-dominated professions such as lawyer, doctor, architect, veterinarian, and accountant, but the nature of the occupations chosen are remarkably

similar. The ranking of occupations by students in the 21st century show a repeat of the past 15 years with continued preference for some female-dominated occupations alongside a strengthening of preferences for male-dominated professions.

A short discussion section follows the results, which considers the importance of the societal context as an explanatory factor. Feedback from the participating schools to extend this section is welcome.

Recommendations

- We suggest further encouragement of girls into male-dominated occupations where there is already strong or moderate preference e.g. lawyer, doctor, architect, veterinarian, police officer etc.
- A variety of methods could be used; print and web-based material via schools and Careers Services, media such as: highlighting television programmes, and music video as a medium.
- We do not recommend expending resources encouraging girls into strongly male-dominated occupations for which there are no or low preferences.
- There is existing evidence on the influence of significant family members while less weight is given to the impact of the media and peer pressure. The influences on and reasons why students make their occupational choices needs to be an independent study.

Background to the study

Internationally, there have been few studies examining the relationship between single-sex and co-educational schooling and career choice. This research will contribute to the international debates on the merits or otherwise of single versus co-educational schooling for girls and boys.

The opportunity to conduct longitudinal research is relatively uncommon in spite of calls for more longitudinal work in the careers area. There have been significant changes in career aspirations, particularly of girls, over the past 30 years in New Zealand.

There are three main related research literatures from which this study draws:

1. The 30 year time frame of the study cuts across major societal changes in attitudes to women's careers and their involvement in paid work more broadly (Blau, Brinton and Grusky, 2006). Since 1979 there have been significant changes in social attitudes in New Zealand Aotearoa (Higgins, 2002). This is partly reflective of the changing social attitudes as a result of the feminist movement and related government educational campaigns such as 'girls can do anything'.
2. There is another current wave of debate in the US on the merits or otherwise, of single-sex schooling (Mael, Alfonso, Gibson, Rogers and Smith, 2005) and the contribution that this educational environment may make to the aspirations of adolescent students.

An earlier study found that girls and boys from single-sex high schools set higher occupational goals and were more likely to apply for graduate study (Lee and Marks, 1990). A recent article comparing schooling types identified that career choices selected by girls in a single-sex school had higher prestige than careers selected by girls in a co-educational school, with the career aspirations of the students in the co-educational school dropping as they approached high school graduation (Watson, Quatman and Edler, 2002). A confounding factor in the US is that most research has been conducted in Catholic single-sex high schools due to the lack of state funding for single-sex schools. A New Zealand study of schools that are government-funded with equivalent curricula and so forth can contribute to the wider international debate.

3. Most careers research is retrospective, to the extent that a career has been defined as retrospective sense-making (Arthur, Inkson and Pringle, 1999). The most common method for eliciting career accounts is through interviews using a life history approach, where participants give an account of their working lives looking back. The current research is future-oriented, asking students for prospective choices. There is no direct, corroborating data in terms of students' actual choices, but inferences can be drawn for some occupations through comparison with university graduation rates and entry into professions such as nursing, accountancy, law, and medicine.

This research surveyed the aspirations of a sample of students that are broadly representative of secondary schools in two urban areas. It is commonly accepted among researchers using surveys of students enrolled in school to survey intentions rather than actual behaviour. We asked the students to indicate their preferred occupations from a given list at three points in time at these same schools over a 30-year period. Our study has a longitudinal component while at the same time replicating cross-sectional data.

Method

Occupational Checklist

In a US study that contributed to the original research, it was suggested that the sexual composition of an occupation influences the degree to which women consider it a viable career choice (Heilman, 1979). A 60 item occupational checklist was developed in 1979 based on New Zealand census data (1971). Possible occupational preferences were presented as a list of 60 alphabetised titles which included 30 typically male and 30 typically female occupations based on census statistics. Of the 60 occupations included, 30 were selected because they met the criterion of being 'female-dominated', having at least twice as many female compared to male incumbents (e.g. nurse) and 30 were selected because they were 'male-dominated', having at least twice as many male compared to female incumbents (e.g. butcher). The selections ranged across all occupational categories – professionals, labourers, service workers, trades etc.

The 1995 and 2010 surveys were almost identical to that used in 1979. After consulting the 1991 census using the same decision-making criteria as in the earlier study, minor changes were made to reflect changes in demographics and language. For example, according to the 1991 census 'journalist/reporter' was no longer a male-dominated job and 'air hostess' (a formerly female-dominated job) was listed as 'air hostess/steward'. Both occupations were retained for replication. There were also job titles which necessitated minor name changes in the replication e.g. 'bank teller' became 'cashier', 'hair stylist' became 'hairstylist' 'telephone/toll operator' became 'telephone switchboard operator'. A similar process was carried out comparing the 1995 and 2010 checklist, using data from the most recent 2006 census. Among these changes were that 'telephone switchboard

operator' became 'call centre operator' and 'shop assistant' became 'sales assistant'. Housewife/mother was omitted from the 2010 survey as it did not appear in the 2006 census categories.

School selection

The study was carried out in a total of eight schools. In Dunedin the sample consisted of fifth form two single sex (DSS) and two co-educational (DCE) state schools in 1979 and 1995 and in 2010. Year 11 students at these same four schools formed the sample group. In addition, four urban, multi-cultural Auckland state schools were included to add to the sample group and allow for comparative analysis of the 2010 data. Initially, the schools were randomly selected for inclusion. In 2010 the four Auckland schools were chosen to loosely match the Dunedin schools in decile rating and willingness to participate in the research. The four single sex and three co-educational schools matched in decile rating while one of the Auckland co-educational schools was slightly lower in decile rating (see Table 1 below).

After 1979, the NZ government developed a decile rating system for schools for funding purposes. Decile ratings vary between 1, where the highest proportion of students comes from low socio-economic communities, to 10 where the lowest proportion of students comes from low socio-economic communities. A school's decile is calculated by a random sample of student addresses and census information to show the extent it draws on low socio-economic communities. A school's decile rating is not a direct parallel with overall socio-economic mix as the catchment areas can be quite expansive.

All schools were solely state-funded secondary and therefore followed common curricula and administrative policies. Initial contact was made by letter on University stationery to each school principal explaining the research and asking for permission to participate in the study. They were told the data collection would take about fifteen minutes in class time.

Student samples

Dunedin

- The data reported in this paper were collected from fifth form girls (1979 and 1995) and year 11 girls (2010) enrolled in one of the four public high schools.

- All participants were around 16 years of age.
- Each of the four Dunedin schools in the study had enrolments under 1000 students.
- Responses were gathered from 544 students in 1979, 403 in 1995 and 297 in 2010.
- The two Dunedin SS all-girl schools (DSS1 and DSS2) returned 104 and 147 useable forms respectively in 1979 (n=251), and 148 and 187 forms in 1995 (n=335), and 150 and 75 forms in 2010 (n=225).
- The two Dunedin CE schools (DCE1 and DCE2) returned 172 and 121 useable surveys respectively in 1979 (n=293), 31 and 37 surveys in 1995 (n=68), and 31 and 41 surveys in 2010 (n=72).
- When the surveys were distributed, both boys and girls completed them.
- This report describes only data collected from the girls.

Auckland

- Responses were gathered from a total of 689 girls in Auckland, considerably more than the Dunedin sample as, in general, the schools were larger.
- The two Auckland SS all-girl schools (ASS1 and ASS2) returned 270 and 222 useable surveys respectively.
- The two Auckland CE schools (DCE1 and DCE2) returned 123 and 74 useable surveys in 2010.

Table 1: Size and Decile rating of Schools Sampled

	SCHOOL		Year 11		Decile rating
		Total N	N	%	(10 is high and 1 is low)
DUNEDIN	SS1	840	178	21.2	9
	SS2	495	109	22.0	5
	CE1	730	128	17.5	5
	CE2	592	114	19.3	7
AUCKLAND	SS1	2100	461	22.0	9
	SS2	1426	331	23.2	5
	CE1	2300	519	22.6	5
	CE2	802	180	22.4	4

Ethnicity of Sample

In the 2010 survey we included a question asking students to identify their ethnicity. In the small number of cases where multiple ethnicities were mentioned the first one was taken as the most important. The ethnic distribution in New Zealand varies greatly between the North and South Islands and hence it was expected that the ethnic composition of the two samples would differ.

Table 2: Ethnicity of Dunedin and Auckland Samples 2010 (%)

Ethnic Group	DUNEDIN			AUCKLAND		
	Single sex	Co-education	All	Single sex	Co-education	All
European	66.2	81.9	70.0	34.4	36.2	34.9
Māori	6.2	5.6	6.1	8.3	13.3	9.7
Pacific Island	1.8	0	1.35	23.8	18.9	22.4
Asian	7.6	2.8	6.4	24.4	18.4	22.7
Other	2.22	0	3.49	2.4	6.1	3.5
No response	16.0	9.7	15.5	6.7	7.1	6.8

The most striking aspects of the table describing the ethnicity of the sample are the significantly higher proportion of 'European' in the Dunedin sample and, concomitantly, the lower proportion of Māori and Pacific Island students. The percentage of students not responding to this question is higher in Dunedin too, where we could assume that most of these students are 'European'. (In the 2006 census the additional category of 'New Zealander' was added making comparative reporting of European difficult; nevertheless we estimate that European was approximately 70 percent of the population in 2006). Māori students are well represented at the co-educational schools in Auckland although below their proportion in the population (14.6 percent at 2006 census; Statistics NZ). Pacific Island and Asian students are well represented at both single sex and co-educational schools in Auckland; higher than the population proportions at the last census (Pacific Island 6.7 percent; Asian 9.2 percent) and more aligned with the city representation (Pacific Island 14.4 percent; Asian 18.9 percent, Statistics NZ, 2006).

Procedure

The New Zealand researchers contacted and spoke with the principals and relevant teachers, and invited them to be part of the study. The surveys were then sent for

distribution by the school. A research assistant in New Zealand coded the results from the survey forms on to an excel spreadsheet for electronic transfer and data analysis by a research assistant in the USA for statistical analyses.

Directions on the survey were as follows: 'Listed below are 60 jobs. Please read carefully through them and select the five you would most prefer to do. Put these in order from one (most preferred) to five (fifth most preferred) then write the name of the job on the appropriate line at the bottom of the page'. The occupational list responses were anonymous, and students were asked to check a box on the survey form indicating whether they were male or female. Added to the 2010 survey was a place for students to indicate their ethnicity and also 'an additional occupation (your choice)' after ranking the census options. Students were told that the study was being carried out under the auspices of researchers affiliated with AUT University.

Results

Information from the three studies in Dunedin and the 2010 Auckland summary for all girls' data is reported in this paper. To analyse the data, responses were converted to a mean weighted rating for each of the 60 jobs based on frequency of selection and rank assignment (for a ranked listing of all occupational choices for each individual school refer to Appendix One). The Dunedin data over the 30 year time period is presented first followed by the Auckland data and then brief comparative discussion of the two locations. A short discussion section follows which considers the importance of the societal context as an explanatory factor.

Dunedin data over 30 years

The following Table 1 presents the overall rank order of the top twenty preferences by girls for each job for the 1979, 1995, and 2010 studies. The remaining occupations were ranked in the top five preferences by fewer than 10 percent of the sample.

Table 3. Dunedin Girls' Occupational Choice: Rank Order of Top Twenty Preferences (weighted means)

	1979	1995	2010
	(N=544)	(N=403)	(N=297)
1.	Air hostess	Lawyer*	Hairdresser
2.	Typist/secretary	Air hostess/steward	Kindergarten teacher
3.	Nurse	Kindergarten teacher	Air hostess/steward
4.	Armed forces*	Primary teacher	Primary school teacher
5.	Hair stylist	Pilot*	Lawyer*
6.	Kindergarten teacher	Doctor*	Doctor*
7.	Receptionist	Chef*	Police officer*
8.	Housewife/mother	Journalist/reporter**	Architect*
9.	Veterinary assistant	Accountant*	Chef*
10.	Primary school teacher	Police officer*	Veterinarian*
11.	Physiotherapist	Hairdresser	Journalist/reporter**
12.	Veterinarian*	Veterinarian*	Waitress
13.	Police officer*	Manager*	Physiotherapist
14.	Farmer*	Physiotherapist	Fashion Model
15.	Fashion model	Armed forces*	Florist
16.	Journalist*	Veterinary assistant	Nurse
17.	Pilot*	Typist/secretary	Scientist*
18.	Chef*	Scientist*	Farmer*
19.	Lawyer*	Nurse	Pilot*
20.	Truck driver*	Housewife/mother	Armed forces*

Note: *indicates a male-dominated occupation

**indicates an occupation that was male-dominated and is not now

While most of the same male- and female-dominated occupations appeared on all three top 20 lists over time, the placement of the jobs is noteworthy. That is, of the top choices in 1979, only one male-dominated occupation was rated among the top ten compared to six male-dominated occupations rated among the top ten in 1995 and 2010.

Traditional 'female' occupations such as nurse, typist/secretary and receptionist dropped in popularity from 1979 to 1995. However, air hostess/steward, kindergarten teacher and primary teacher were still popular for girls in 1995 and 2010. Making a come-back in

2010 were hairdresser and fashion model. Inexplicably appearing in the top twenty in 2010 for the first time were waitress and florist.

From 1979 to 1995 there was an obvious increase in the preference given to male-dominated professions such as lawyer, doctor, and, in 2010, architect. Increasing in popularity were police officer, architect and veterinarian (replacing veterinarian assistant from 1995). There was continued interest in journalist/reporter, physiotherapist, chef, pilot, and scientist. The 1979 interest in the armed forces continued to drop from 1995 in 2010, as did farmer. It is also interesting to note that, among the top twenty job choices in 1979 overall two required university degrees, whereas in 1995 and in 2010 six required university degrees.

Table 4 presents the collated mean data for SS and CE schools for the three time periods, 1979, 1995, and 2010.

Table 4: Mean Rating of Girls' Occupational Choice: Single-sex and Co-educational Dunedin School Sample

	Female-dominated			Male-dominated		
	1979	1995	2010	1979	1995	2010
Single-sex schools	6.40	5.83	5.28	3.02	7.46	3.37
Co-educational schools	11.09	1.65	2.00	2.61	1.37	1.18

For the 1979 data, ANOVA¹ showed a main effect for Occupation, with female-dominated jobs being preferred over male-dominated jobs ($F=12.4$, $df=1$, $p<.0005$). There was no main effect for School Type (SS vs. CE). Analyses of the data collected in the 1995 and 2010 studies revealed neither statistically significant differences between the SS and CE schools nor between the job types.

As shown in Table 4, the trend among the three data sets suggests that for girls from SS schools, preference for 'feminine' jobs decreased slightly over time while preference for 'masculine' jobs was considerably higher in 1995 compared to 1979 and 2010. For girls from CE schools, preference for 'feminine' jobs decreased greatly over time while preference for 'masculine' jobs decreased to a far lesser extent.

¹ The Analysis Of Variance, popularly known as the ANOVA test

Some of these distinctions can be seen in Table 5 where the top ten job preferences are presented by type of school. For the SS girls, lawyer was the most highly ranked occupation. This may partially explain why the SS girls in 1995 had the highest weighted rating for the ‘masculine’ occupations compared to other samples in the study.

Table 5: Girls’ Occupational Choice

Rank Order of Top Ten Preferences by Single Sex and Co-educational Schools (weighted mean rating).

Single Sex schools

1979 (n=251)	1995 (n=335)	2010 (n=225)
Air hostess	*Lawyer	Hairdresser
*Armed forces	Air hostess/steward	Kindergarten teacher
Hair stylist	Primary school teacher	Primary school teacher
Kindergarten teacher	Kindergarten teacher	Air hostess/steward
Typist/secretary	*Chef	*Lawyer
Nurse	*Doctor	*Doctor
Primary school teacher	*Accountant	*Chef
Receptionist	*Veterinarian	*Veterinarian
*Veterinarian	*Manager	**Journalist/reporter
*Farmer	Physiotherapist	*Architect

Co-educational Schools

1979 (n=291)	1995 (n= 68)	2010 (n=72)
Air hostess	Kindergarten teacher	Kindergarten teacher
Typist/secretary	*Lawyer	Hairdresser
Nurse	Primary school teacher	Air hostess/steward
Hair stylist	Air hostess/steward	*Police officer
*Armed forces	*Doctor	*Chef
Kindergarten teacher	Hairdresser	*Lawyer
Receptionist	**Journalist/reporter	Waitress
Primary school teacher	Typist/secretary	*Doctor
Physiotherapist	Receptionist	**Journalist/reporter
*Journalist	*Chef	Primary school teacher

The types of jobs selected by the SS girls compared to the CE girls suggests a movement toward more professional jobs between 1979 and 1995 in particular. In 2010, the professional level (i.e. advanced training beyond high school) aspired to by girls in the SS schools is generally of a higher status than those in the CE schools, but it is not statistically significant.

Given the small sample size among the CE schools in the 1995 and 2010 studies, and the changes in New Zealand society in the intervening years, no statistically significant differences appeared between female and male dominated job preferences or between schools. However, within the CE schools there was a marked decrease in the endorsement of female-dominated occupations between 1979 and 1995. Within the SS schools, there was a notable shift toward preference for male-dominated occupations. This change was not toward 'masculine' occupations uniformly, but rather toward professional jobs such as lawyer and doctor. The change in occupational choice was reflected in the census statistics of the actual choices that women were making in the mid-1990s where women made up over 50 percent of the entering classes in law and medical schools. The most significant feature of the results between 1995 and 2010 is the lack of change and the consistency of preferences.

Auckland choices 2010

The following Table presents the overall rank order of the top twenty preferences by all girls in the Auckland sample and is listed alongside the Dunedin data for comparison.

Table 6: Overall rank order of the Top Twenty Choices by Girls: Auckland and Dunedin

<i>All Auckland Schools (n=689)</i>	<i>All Dunedin Schools (n=297)</i>
Lawyer*	Hairdresser
Air hostess/steward	Kindergarten teacher
Doctor*	Air hostess/steward
Hairdresser	Primary school teacher
Architect*	Lawyer*
Journalist/reporter**	Doctor*
Fashion model	Police officer*
Accountant*	Architect*
Chef*	Chef*
Nurse	Veterinarian*
Manager*	Journalist/reporter**
Primary school teacher	Waitress
Police officer*	Physiotherapist
Kindergarten teacher	Fashion Model
Armed forces*	Florist
Scientist*	Nurse
Waitress	Scientist*
Veterinarian*	Farmer*
Physiotherapist	Pilot*
Pilot*	Armed forces*

The female-dominated occupations of hairdresser, air hostess/steward, nurse, primary school teacher and kindergarten teacher all have strong support. For both regions there are similar numbers and similar kinds of male-dominated occupations in the top 20; 11 for Auckland and 10 for Dunedin. However the placement of the male-dominated jobs is generally higher among the Auckland sample for the top five preferences compared to the Dunedin sample.

The male-dominated occupations are higher up the Auckland list partially due to the strong endorsement given by the single sex Auckland schools (refer to Appendix One). Overall, the occupational choices made by girls in the two cities are remarkably consistent.

The following Table lists the top ten choices for the single sex and co-educational schools using the weighted mean ratings to construct the rank order.

Table 7: Girls in Auckland Schools Occupational Choice

Rank Order of Top Ten by Single Sex and Co-educational Schools (weighted mean rating)

Single Sex schools (n= 492)	Co-educational schools (n=197)
Lawyer*	Air hostess/steward
Doctor*	Hairdresser
Air hostess/steward	Doctor*
Architect*	Lawyer*
Journalist/reporter**	Kindergarten teacher
Hairdresser	Nurse
Accountant*	Waitress
Fashion Model	Chef*
Manager*	Fashion Model
Chef*	Primary school teacher

The girls in single sex schools chose more male-dominated professions and ranked them more highly than the girls in the co-educational schools, (6 compared to 3 male-dominated occupations). This pattern is partly due to the different rankings given by one single sex Auckland school (ASS1, refer to Appendix One) which gave greater weight to male-dominated occupations than any other school in the sample. These results were augmented by the other Auckland single-sex school (ASS2, refer to Appendix One) which ranked lawyer as the number one occupation with a weighting twice the magnitude of any other occupations.

Table 8: Mean Rating of the Female-dominated and Male-dominated Occupations 2010

Dunedin and Auckland (Girls only)		
	Female-dominated	Male-dominated
SS Dunedin	5.28	3.37
SS Auckland	7.08	14.68
CE Dunedin	2.00	1.18
CE Auckland	5.81	3.33

There is a stronger preference for male-dominated occupations in single sex schools in Auckland, although not equally between the two schools as noted above. The magnitude of the numbers in Table 8 is partly due to the number of girls choosing any particular occupation but they are also affected indirectly by the sample size.

Comparing the Dunedin and Auckland schools

In the following Table it can be seen that the single sex schools in Auckland rank the male-dominated professions more highly than the Dunedin schools, while the coeducational schools in Dunedin rank the male-dominated professions more highly than the Auckland schools.

Table 9: Comparison of Single Sex, Co-educational Schools in Dunedin and Auckland

Top Ten Occupational Choices by Mean Weighted Rating

<i>Single Sex Schools in Dunedin (n=225)</i>	<i>Single Sex Schools in Auckland (n=492)</i>
Hairdresser	*Lawyer
Kindergarten teacher	*Doctor
Primary school teacher	Air hostess/steward
Air hostess/steward	*Architect
*Lawyer	** Journalist/reporter
*Doctor	Hairdresser
*Chef	*Accountant
*Veterinarian	Fashion model
** Journalist/reporter	*Manager
*Architect	*Chef

<i>Co-educational Schools in Dunedin (n=72)</i>	<i>Co-educational schools in Auckland (n=197)</i>
Kindergarten teacher	Air hostess/steward
Hairdresser	Hairdresser
Air hostess/steward	*Doctor
*Police officer	*Lawyer
*Architect	Kindergarten teacher
*Chef	Waitress
*Lawyer	Nurse
Waitress	*Chef
*Doctor	Fashion model
**Journalist/reporter	Primary school teacher

‘Additional’ Occupations

Additional choices (Refer to Appendix Two) were added by 29 percent of the sample and supplemented gaps in the census listing provided e.g. secondary teacher, business owner. Many additional occupations chosen gave greater specificity to the top five choices e.g. doctor, scientist. In addition there were a range of ‘contemporary’ occupations from niche areas e.g. creative sector, conservation, professional sports people. There were many jobs that we have classified under ‘miscellaneous’ ranging from diplomat to sex worker. ‘Mum’ also received one mention, (but considerably less than nanny).

Discussion Points

The major shift in girls’ occupational choices occurred between the first two time periods (1979 and 1995). The third time period has demonstrated a continued preference for some female-dominated occupations, air hostess/steward, kindergarten and primary teacher and the increased preference for hairdresser, fashion model and waitress. Alongside these choices was a strengthening of preferences for male-dominated professions of lawyer, doctor, architect, and veterinarian. Journalist/reporter continue to feature in the girls’ choices and reflect women’s increasing presence in the occupation over the past 30 years, as indicated by the census data where women made up 51 percent of the category

(Statistics NZ, 2006). Similarly more females are now doctors than when the first study was done and in 2006 constituted 40.6 percent of General Practitioners.

The study focused on **how** occupational choices have changed for girls over time, rather than considering why changes may have occurred. In considering possible reasons we briefly discuss societal changes that have occurred over the past 30 years. The individual schools in this study may provide further insight into other factors that may explain some of these results.

Societal Contextual factors

The perception and status of specific occupations has changed within New Zealand society over the past 30 years. For example, in 1979 a chef would obtain positions primarily in large hotels, but social changes since that time have seen a rise in the tourist industry plus a proliferation of restaurants and cafes. There have been other changes in the value and range of occupations over the time period, e.g. the reduction in dental nurse positions, and a significant shift in the role and value given to 'nurse aides'. Generally then, there has been an increase in credentialing pressure for many of the more skilled occupations in the study.

Other changes in society between 1979 and 1995 have been the concerted efforts by Governments, greater numbers of women role models across a spectrum of occupations, plus the loosening up of traditional values that have all had the effect of encouraging women to make more career choices in male-dominated areas. The nationwide and occupational specific campaigns of the 1980s appear to have borne fruit in that time period, although there are mixed influences for students' career choice; family influences are still much studied.

Between 1995 and 2010 there has been an influx of reality television programmes as well as fictionalised accounts of courtroom and hospital dramas that have portrayed women across a wide range of jobs in law and in the health sector. The power of the media in portraying women in a variety of roles may be a significant factor in the results found between the 1995 and 2010 surveys but requires focused research. Anecdotal reports on the influence of television programmes have come from the tracking of web site inquiries to the government- funded Career Services. For example, 'Chef' did not feature in January

2010 statistics. However during the appearance of the *Master Chef NZ* on television, inquiries surged by March, a few weeks into the hit show. Information on the chef career profile had become the fifth most searched for role on the site within three months (Tertiary Update, 2010).

Similarly, reasons for the choices girls make also lie in the effects of peer group pressure; a consistent finding from research on student choices about whether or not to continue with further post-secondary study (Thomas, Webber and Walton, 2002; Webber and Thomas, 2009). It was noted in coding the surveys that preferences often went in 'runs', perhaps from participants sitting alongside each other in class (this was noticeable for the additional occupations category).

The ranking of occupations by students in the 21st century show a repeat of the past 15 years with continued preference for some female-dominated occupations alongside a strengthening of preferences for male-dominated professions of lawyer, doctor, architect, and veterinarian. The reasons for girls' choices are necessarily speculative, lying outside of this study.

Recommendations

- We suggest further encouragement of girls into male-dominated occupations where there is already strong or moderate preference e.g. lawyer, doctor, architect, veterinarian, police officer etc.
- A variety of methods could be used; print and web-based material via schools and Careers Services, media such as: highlighting television programmes, and music video as a medium.
- We do not recommend expending resources encouraging girls into strongly male-dominated occupations for which there are no or low preferences.
- There is existing evidence on the influence of significant family members while less weight is given to the impact of the media and peer pressure. The influences on and reasons why students make their occupational choices needs to be an independent study.

References

Anonymous, (2010). Masterchef. *Tertiary Update*, 13 (15), 1.

Arthur, M.B., Inkson, K. and Pringle, J.K. (1999). *The New Careers: Individual Action and Economic Change*. London: Sage.

Blau, F. Brinton, M. and Grusky, D.B. (eds.) (2006). *The Declining Significance of Gender?* NY: Russell Sage Foundation.

Heilman, M.E. (1979). High school students' occupational interest as a function of projected sex ratios in male-dominated occupations. *Journal of Applied Psychology*. 64(3): 275-279.

Higgins, J. (2002). Young people and transition policies in New Zealand. *Social Policy Journal of New Zealand*. 18: 44-61.

Lee, V.E., and Marks, H.M. (1990). Sustained effects of the single-sex secondary school experience on attitudes, behaviors, and values in college. *Journal of Educational Psychology*. 82: 578–592.

Mael, F., Alonso, A., Gibson, D., Rogers, K., and Smith, K. (2005). Single-sex versus coeducational schooling: A systematic review. *Report prepared for U.S. Department of Education Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service*.

Statistics, New Zealand (2006). Government census. Wellington: NZ. Accessed 4 June, 21010 <http://www.stats.govt.nz/Census/2006CensusHomePage/QuickStats.aspx>

Thomas, W., Webber, D. J. and Walton, F. (2002). The school leaving intentions at the age of sixteen: Evidence for a multicultural city environment. *Economic Issues*. 7(1): 1-14.

Watson, C.M., Quatman, T., and Edler, E. (2002). Career aspirations of adolescent girls: Effects of achievement level, grade, and single-sex school environment. *Sex Roles*. 46: 323-335.

Webber, D.J. and Thomas, W. (2009). Choice at 16: School, parental and peer group effects. *Research in Post-compulsory Education*. 14(2): 119-141.

APPENDIX 1

DSS1

1979 (n=104)		1995 (n=148)		2010 (n=150)	
Armed Forces*	26.49	Lawyer*	62.21	Primary school teacher	38.40
Air Hostess	21.25	Air hostess/steward	51.91	Air hostess/steward	35.10
Typist/secretary	16.59	Chef	22.30	Kindergarten teacher	32.76
Kindergarten teacher	16.59	Primary school teacher	20.32	Hairdresser	20.48
Hair stylist	15.55	Accountant*	19.99	Doctor*	17.92
Primary school teacher	14.42	Veterinarian*	17.06	Lawyer*	17.68
Nurse	12.69	Manager*	16.27	Journalist/reporter**	15.66
Veterinarian*	10.46	Hairdresser	14.57	Chef*	14.00
Reception	10.05	Police officer*	13.68	Physiotherapist	13.86
Farmer*	8.14	Kindergarten teacher	10.07	Police officer*	12.83
Veterinary assistant	6.92	Physiotherapist	8.78	Florist	10.00
Physiotherapist	6.64	Florist	7.16	Fashion model	9.94
Police officer*	6.64	Pilot*	7.03	Architect*	9.33
Medical lab. technician	6.46	Doctor*	7.01	Nurse	8.68
Pilot*	5.00	Fashion model	6.55	Waitress	8.51
Chef*	4.88	Armed forces*	5.68	Scientist*	8.40
Housewife/mother	4.85	Architect*	5.52	Veterinarian*	8.36
Doctor*	4.75	Veterinary assistant	5.47	Pilot*	7.08
Truck driver*	4.62	Typist/secretary	5.40	Armed forces*	5.55
Dietician	3.46	Journalist/reporter**	4.65	Farmer*	3.73
Radiographer	3.28	Farmer*	4.35	Accountant*	3.64
Dental nurse	2.86	Nurse	4.26	Manager*	3.50
Waitress	2.86	Housewife/mother	4.14	Veterinary assistant	2.71
Architect*	1.99	Scientist*	2.89	Radiographer	2.53
Dentist*	1.99	Waitress	2.55	Dietician	2.35
Journalist**	1.77	Mechanic*	1.51	Receptionist	2.25
Shop assistant	1.77	Office clerk	1.46	Housepainter/decorator*	1.26
Fashion model	1.64	Housekeeper	1.28	Dentist	1.23
Mechanic**	1.14	Housepainter/Decorator	1.03	Sales assistant	1.07
Accountant*	1.04	Librarian	.95	Occupational therapist	1.01
Florist	1.01	Politician*	.87	Engineer*	1.00
Librarian	.67	Computer operator	.85	Computer operator	.96
Nurse aide	.67	Shop assistant	.81	Fire fighter*	.89
Engineer*	.63	Medical lab. technician	.57	Medical lab. technician	.80
Lawyer*	.63	Receptionist	.57	Librarian	.80
Occupational therapist	.58	Dentist*	.57	Truck driver*	.52
Scientist*	.54	Draughting technician*	.51	Sewing machinist	.43
Forestry worker*	.23	Fire fighter*	.41	Dental nurse	.32
Office clerk	.23	Speech therapist	.37	Cashier	.27
Cafeteria/canteen operator	.17	Radiographer	.35	Mechanic*	.27
Fire fighter*	.17	Telephone switchboard op.	.30	Politician*	.24
Surveyor*	.17	Occupational therapist	.30	Nurse aide	.20
Telephone switchboard op	.12	Truck driver*	.30	Typist/secretary	.14
Road worker*	.10	Surveyor*	.30	Surveyor*	.14
Welder*	.10	*Engineer	.27	Plumber*	.11
Sewing machinist	.10	Nurse aide*	.22	Cafeteria/canteen operator	.09
Housepainter/decorator*	.08	Cashier	.20	Welder*	.09
Plumber*	.06	Forestry worker*	.18	Office clerk	.04

Wood products assembler	.05	Cafeteria/canteen operator	.10	Housekeeper	.03
Warehouse packer*	.04	Librarian	.08	Forestry worker*	.03
Speech therapist	.04	Warehouse packer	.05	Lauderer	.02
Cashier	.04	Road worker*	.04	Butcher*	.02
Carpenter*	.03	Dental nurse	.04	Call centre operator	.01
Manager*	.03	Carpenter*	.03	Draughting technician*	.01
Butcher*	.02	Lauderer	.03	Road worker*	.01
Politician*	.01	Sewing machinist	.01	Carpenter*	.00
Housekeeper	.00	Butcher*	.01	Warehouse packer*	.00
Lauderer	.00	Wood products assembler*	.00	Wood products assembler*	.00
Draughting technician*	.00	Plumber*	.00		
Computer operator	.00	Welder*	.00		

DSS2

1979 (n=147)		1995 (n=187)		2010 (n=75)	
Air hostess	50.00	*Lawyer	71.09	Hairdresser	37.20
Hair stylist	22.99	Kindergarten teacher	48.82	Kindergarten teacher	17.48
Kindergarten teacher	18.35	Air hostess/steward	37.54	*Veterinarian	12.92
*Armed forcers	17.95	Primary school teacher	28.75	*Architect	9.53
Nurse	15.74	*Doctor	28.65	Air hostess/steward	9.52
Receptionist	13.78	**Journalist/reporter	26.71	Primary school teacher	9.52
*Farmer	13.55	Physiotherapist	18.88	*Lawyer	8.59
Fashion model	13.44	*Cher	17.97	*Chef	7.28
Physiotherapist	13.44	*Accountant	16.36	*Doctor	7.04
Primary school teacher	13.39	*Manager	15.58	Waitress	6.00
Housewife/mother	13.28	*Veterinarian	15.42	*Farmer	5.20
Typist/secretary	13.14	*Scientist	13.48	Fashion model	5.12
*Veterinarian	12.56	*Police officer	13.00	Nurse	4.55
Veterinarian assistant	11.11	Hairdresser	11.48	*Police officer	4.53
*Lawyer	8.98	Veterinarian assistant	9.63	*Scientist	4.08
Medical lab. technician	8.45	*Armed forces	9.37	**Journalist/reporter	3.60
*Scientist	7.47	Nurse	8.73	Veterinary assistant	2.35
*Police officer	6.33	*Architect	7.11	Florist	2.33
*Doctor	5.88	Housewife/mother	6.47	Librarian	2.15
*Pilot	5.10	Typist/secretary	5.35	*Dentist	1.68
*Truck driver	5.01	Receptionist	4.81	Physiotherapist	.133
Shop assistant	4.27	*Pilot	4.55	*Armed forces	1.27
*Accountant	3.91	Waitress	3.92	Receptionist	.120
Waitress	3.57	*Farmer	3.42	Computer operator	.59
*Chef	3.52	Medical lab technician	3.29	Sales assistant	.59
*Architect	3.43	Florist	2.89	Sewing machinist	.40
*Journalist	3.43	*Fire fighter	2.89	*Housepainter/decorator	.40
Florist	2.40	Computer operator	2.23	Occupational therapist	.37
Office clerk	2.11	*Truck driver	2.02	*Manager	.36
Computer operator	1.84	Fashion model	2.00	*Truck driver	.36
Dietician	1.70	Shop assistant	1.81	*Accountant	.32
Telephone switchboard op	1.35	*Housepainter/decorator	1.24	*Surveyor	.32
Nurse aide	1.31	Dietician	1.20	*Pilot	.28
Occupation therapist	1.20	Occupation therapist	1.16	Cafeteria/canteen operator	.24
Dental nurse	.82	*Mechanic	.86	Nurse aide	.24
Librarian	.76	*Dentist	.74	*Butcher	.24
Radiographer	.76	*Politician	.64	*Mechanic	.24
*Mechanic	.53	Radiographer	.54	Cashier	.21
*Politician	.51	*Forestry worker	.45	Dietician	.19
*Surveyor	.47	*Draughting technician	.43	Medical lab. technician	.19
*Dentist	.46	*Engineer	.34	*Plumber	.19
Sewing machinist	.35	Office clerk	.16	*Warehouse packer	.19
Cashier	.30	Sewing machinist	.13	Typist/secretary	.13
*Manager	.22	*Carpenter	.11	*Fire fighter	.13
*Forestry worker	.11	Cashier	.11	Dental nurse	.08
*Housepainter/decorator	.10	Speech therapist	.08	*Carpenter	.08
*Surveyor	.10	*Road worker	.06	Call centre operator	.07
*Draughting technician	.07	*Welder	.05	Office clerk	.04
*Fire fighter	.07	Telephone switchboard op	.03	*Engineer	.04
*Carpenter	.03	Nurse aide	.02	Lauderer	.03
*Welder	.03	*Surveyor	.02	*Draughting technician	.01

1979 (n=147)		1995 (n=187)		2010 (n=75)	
*Engineer	.01	*Warehouse packer	.02	*Politician	.01
*Plumber	.01	Cafeteria/canteen operator	.02	Housekeeper	.00
Launderer	.01	Dental nurse	.01	Radiographer	.00
Cafeteria/canteen operator	.00	Librarian	.01	*Forestry worker	.00
Housekeeper	.00	*Plumber	.01	*Road worker	.00
*Butcher	.00	Launderer	.00	*Wood products assembler	.00
*Road worker	.00	*Butcher	.00	*Welder	.00
*Warehouse packer	.00	*Wood products assembler	.00		
*Wood products assembler	.00	Housekeeper	.00		

* denotes a male-dominated occupation

** denotes a male-dominated occupation in 1979 only

DCE1

1979 (n=172)		1995 (n=31)		2010 (n=31)	
Typist/secretary	66.51	*Lawyer	15.81	Hairdresser	17.61
Nurse	65.62	*Police officer	8.42	Kindergarten teacher	15.87
Air hostess	43.54	Air hostess/steward	8.13	Air hostess/steward	13.94
Hair stylist	26.95	*Doctor	7.26	*Police officer	11.94
Physiotherapist	24.28	**Journalist/reporter	5.87	*Lawyer	4.06
Kindergarten teacher	23.86	Kindergarten teacher	5.19	Primary school teacher	3.55
Receptionist	22.19	Housewife/mother	4.52	Veterinary assistant	3.29
Primary school teacher	18.14	Veterinarian assistant	3.39	Waitress	2.52
*Armed forces	15.87	Typist/secretary	3.29	*Doctor	2.45
Housewife/mother	15.24	Primary school teacher	2.90	*Veterinarian	2.42
Computer operator	10.36	*Armed forces	2.90	Fashion model	2.10
*Police officer	10.03	*Manager	2.74	Florist	1.94
*Journalist	8.83	Hairdresser	2.42	*Architect	1.94
Dietician	6.17	Physiotherapist	2.07	*Accounting	1.61
Nurse aide	5.73	*Pilot	1.94	Nurse	1.55
Fashion model	5.29	*Cher	1.65	Receptionist	1.16
*Lawyer	5.23	Fashion model	1.16	Sewing machinist	1.06
Occupational therapist	5.02	*Accountant	1.07	*Armed forces	1.06
*Farmer	4.74	Receptionist	.97	*Chef	1.03
*Truck driver	3.98	*Wood products assembler	.94	**Journalist/reporter	.87
Office clerk	3.81	Florist	.68	*Manager	.87
Radiographer	3.34	*Architect	.52	Occupational therapist	.77
Medical lab. technician	3.02	*Fire fighter	.48	Cashier	.68
Computer operator	3.00	*Farmer	.45	Librarian	.68
*Pilot	2.97	*Veterinarian	.45	Physiotherapist	.42
Florist	2.57	Dietician	.39	*Scientist	.52
Shop assistant	2.36	*Engineer	.39	Cafeteria/canteen operator	.39
*Chef	2.05	Nurse aide	.26	*Farmer	.19
*Dentist	2.04	*Mechanic	.19	Medical lab technician	.16
Dental nurse	1.70	*Truck driver	.19	*Housepainter/decorator	.16
Veterinary assistant	1.76	*Welder	.19	*Truck driver	.13
*Accountant	1.06	Shop assistant	.19	Housekeeper	.10
*Architect	.90	*Plumber	.16	Sales assistant	.10
*Scientist	.77	*Draughting technician	.13	*Fire fighter	.10
*Mechanic	.70	*Carpenter	.13	*Politician	.10
Cashier	.69	Librarian	.10	*Dentist	.06
Telephone switchboard op	.61	Sewing machinist	.10	*Warehouse packer	.03
Waitress	.49	Nurse	.07	Call centre operator	.00
*Manager	.29	Waitress	.03	Computer operator	.00
*Dentist	.26	Office clerk	.03	Dental nurse	.00
Librarian	.23	Computer operator	.03	Dietician	.00
*Carpenter	.23	Cashier	.00	Launderer	.00
*Forestry worker	.21	Cafeteria/canteen operator	.00	Nurse aide	.0
Cafeteria/canteen operator	.16	Dental nurse	.00	Office clerk	.00
Sewing machinist	.12	Housekeeper	.00	Radiographer	.00
*Fire fighter	.12	Launderer	.00	Typist/secretary	.00
Speech therapist	.11	Occupational therapist	.00	*Butcher	.00
Housekeeper	.07	Radiographer	.00	*Carpenter	.00
*Plumber	.07	Speech therapist	.00	*Draughting technician	.00
*Surveyor	.06	Telephone switchboard op	.00	*Engineer	.00
*Welder	.05	*Butcher	.00	*Forestry worker	.00

1979 (n=172)		1995 (n=31)		2010 (n=31)	
*Housepainter/decorator	.03	*Dentist	.00	*Mechanic	.00
*Butcher	.02	*Housepainter/decorator	.00	*Plumber	.00
*Draughting technician	.01	Medical lab. technician	.00	*Road worker	.00
*Engineer	.01	*Politician	.00	*Surveyor	.00
Launderer	.00	*Road worker	.00	Wood products assembler	.00
*Politician	.00	*Scientist	.00	*Welder	.00
*Warehouse packer	.00	*Surveyor	.00		
*Wood products assembler	.00	*Warehouse packer	.00		

DCE2

1979 (n=121)		1995 (n=37)		2010 (n=41)	
Air hostess	153.52	Kindergarten teacher	16.86	Kindergarten teacher	12.29
Typist/secretary	27.80	Primary school teacher	11.03	*Architect	8.94
*Armed forces	26.39	Hairdresser	7.30	*Chef	6.98
Hair stylist	23.30	Receptionist	6.08	Air hostess/steward	6.37
Nurse	17.46	*Lawyer	5.84	Hairdresser	5.27
Veterinarian assistant	14.88	*Doctor	4.73	**Journalist/reporter	4.95
Kindergarten teacher	12.93	Air hostess/steward	4.65	Waitress	4.17
Primary school teacher	12.32	*Chef	4.16	*Doctor	4.10
Receptionist	10.91	Typist/secretary	3.78	*Lawyer	3.59
*Journalist	10.74	**Journalist/reporter	3.73	Physiotherapist	3.22
*Police officer	10.36	Nurse	3.60	*Veterinarian	2.78
*Carpenter	6.91	Waitress	3.03	Florist	2.73
*Pilot	6.82	*Armed forces	2.11	Primary school teacher	1.71
*Veterinarian	5.55	*Veterinarian	1.84	*Pilot	1.56
*Farmer	5.44	Librarian	1.76	Fashion model	1.46
Shop assistant	5.33	*Pilot	1.62	*Housepainter/decorator	1.46
Fashion model	4.63	Veterinary assistant	1.41	Nurse	1.27
Physiotherapist	4.51	*Accountant	1.19	*Politician	1.27
Waitress	3.87	Housewife/mother	1.19	*Farmer	1.17
*Doctor	3.82	*Truck driver	1.08	Housekeeper	1.10
Housewife/mother	3.47	*Housepainter/decorator	.97	Librarian	.98
Radiographer	2.55	*Police officer	.97	*Accountant	.95
Dietician	2.15	*Manager	.89	*Scientist	.95
Office clerk	1.86	*Mechanic	.73	*Armed forces	.73
*Scientist	1.85	Fashion model	.57	Receptionist	.66
Medical lab. technician	1.70	Florist	.49	*Manager	.59
Occupational therapist	1.79	Computer operator	.43	Sewing machinist	.44
*Accountant	1.65	*Fire fighter	.38	*Truck Driver	.44
Nurse aide	1.59	*Architect	.27	Dietician	.39
Librarian	1.33	Shop assistant	.27	Radiographer	.29
*Architect	1.22	Medical lab. technician	.27	Office clerk	.24
Florist	1.19	*Farmer	.16	Sales assistant	.24
*Draughting technician	.83	Housekeeper	.16	*Engineer	.24
*Lawyer	.79	Office clerk	.11	Cafeteria/canteen operator	.20
*Truck driver	.75	Physiotherapist	.11	Occupational therapist	.20
Dental nurse	.65	*Wood products assembler	.08	*Butcher	.20
*Dentist	.50	*Scientist	.05	*Carpenter	.20
*Mechanic	.50	*Forestry worker	.05	Cashier	.10
Speech therapist	.46	Telephone switchboard op.	.05	Computer operator	.10
Dental nurse	.43	Radiographer	.05	Medical lab. technician	.10
Telephone switchboard op.	.41	*Warehouse packer	.03	Veterinary assistant	.10
*Butcher	.40	*Politician	.03	*Welder	.10
Cashier	.40	*Dentist	.03	Nurse aide	.07
Cafeteria/canteen operator	.36	Occupation therapist	.03	*Dentist	.07
*Fire fighter	.29	Cashier	.00	*Plumber	.07
*Engineer	.27	Cafeteria/canteen operator	.00	Dental nurse	.05
*Politician	.15	Dental nurse	.00	Typist/secretary	.05
*Manager	.12	Dietician	.00	*Police officer	.05
*Housepainter/decorator	.07	Launderer	.00	Call Centre Operator	.00
*Road worker	.07	Nurse aide	.00	Launderer	.00
*Carpenter	.03	Sewing machinist	.00	*Draughting technician	.00

1979 (n=121)		1995 (n=37)		2010 (n=41)	
*Welder	.03	Speech therapist	.00	*Fire fighter	.00
Sewing machinist	.03	*Butcher	.00	*Forestry worker	.00
*Forestry worker	.02	*Carpenter	.00	*Mechanic	.00
*Surveyor	.01	*Draughting technician	.00	*Road worker	.00
Housekeeper	.01	*Engineer	.00	*Surveyor	.00
Launderer	.01	*Plumber	.00	*Warehouse packer	.00
*Plumber	.00	*Road worker	.00	*Wood products assembler	.00
*Warehouse packer	.00	*Surveyor	.00		
*Wood products assembler	.00	*Welder	.00		

ASS1 Mean weighted ranking

2010_(n=222)

*Doctor	128.13
*Architect	90.30
*Lawyer	71.39
Air Hostess / Steward	46.90
*Scientist	31.17
*Journalist / Reporter	30.82
*Manager	27.95
*Accountant	27.09
Fashion Model	23.68
Primary School Teacher	23.30
*Chef	21.51
Hairdresser	20.79
*Veterinarian	17.04
*Pilot	17.01
Physiotherapist	16.31
*Dentist	13.75
Nurse	9.72
*Police Officer	9.44
Kindergarten Teacher	7.78
Florist	7.73
*Engineer	6.58
*Armed Forces	6.49
Dietician	5.20
Waitress	3.33
Occupational Therapist	3.09
Medical Lab Technician	2.59
Computer Operator	2.25
Typist / Secretary	1.81
*Politician	1.51
Receptionist	1.48
Sales Assistant	1.30
*Fire Fighter	1.11
*Housepainter / Decorator	1.07
Veterinary Assistant	1.04
Librarian	0.89
*Truck Driver	0.80
Radiographer (X-Ray)	0.57
Nurse Aide	0.49
Housekeeper	0.47
*Farmer	0.36
Call Centre Operator	0.30
Dental Nurse	0.24
*Butcher	0.17
Cashier	0.15
*Mechanic	0.13
Office Clerk	0.10
Launderer	0.09
Sewing Machinist	0.09

Cafeteria / Canteen Operator	0.06
*Forestry Worker	0.04
*Warehouse Packer	0.04
*Plumber	0.01
*Welder	0.01
*Carpenter	0.00
*Draughting Technician	0.00
*Road Worker	0.00
*Surveyor	0.00
*Wood Products Assembler	0.00

* denotes a male-dominated occupation

ASS2 Mean weighted ranking

*Lawyer	131.17
Air Hostess / Steward	63.71
Hairdresser	43.11
*Doctor	42.16
*Journalist / Reporter	37.68
*Accountant	30.52
*Police Officer	29.33
Fashion Model	28.78
*Chef	21.24
*Armed Forces	19.67
*Manager	19.02
Nurse	18.14
*Architect	15.27
Kindergarten Teacher	14.72
Primary School Teacher	12.83
Waitress	7.45
Physiotherapist	7.32
Receptionist	5.70
*Pilot	4.79
*Engineer	4.18
*Mechanic	3.97
*Scientist	3.68
*Dentist	3.60
*Veterinarian	3.09
Typist / Secretary	3.04
Florist	2.92
*Politician	2.17
*Fire Fighter	1.68
*Housepainter / Decorator	1.29
Dietician	1.01
Sales Assistant	0.81
*Butcher	0.69
Office Clerk	0.63
Radiographer (X-Ray)	0.63
Librarian	0.58
Computer Operator	0.57
Occupational Therapist	0.57
Nurse Aide	0.54
Medical Lab Technician	0.50
Housekeeper	0.43
*Farmer	0.41
*Plumber	0.41
Veterinary Assistant	0.34
Call Centre Operator	0.27
*Truck Driver	0.27
Sewing Machinist	0.25
Cashier	0.20
Cafeteria / Canteen Operator	0.20
Dental Nurse	0.16
*Warehouse Packer	0.13

*Welder	0.11
*Carpenter	0.01
Launderer	0.00
*Draughting Technician	0.00
*Forestry Worker	0.00
*Road Worker	0.00
*Surveyor	0.00
*Wood Products Assembler	0.00

* denotes a male-dominated occupation

ACE1 (Girls) Mean weighted ranking

Air Hostess / Steward	64.63
*Doctor	38.13
*Lawyer	23.34
Hairdresser	22.87
Nurse	18.09
Waitress	14.80
Kindergarten Teacher	14.23
*Architect	14.13
*Chef	12.40
*Veterinarian	12.20
Veterinary Assistant	9.51
*Armed Forces	9.37
Primary School Teacher	8.94
**Journalist / Reporter	8.05
Fashion Model	7.41
*Accountant	6.24
Physiotherapist	5.24
*Pilot	5.00
*Manager	4.55
*Police Officer	3.87
*Scientist	2.49
*Engineer	2.41
Receptionist	2.15
Typist / Secretary	1.46
Dietician	1.37
*Farmer	1.25
Florist	1.24
*Fire Fighter	0.98
Radiographer (X-Ray)	0.88
*Mechanic	0.78
*Butcher	0.57
Sewing Machinist	0.46
Librarian	0.41
*Dentist	0.39
*Truck Driver	0.39
Cashier	0.33
Cafeteria /Canteen perator	0.29
*Politician	0.29
Computer Operator	0.26
*Warehouse Packer	0.23
Call Centre Operator	0.22
Nurse Aide	0.20
*Housepainter / Decorator	0.20
Housekeeper	0.17
Occupational Therapist	0.17
Medical Lab Technician	0.11
*Carpenter	0.10
*Draughting Technician	0.10
*Road Worker	0.08
*Plumber	0.05

*Forestry Worker	0.03
*Welder	0.02
Dental Nurse	0.01
Office Clerk	0.01
Sales Assistant	0.01
Lauderer	0.00
*Surveyor	0.00
*Wood Products Assembler	0.00

* denotes a male-dominated occupation

ACE2 (Girls only) Mean weighted ranking

Air Hostess / Steward	45.85
Hairdresser	39.38
Kindergarten Teacher	13.55
Waitress	12.43
*Doctor	11.46
Fashion Model	9.73
*Lawyer	8.89
*Police Officer	8.72
Nurse	8.65
Primary School Teacher	6.49
*Chef	5.05
Receptionist	4.86
*Armed Forces	3.24
*Engineer	1.70
Florist	1.61
Physiotherapist	1.54
*Accountant	1.28
*Scientist	1.28
Computer Operator	1.14
Sales Assistant	1.14
*Manager	1.08
*Journalist / Reporter	1.01
*Dentist	0.88
Typist / Secretary	0.81
Veterinary Assistant	0.81
*Fire Fighter	0.70
*Architect	0.65
*Truck Driver	0.54
*Pilot	0.53
Housekeeper	0.49
*Road Worker	0.49
*Veterinarian	0.41
Librarian	0.38
Office Clerk	0.36
Nurse Aide	0.32
*Warehouse Packer	0.32
Medical Lab Technician	0.28
Cashier	0.24
*Carpenter	0.16
*Mechanic	0.14
*Housepainter / Decorator	0.08
*Surveyor	0.07
Occupational Therapist	0.05
Sewing Machinist	0.05
*Politician	0.05
Dental Nurse	0.03
Radiographer (X-Ray)	0.03
Dietician	0.01
*Butcher	0.01
Call Centre Operator	0.00

	Cafeteria / Canteen Operator	0.00
	Launderer	0.00
	*Draughting Technician	0.00
	*Farmer	0.00
	*Forestry Worker	0.00
	*Plumber	0.00
	*Wood Products Assembler	0.00
	*Welder	0.00

* denotes a male-dominated occupation