

Gender Stereotyping In Career Choice Research Project

Report to Careers Scotland,
Edinburgh and Lothians

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Report prepared by:
Professor Ronald McQuaid and Sue Bond
Employment Research Institute
Napier University
Edinburgh

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EXECUTIVE SUMMARY

Background

1. Careers Scotland, in partnership with the City of Edinburgh Council, Edinburgh Learning, West Lothian Council and Scottish Enterprise Edinburgh and Lothians, were funded by the ESF Objective 3 to study 'Gender Stereotyping in Career Choice'. The Employment Research Institute with the support of the Centre for Career Education and Guidance at Napier University were contracted to carry out the research.

2. This project sought to analyse factors influencing gender stereotyping of careers and career preferences years S2 and S3 school pupils. The research project methodology involved three key stages:

3. Stage One: Background. Literature on gender stereotyping in career choice was reviewed, and existing data analysed, such as the Scottish School Leavers Survey, School Leavers Destinations.

4. Stage Two: A self-completion survey of 2148 mostly S2/S3 pupils in 15 schools across West Lothian and Edinburgh was carried out in June 2003.

5. Stage Three: In-depth follow-up interviews were carried out by careers advisors with 82 pupils in 4 case-study schools (2 in West Lothian and 2 in Edinburgh) during September 2003.

Pupil's Achievement and Subject Choices

6. There were significant differences between boys and girls in their choice of subjects to study and of their favourite subjects.

7. Besides being compulsory the main reason for pupils choosing a subject was enjoyment, and to a lesser extent, interest and being good at a subject. Some pupils chose subjects because they thought they would be useful for what they want to do in the future, for instance, science

subjects, computing, CDT and administration. The reasons for choosing subjects were similar for both boys and girls.

Pupil's Gender Stereotyping of Careers

8. Pupils' gender stereotyping of careers in general society shows that there were a number of jobs and occupations that over 80% of pupils felt were suitable for both men and women. These included: Waiter/Waitress; Teacher; Shop Worker; Police Officer; Manager; Lawyer/Solicitor; and, GP/Doctor. However, other jobs remained persistently gender stereotyped, including perceived 'males' jobs of Lorry Driver, Engineer, Plumber/Electrician, Labourer, Armed Forces; and 'female' jobs of Nurse and Care Assistant.

9. In common with other research¹, the analysis shows that girls are significantly less stereotyping of jobs and occupations than boys. More girls than boys stated that both men and women were suited to most of the jobs and occupations. Girls also displayed less gender stereotyped attitudes towards wider gender roles in society.

10. Gender stereotyping of jobs was also related to pupils' levels of achievement. Those working at lower levels in Maths and English were more likely to stereotype than those working at higher levels. However, when accounting for other factors in a regression model, only achievement in English was significantly related to stereotyping jobs less.

11. Gender stereotyping did not appear to be significantly related to ethnic background, family background or family-work situation. As proxy measures of socio-economic class, neither family background nor family-work situation made a significant difference to gender stereotyping.

12. Interviews with pupils in the four case study schools indicate that the main reason pupils think men or women are better suited for particular occupations is that they associate certain characteristics with a particular gender. On the whole, women are perceived to have better communication skills, to be more caring and understanding and good at helping people. Men are perceived to be stronger, fitter, more technical and practical.

¹ Equal Opportunities Commission (2001) 'Young People and Sex Stereotyping', EOC, Manchester.

"Women are more caring, better at talking to people" (Girl, S3)

"Men are stronger" (Boy, S3)

13. However, some pupils stereotyped the jobs because they perceived more men or women to be doing these (which may reflect the current situation for those occupations).

Pupils' Perceptions of their Own Suitability for Jobs

14. Pupils were asked about their own suitability for certain jobs. The pupils' own occupational preferences for themselves often remain along traditional lines. Significantly fewer boys than girls feel they are suited to jobs in 'female' occupations such as Care Assistant, Hairdressing, Nurse, Teacher and Waiter. Fewer girls feel they are suited to jobs in 'male' areas such as Armed Forces, Computer/Software Designer, Engineer, Labourer, Lorry Driver, and Plumber/Electrician.

15. However, more girls thought they were suited to work in some previously male-dominated professions such as GP/Doctor and Lawyer/Solicitor. Given that more girls than boys in the survey thought they were suited to work as GP/Doctor and Lawyer/Solicitor, and given the high percentages of female undergraduates in course for these occupations, they are likely to become increasingly feminised in the future. Few girls feel they are suited to be an Engineer (only 10% compared to 63% of boys).

16. For the specific occupations listed in the survey, more boys felt they were suited to 'female' jobs than girls felt they were suited to 'male' jobs. Less than 10% of girls felt they were suited to be an Engineer, Labourer, Lorry Driver or Plumber/Electrician, while only in Hairdresser/Barber did less than 10% of boys feel they were suited.

17. Perceptions of suitability for certain jobs were in some cases influenced by ethnic background, year in school, levels of achievement, choice of science subjects, attitudes and differences in job characteristics perceived important by pupils. However, for the most

part, it would appear that socio-economic measures do not in themselves affect job aspirations to any great extent².

18. Results from the case study interviews showed pupils justified their perceived suitability for certain jobs mainly in terms of their interest or aptitude, although knowing someone who did the job was also often used as a reason.

19. Those who felt they were not suited to particular jobs justified this in terms of lack of interest or aptitude, but also perceived negative aspects of the job. A small number of pupils also claimed they were not suited because they were the wrong gender, e.g. "It's a man's/woman's job".

Pupil's Views on Job Characteristics and Sectors of Work

20. There were significant differences between boys and girls in some of the job aspects that they rated as important. In common with other research, girls rated 'Helping others' and 'Dealing with the public' as more important than did boys. Girls also rated 'Allows you to work flexible hours' as more important than boys. However, factors rated as more important by boys than girls were: 'Earn a lot of money', 'Working with technology', 'Means you can live locally (in Edinburgh and Lothians)', 'Involves a lot of travel', 'Working outdoors', 'Being creative' and 'Good promotion prospects'.

21. There were strong preferences by boys and, in particular, girls against working in sectors and industries that were traditionally the domain of the opposite sex. For instance, many girls stated they would 'not at all' like to work in either Engineering, maintenance and garage work (78%), Construction (73%) and Transport, wholesale and delivery (70%). Boys were less negative about areas of work than girls (for instance, Hotel and catering was the sector where the highest proportion of boys (46%) would 'not at all' like to work). Hence, industrial segregation is also clearly an important issue as well as occupational segregation, and pupils' (particularly girls') negativity to certain sectors needs to be addressed.

² These measures were imperfect and this finding does not necessarily mean there is no link between socio-economic factors and job aspirations. However, due to the nature of the sample group, more accurate measures could not be used.

However, these findings may partly relate to pupils' understanding of and the nature of the sectors.

22. Our survey confirmed findings from the Scottish School Leavers Survey about attitudes to self-employment. While many pupils expressed an interest in self-employment, they were cautious of the difficulties. There was also a lack of knowledge about self-employment and/or indecision among many as to whether they would prefer to work for someone else. Boys viewed self-employment more positively than girls.

Pupil's Views on Career and Job Choices

23. Aspirations for future jobs appeared to be fairly high among the pupils. The majority of pupils aspired to jobs that fell into the Standard Occupational Classes (SOC) of Professional and Associate Professional.

24. The key reasons why pupils choose particular jobs appear to be based on interest (including 'enjoy subjects related to the job'). However, in some pupils to 'Earn a lot of money' and to 'Help others' are motivations.

25. There appeared to be differences in reasons given for wanting to do their chosen jobs between boys and girls, although this is best illustrated in the section on Job Characteristics (above).

26. Pupils studying at Credit level in Maths or English were more likely to choose Professional jobs than other pupils.

27. Pupils' preferences for future jobs appeared to be related to their fathers' SOC, but not to their mothers' SOC, with a higher proportion of pupils whose fathers (or step-fathers) worked in 'Managerial', 'Professional' and 'Associate Professional and Technical' wanting to work in 'Professional' jobs.

28. Some 68% of pupils knew someone who did either their first and/or second choice of jobs. These included other family members, family friends, although only relatively small numbers mentioned their parents (and less so mothers than fathers). Of those who indicated that they knew someone who did their chosen job, 73% of boys said these were male and just over half of girls said these were female. There are

many complex issues tied up in these findings, including the gender splits in growing and declining industries. One is that boys may often still be focusing upon male dominated careers which are often declining (e.g. parts of manufacturing and engineering), while girls may be focusing somewhat more on the expanding sectors of the economy (such as service sectors which generally has more female workers).

29. 44% of pupils had some work experience, including part-time and holiday jobs, although the link between work experience and gender stereotyping was not explored.

Links Between Pupil's Gender Stereotyping and Job Suitability

30. Girls who stated that 'both' men and women were suited to a traditionally 'male' job, were also more likely to feel themselves better suited to that particular job. Similarly, boys who stated that 'both' were suited to a traditionally 'female' job were more likely to feel themselves better suited to that particular job. However, it is unclear whether attitudes to gender suitability for jobs influence pupils' perceptions of their own suitability or whether perceptions of their own suitability influence their attitudes to gender suitability for jobs.

31. Although we established that girls were less gender stereotyping of jobs in general than boys, there are still substantial differences between boys and girls in the actual perceptions of their own suitability for particular jobs and work sectors.

Advice About Careers

32. Findings from the case study interviews confirm the importance of parents, particularly mothers, as their pupils' choice for advice about future jobs and careers. Mothers, in particular, were important for both boys and girls, but especially girls. Fathers were important mostly for boys. 'Informal' networks of advice are more important than 'formal' ones, which raises issues about the accuracy of such advice.

33. The findings on the ways in which boys and girls receive formal advice on careers or subject choice show differences in how this is provided. While pupils at lower levels of achievement in Maths and

English received more one-to-one advice, those at higher levels received more input through talks in a group/class. Certainly, S1 pupils receive much less input than S2 and S3 pupils, which possibly reflects policy by schools and Careers Scotland as well as the need to choose particular subjects in the later years.

34. Pupils were positive about the advice they received from Careers Advisers, Mothers, Fathers, Other relatives/carers and Guidance Teachers. Grandparents and Friends were perceived to be less useful. Many pupils had also used the Internet and a high proportion had also found this useful.

35. Although fewer pupils had the opportunity to talk alone with a guidance teacher, and particularly a Careers Adviser, a greater proportion of those had found this useful than being spoken to by either of these in a classroom situation.

Main Recommendations

36. It would be helpful to be aware that gender issues may be different for different groups of pupils, e.g. those working at different levels of achievement. Since boys and girls have different patterns of gender stereotyping of jobs, it may also be worthwhile targeting each gender in a separate way for some things. Initiatives aimed at reducing gender stereotyping of career choice need to address the reasons why girls and boys continue to stereotype women and men in general, and occupations in particular.

37. A further way of helping pupils to think of their own career choices may be to focus on job characteristics. This would involve showing pupils a wide range of jobs where, for example, 'helping others' is an aspect, and this could include traditionally 'male' jobs where this characteristic does not immediately come to mind for many pupils, e.g. Engineer, Computer/Software Designer. Likewise, for instance, pupils could be shown that some 'caring' jobs do involve a lot of 'working with technology', e.g. Doctor, Intensive Care Nursing. Initiatives may need to address key misunderstandings that young people often have about particular jobs.

38. Pupils, particularly girls, appear to have strong preferences against working in some industrial sectors. Therefore, initiatives could also target gendered preferences about industries as well as occupations.

39. The research has illustrated the importance of role models within the pupils' family and social circles. Initiatives may find it useful to draw upon role models within a pupils' own family and social circles who could come and talk in the school. However, the research was unable to ascertain the impact of wider role models, such as those in the media. Given the importance of parents, particularly mothers, as sources of careers advice, involving them more fully in equal opportunities issues would be useful.

1. INTRODUCTION

1.1 ABOUT THE STUDY

Careers Scotland, in partnership with the City of Edinburgh Council, Edinburgh Learning, West Lothian Council and Scottish Enterprise Edinburgh and Lothians, were funded by the ESF Objective 3 to study 'Gender Stereotyping in Career Choice'. The Employment Research Institute and the Centre for Career Education and Guidance at Napier University were contracted as the research partners.

Examination of school leaver destination statistics shows that young people are still following traditional gender stereotyped patterns when it comes to career choice. For example in the years 1992 and 2000 no girls leaving school in Edinburgh and Lothians entered construction or engineering and by contrast only 7% of entrants to community/health jobs were male in this period.

This project sought to explain factors influencing the persistent gender patterns of employment choice amongst school pupils in years S2 and S3.

In Chapter 2, findings on pupils' achievement and subject choice are examined, including pupils' achievement in Maths and English, their favourite subjects and their subject choices. Subject choices in S2 and S3 are important because they may expand or limit future career choices.

Chapter 3 explores pupils' gender stereotyping of particular jobs and careers. This chapter examines pupils' perceptions of gendered jobs and careers, factors associated with particular responses and why pupils felt that particular jobs were suited or not suited to either men or women.

Chapter 4 examines pupils' perceptions of their own suitability for jobs, including the factors associated with these responses and the reasons why pupils feel they were or were not suited to particular jobs.

In Chapter 5, pupils' views on job characteristics and industrial sectors are explored. This includes the characteristics of jobs that pupils rate as important, the sectors of work they would like to work in, and their attitudes to self-employment.

Chapter 6 deals with pupil's views on career and job choices including the reasons why pupils have chosen a particular job or career and the influence of roles models on their decision.

Chapter 7 explores the links between pupils' gender stereotyping of jobs and their actual perceptions of their own suitability for the same jobs.

In Chapter 8, the report examines pupils' preferences for receiving careers and subject choice advice, including use of various sources of information, and their perceived usefulness.

Chapter 9 presents the recommendations that arise from the research findings.

Relevant tables are at the end of each chapter. Appendices include Technical Notes (in support of the statistical tables contained in the chapters), findings relating to Pupils' Learning Styles, the literature review of gender stereotyping in career choice and a summary of this literature review.

The rest of this introduction looks at the research methodology and a brief overview of the literature on gender stereotyping in careers choice.

1.2 RESEARCH METHODOLOGY

The research project methodology involved three key stages:

1.2.1 Stage One: Background

This involved carrying out an extensive literature review on gender stereotyping in career choice, including analysing existing surveys, such as the Scottish School Leavers Survey, School Leavers Destinations and Census of Population 2001. These results have been up-dated and are appended in Appendix C1 & C2 of this report.

1.2.2 Stage Two: The Survey

Seven schools in West Lothian and eight schools in Edinburgh took part in the research. Two separate surveys were distributed by teachers within the schools to S2 and S3 classes (usually during Personal and Social Education classes). Teachers were asked to explain to pupils how to

complete the survey and to provide support to pupils who had any difficulties. It was emphasised that pupils should tell us what they think.

A total of 2148 completed surveys were returned. 1472 from Edinburgh and 676 from West Lothian.

There were varied response rates between schools, with as many as 91% being returned from one year in one school to as few as 11% being returned in others. The overall response rate was 47%. There may be issues around the representativeness of the smaller samples and for this reason comparisons between schools have been avoided [See Tables 1.1 & 1.2].

Surveys were returned from: 220 S1 pupils; 1125 S2 pupils, and 803 S3 pupils [See Tables 1.1 & 1.2].³ There was an almost equal number of returns from boys (1064) and girls (1077). In years S2 and S3, an equal percentage was 50% from boys and from girls, although in S1 55% of surveys were returned from girls [Table 1.3]. Most pupils reported their ethnic background as white, although this percentage was lower in Edinburgh (92%) than in West Lothian (96%).

[See Tables 1.4 to 1.8 for further statistics on Home and Family]

1.2.3 Stage Three: Case Studies Interviews with Pupils

Semi-structured interviews were carried out with pupils in 4 schools during September and October 2003. Two schools were in Edinburgh (Firhill and Liberton) and two in West Lothian (Deans and Armadale). In each school, an equal number of boys and girls from years S3 and S4 were selected randomly from the school register⁴. Those identified were then invited to participate in the research which consisted of (a) a self-

³ At the time the survey was carried out, some schools were changing over timetables, and in West Lothian some S1 pupils going into S2 completed the S2 survey and some in S2 going into S3 completed the S3 survey. (It had been intended that pupils complete the survey for the year they had just completed). However, given that there is little difference between the two surveys, the correct year as intended is the one used for the analysis. This also meant that there was a limited number of S3 pupils who returned surveys in West Lothian.

⁴ S3 and S4 pupils were chosen because these were the same sample of pupils who were in S2 and S3 at the time the survey was carried out. The survey was carried out before the summer break and these pupils had moved up a year by the time the interviews were conducted

completion questionnaire, and (b) an interview carried out by a Careers Advisor⁵.

A total of 21 pupils were interviewed at both Deans and Firhill, while 20 pupils were interviewed at Armadale and Liberton [See Table 1.9].⁶

Thirty-eight of the pupils interviewed were boys and 44 were girls and 42 pupils were in S3 compared to 40 pupils in S4. Table 1.3 presents a breakdown of participants by gender and year.

1.3 BRIEF OVERVIEW OF LITERATURE

The full literature review and summary can be found in Appendices C1 and C2. Here we present an overview of some of the key aspects from the background literature on gender stereotyping in career choice.

Since the Sex Discrimination Act 1975 was introduced to outlaw discrimination in employment on the basis of gender, there have been significant changes to labour markets, family structures and education.

There have been fundamental changes to the labour market with the decline of traditional sectors such as manufacturing and the expansion of the service sector such as finance. At the same time, increasing numbers of women have entered the labour market and the dual-earner family is now the dominant mode. Where once males outstripped females in terms of school results, this has turned around in recent years to see females gaining more and higher levels of qualifications, and also staying on in school longer than males.

However, despite initiatives and campaigns to encourage young people into a variety of non-gendered career patterns, occupational choices continue to be based on traditional gender patterns. Millar and Budd (1999) found

⁵ Each school aimed to achieve interviews with between 20-22 pupils in total and so additional pupils were also randomly identified to fill in for any pupils who were unable to attend.

⁶ Details of attendees and absences were available from the schools in West Lothian, but not Edinburgh. Liberton pupils were randomly selected on the day of interview, so non-attendance did not arise. At Armadale, three pupils failed to attend interviews (two were absent on medical grounds). One replacement interview took place. At Deans, five pupils failed to attend (four absent from school; one declined to take part). Four replacement interviews took place.

that despite sex equality legislation and the requirement for careers advisors to embody equal opportunities principles in their advice to young people, occupational preferences have changed little since the early 1970s.

Research carried out for the Equal Opportunities Commission found evidence of persistent sex stereotyping in occupations. For instance, 90% of engineering jobs are held by men and 93% of primary school teachers in Scotland are women (EOC, 2001a; Statistics of Education, 2000).

Further research for the EOC found a prevalent gender divide in subject choice at school, higher education and work-based training (EOC 2001a; EOC 1999) all of which form the basis for occupational segregation at work. Furthermore, although girls have made improvements in academic achievement at high school outstripping boys, this has resulted in only limited change in their occupational choices.

This continued situation has implications for individuals, the economy and society. Individuals face restricted job opportunities: one reason women continue to earn less than men is because of their concentration in certain occupations, young people are not able to fulfil their potential, and some industries face skills shortages due to having a restricted pool of entrants.

Research has shown that while the attitudes of young people to gender roles are changing, these changes are not reflected in their educational and occupational choices (EOC 2001b). Reasons for persistent occupational segregation are complex and multi-faceted but include: socialisation, poor information, social class, expectations about future family roles and labour market contexts.

Chapter 1: TABLES

Table 1.1: Completed surveys returned from West Lothian Schools

West Lothian	S1	S2	S3	Total	RR S1	RR S2	RR S3
Armadale	119	133		252	85%	83%	
Bathgate	22	20		42	12%	11%	
Broxburn		28	28	56		16%	19%
Deans	47	47		94	26%	29%	
St Margarets		40	42	82		22%	22%
West Calder	32	22		54	15%	11%	
Linlithgow		43	53	96		20%	20%
TOTAL	220	333	123	676	35%	27%	20%

*RR=Response Rate

Table 1.2: Completed surveys returned from Edinburgh Schools

Edinburgh	S2	S3	Total	Response Rate S2	Response Rate S3
Boroughmuir	181	155	336	91%	78%
Drummond	57		57	67%	
Firhill	170	184	354	84%	86%
Gracemont		42	42		49%
Liberton	94	98	192	60%	53%
Currie	154	147	301	87%	84%
Craigroyston	61		61	73%	
Holyrood	75	54	129	34%	27%
TOTAL	792	680	1472	71%	63%

Table 1.3: Returns for each area by Gender

% (N)	West Lothian	Edinburgh	Total
Male	48.0% (330)	50.0% (734)	49.7% (1064)
Female	51.0% (343)	50.0% (734)	50.3% (1077)
Total	673	1468	2141

Table 1.4: Number of people (including pupil) in household

Number in household	%	N
Two	5.7%	119
Three	20.5%	428
Four	41.7%	871
Five	21.2%	444
Six or more	10.9%	228
N		2090
Missing		64

Please note that it was clear from the data entry stage of the survey that some pupils had not included themselves in the total, therefore, this may slightly under-represent the actual numbers in households.

Table 1.5: Household Type

Household Type	%	N
Both parents (including step-parents)	75.3%	1541
Single Parent	21.0%	430
Other (neither parent)	3.7%	75
N		2046
Missing		108

Table 1.6: Economic Activity of Parents (or Step-Parents)

	Mother or Step-mother (%)	Father or Step-father (%)
Full-time job	43.8	84.1
Part-time job	36.1	8.1
Unemployed	5.9	2.8
Retired	0.5	1.4
Looking after family	11.0	1.0
Something else	2.6	2.6
Total N	1929	1827
Missing (including 'Not Sure')	225	327

Table 1.7: Family-Work Situation

Family-Work Situation	%	N
Both parents in full-time jobs	32.3%	695
Father works full-time, mother works part-time	25.7%	553
Father works, mother looks after family	7.5%	162
Mother or father unemployed	7.0%	150
Other or missing	27.6%	594
Total		2154

Table 1.8: Household Tenure

Housing Tenure	%	N
Owned by parents or people you stay with (including buying on a mortgage)	72.6%	1499
Rented from the Council/Housing Association	14.9%	308
Rented privately	3.0	61
Something else	2.2	45
Not sure	7.3	151
Total		2064
Missing		90

2. PUPILS' ACHIEVEMENT AND SUBJECT CHOICE

In this section, results from the survey and from the case study interviews are examined in order to provide an overview of pupils' achievement in Maths and English, pupils' favourite subjects and their subject choices. Subject choices in S2 and S3 are important because they can expand or limit future career choices. For example, dropping Chemistry after S2 may affect future options in medicine, while lack of Physics may limit choices in Engineering.

2.1 RESULTS FROM THE SURVEY

2.1.1 Levels in Maths and English

Of those pupils who completed the S2 survey, the majority reported that they were working at either level E or F in Maths (64%) and English (63%). Between 17% and 19% indicated that they were not sure about their level of achievement in these subject [See Table 2.1.1].

Of those pupils who completed the S3 survey, the majority were working either towards Credit or General level Standard Grade (81% in Maths, and 83% in English). Between 9% and 10% indicated they were not sure about their level of achievement [See Table 2.1.2].

Girls reported significantly higher levels of achievement than boys in English. In S2 English, 47% of girls reported working at level F compared to 38% of boys. In S3 English, 57% of girls were working at Credit level compared to 51% of boys. There were no significant differences in the levels of achievement reported by boys and girls in Maths, with 39% of boys and 38% of girls working at level F in S2 and 52% of boys and 54% of girls working at Credit level in S3 [See Tables 2.2.1 to 2.2.4].

2.1.2 Favourite Subjects

Pupils were asked to rank their top three favourite subjects in order of preference. There were statistically significant differences in choices between boys and girls. For instance, PE was the most popular subject with some 26% of pupils stating this as their favourite subject. However, while 41% of boys listed this as their favourite, only 13% of girls did so. The second most popular subject, Art & Design was favoured by considerably more girls (22%) than boys (6%). Music was also very

popular, but in this case it was rated equally between boys and girls (10%) [See Table 2.3].

2.1.3 Subjects Chosen to Study

There were clear differences between the subject choices of S2/S3 boys and girls. Subjects that were particularly popular among boys included: Computing, CDT, PE and Physics (note that Maths, English and a Foreign Language are compulsory). Among girls, popular choices included: Administration, Art and Design, Biology, French and Home Economics. Subjects that a similar proportion of boys and girls had chosen included: Business Management, Chemistry, other foreign language, Music and Science [See Table 2.4].

2.2 RESULTS FROM THE CASE STUDIES INTERVIEWS: REASONS FOR CHOOSING SUBJECTS TO STUDY

S3 and S4 pupils were asked why they had decided to study their chosen subjects. Pupils listed a number of reasons and these could be categorised in 9 broad ways. Pupils could give more than one reason for studying each subject. [See Table 2.5].

The most often mentioned reason for doing a subject was because it was compulsory - 25% (although this only applied to a small number of subjects such as English, Maths, Languages and Science). Enjoyment of the subject was the next most popular reason with nearly 22% of pupils mentioning this as a reason. This is followed by interest in a subject (nearly 16%), useful for what the pupil wants to do in the future (nearly 15%) and being good at the subject (12%). Few pupils (less than 5% for each) mentioned: best of available choices: Parents/Teachers/Others thought I should do it; friends doing it; and Other.

However, there were differences in the reasons for choosing particular subjects as Table 2.6 shows.⁷ The reasons for pupils taking particular subjects varies depending on the subject.

For English, Maths, Languages and Science the most commonly mentioned reason was because they were compulsory (87% for English, Maths and Languages and 69% for Science).

⁷ Only relatively small numbers of the pupils were taking some subjects, therefore, caution must be adopted when drawing wider conclusions from some of these results.

Pupils' enjoyment was the most popular reason for studying eight of the subjects, i.e. CDT, Home Economics, Graphic Communication and Art & Design.

Being good at a subject was also a fairly popular reason for choosing certain subjects, although this was not the most popular reason for choosing any of the subjects. The subjects where 'being good at it' was mentioned most often as a reason included: Home Economics (42%); Music (39%); Art & Design (38%); and Graphic Communication (35%).

The subjects that attracted the most responses because of interest included: Music (58%); Home Economics (42%); Graphic Communication (39%); Physics (36%); Art & Design (35%); and Computing (32%).

For some selected subjects, pupils stated that they had chosen the subject because it would be useful for what they wanted to do in the future. This was the most often mentioned reason for pupils studying Physics (54%). This was also a popular reason among students studying Chemistry (47%), Biology (41%), CDT (40%), Computing (32%) and Administration (30%). Other subjects, however, were generally not chosen because of this reason. Only 5% mentioned this as a reason for studying History, and 7% studying a language or Geography.

Few pupils indicated that those chose a particular subject because their friends were doing it, or because other people (e.g. teachers or parents) thought they should do a subject.

Generally, few or no pupils indicated that they had chosen a subject because of limited other choices. However, there was a small minority (of between 15% and 17%) who stated they had chosen either Geography, History and Computing because they were the best of the choices available to them.

There were only small differences between boys and girls in their reasons for choosing subjects, and given the relatively small numbers in the case study sample, it was not possible to ascertain any significant differences due to gender [Table 2.7].

2.3 SUMMARY

Results from the survey show the distribution of pupils working at different levels of achievement in Maths and English. They also show that a greater proportion of girls are working at higher levels than boys in English, although there were no differences between them for Maths. There were significant differences between boys and girls in their choice of favourite subjects and in their choices of subjects to study.

Being compulsory was the main reason for pupils doing a subject. When it came to the actual choice of subjects, the main reason for choosing many subjects was enjoyment, and to a lesser extent, interest and being good at a subject. Some pupils chose subjects because they thought they would be useful for what they wanted to do in the future, for instance, science subjects, computing, CDT and administration. The reasons for choosing subjects were similar for both boys and girls.

Chapter 2: TABLES

(See Appendix A: Technical Notes for explanations of statistical procedures used in the following tables)

Table 2.1.1: Level of Achievement in S2 Maths and English

Reported Level	YEAR S2	
	Maths	English
F/F+	31.6%	34.3%
E/E+	32.5%	28.4%
D/D+	15.0%	14.7%
C/C+	3.1%	2.5%
B/B+/A/A+	1.1%	1.5%
Not Sure	16.7%	18.6%
TOTAL	992	978
Missing	36	50

Table 2.1.2: Level of Achievement in S3 Maths and English

Reported Level	YEAR S3	
	Maths	English
Credit	45.5%	45%
Credit & General	2.7%	4.3%
General	31.9%	33.5%
General & Foundation	1.2%	0.5%
Foundation	7.1%	4.7%
Intermediate 1 & Access	2.5%	1.8%
Not Sure	9.1%	10.3%
TOTAL	1116	1099
Missing	10	27

Table 2.2.1: Level in S2 Maths by Gender

%	MATHS S2				Total N
	F	E	D	A-C	
Boys	38.5	37.5	16.8	7.1	392
Girls	37.5	40.1	19.1	3.3	429
Total %	38.0	38.9	18.0	5.1	821

[Chi-square: Not statistically significant]

Table 2.2.2: Level in S2 English by Gender

%	ENGLISH S2				Total N
	F	E	D	A-C	
Boys	37.5	34.8	20.8	6.9	379
Girls	46.6	35.0	15.3	3.2	412
Total %	42.2	34.9	18.0	4.9	791

[Chi-square: Significant to 95% level.]

Table 2.2.3: Level in S3 Maths by Gender

%	MATHS S3			Total N
	Credit	General	Foundation and below	
Boys	52.3	36.2	11.4	516
Girls	53.7	36.6	9.7	495
Total %	53.0	36.4	9.7	1011

[Chi-square: Not statistically significant]

Table 2.2.4: Level in S3 English by Gender

%	ENGLISH S3			Total N
	Credit	General	Foundation and below	
Boys	51.4	40.1	8.5	494
Girls	58.5	35.8	5.7	489
Total %	54.9	37.9	7.1	938

[Chi-square: Significant to 95% level]

Table 2.3: First Choice Favourite Subject

	Boys	Girls	All
Art & Design	6.30%	22.30%	14.80%
Business Management	0.70%	1.50%	1.10%
Biology	1.20%	2.80%	2.00%
Chemistry	3.60%	4.00%	3.80%
Computing	8.10%	3.10%	5.50%
CDT	9.10%	2.90%	5.80%
Drama	2.80%	9.90%	6.50%
English	1.70%	3.00%	2.40%
Foreign Lang.	0.10%	2.00%	1.10%
Geography	1.70%	0.90%	1.30%
Graphic Communication	1.80%	1.40%	1.60%
History	3.60%	4.60%	4.10%
Home Economics	2.10%	12.00%	7.30%
Maths	1.00%	1.70%	1.40%
Modern Studies	0.60%	1.30%	1.00%
Music	10.30%	10.30%	10.30%
PSE	0.10%	0.40%	0.30%
PE	41.10%	13.20%	26.30%
Physics	2.30%	1.00%	1.60%
Science	0.20%	0.80%	0.50%
No Favourite	1.60%	1.00%	1.30%
N			
Missing			

Table 2.4: Subjects Chosen to Study into the next year for S2/S3 pupils

	Boys (%)	Girls (%)	Total (%)
Accounting & Finance	1.5	0.9	1.2
Administration	8.6	22.0	15.4
Art & Design	24.6	48.9	19.9
Business Management	18.4	21.4	19.9
Biology	27.8	60.2	44.0
Chemistry	39.1	39.6	39.4
Computing	49.1	28.4	38.7
CDT	34.0	8.9	21.4
Drama	10.8	18.7	14.8
English	93.7	95.4	94.5
French	54.5	62.8	58.6
Other foreign language	28.7	31.3	30.0
Geography	40.0	32.6	36.3
Graphic Communication	16.4	8.4	12.4
History	40.8	47.9	44.3
Home Economics	12.0	35.9	24.0
Maths	93.1	94.3	93.7
Modern Studies	15.0	20.2	17.6
Music	22.8	25.8	24.3
PSE	20.1	14.9	17.5
PE	57.1	27.0	42.0
Physics	50.5	19.0	34.7
Science	15.0	15.6	15.3
Religious Studies	15.4	11.2	13.3
Other	8.7	7.0	7.9
N	951	957	908
Missing			20

Note: These tables are based on multiple responses and as such statistical significance tests cannot be used.

Table 2.5: Reasons for Choosing Subjects

	No. of times mentioned	% of pupils mentioning this as a reason
Compulsory	222	25%
Enjoy it	192	22%
Interested in it	140	16%
Useful for what I want to do in the future	131	15%
Good at it	106	12%
Other reason	41	5%
Best of the available choices	25	3%
Parents/Teachers/Others thought I should do it	15	2%
Friends are doing it	10	1%
Total	882	82

Table 2.6: Reasons for Choosing Subjects by Subjects

Percentage	Compulsory	Interested	Good at it	Enjoy	Friends doing this	Useful for future	Others thought I should	Best of choices	Other	Number
Administration		10	20	50	40	30			20	10
Art & Design		35	38	68	3	20		3	5	40
Biology	9	29	18	29	3	41	9		18	34
Chemistry	6	28	22	50		47	6	3	11	36
Computing		32	15	18		32	3	15	12	34
CDT		20	20	80		40			10	10
English	87	9	9	20		20			5	82
Language	87	3	6	10		7			9	70
Geography		28	17	41		7	7	17	7	29
Graphic Communication		39	35	70	4	13		4		23
History		34	24	37	2	5	5	15	5	41
Home Economics		42	42	79		11		5		19
Maths	87	6	6	16		17			2	82
Music	4	58	39	50		15				26
Physics	4	36	14	11		54	7	7	4	28
Science	69	25	13				6	6	6	16

Table 2.7: Reasons for Choosing Subject for Boys and Girls

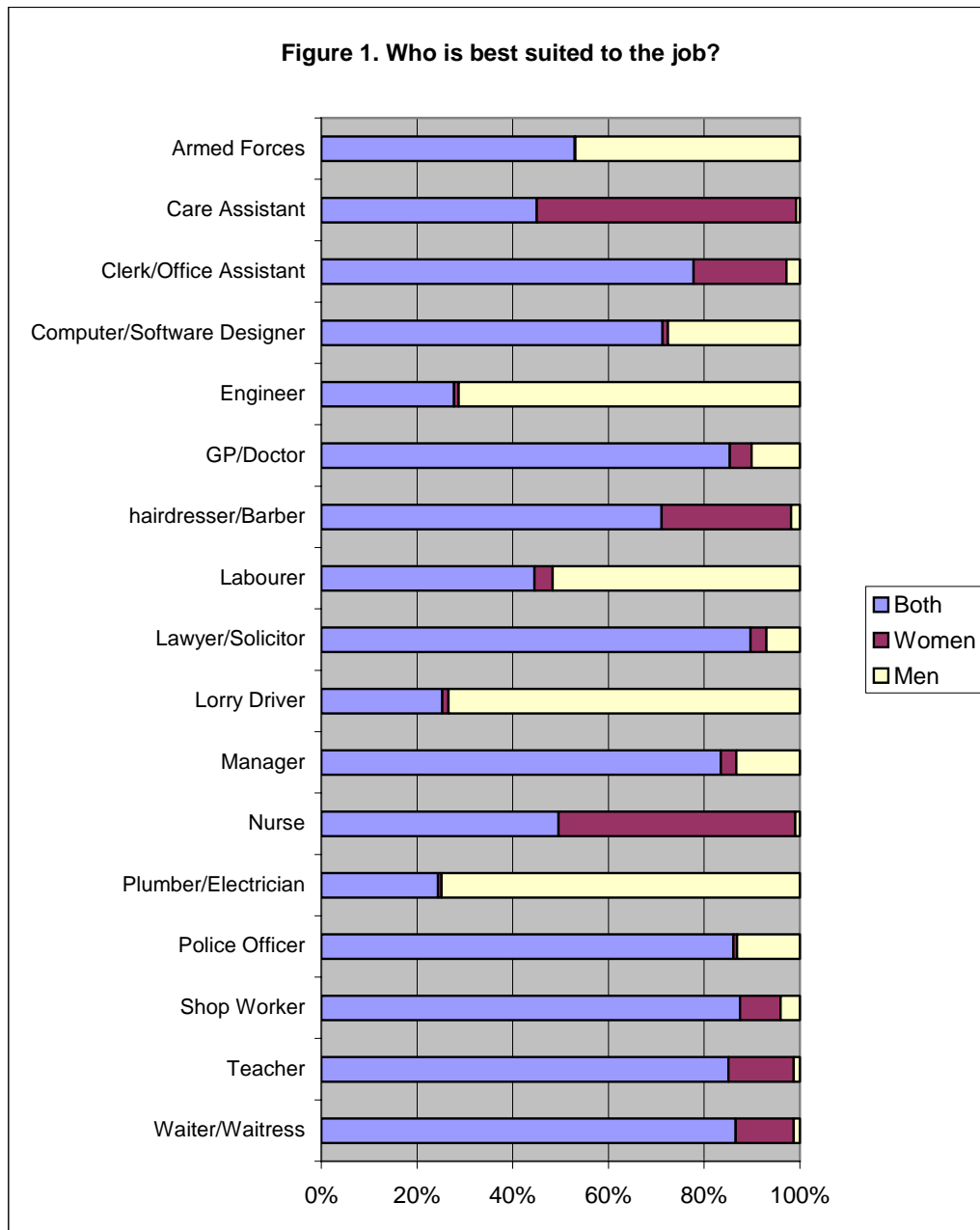
	Boys	Girls	Total
Compulsory	24.4%	25.8%	25.2%
Enjoy it	19.5%	23.6%	21.8%
Interested in it	16.6%	15.3%	15.9%
Useful for what I want to do in the future	16.3%	13.6%	14.9%
Good at it	12.1%	12.0%	12.0%
Other reason	6.0%	3.5%	4.6%
Best of the available choices	2.3%	3.3%	2.8%
Parents/Teachers/Others thought I should do it	2.3%	1.2%	1.7%
Friends are doing it	0.5%	1.7%	1.1%
Total	45.1%	49.9%	82

3. PUPILS' GENDER STEREOTYPING OF CAREERS

In this section, pupils' gender stereotyping of particular jobs and careers is explored. Findings from the survey and case study interviews are used to illustrate pupils' perceptions of gendered jobs and careers, factors associated with particular responses and why pupils felt that particular jobs were suited or not suited to men or women.

3.1 RESULTS FROM THE SURVEY

While gender stereotyping of some jobs and occupations has diminished, stereotyping of others persists. From a list of jobs, pupils were asked to indicate who they think is best suited to each job. Options included 'Women', 'Men', 'Both' and 'Don't know'. Many pupils felt that both women and men were suitable for these jobs, although there are important differences depending on the job concerned. The occupations that over 80% of respondents felt were suitable for both men and women included: Waiter/Waitress; Teacher; Shop Worker; Police Officer; Manager; Lawyer/Solicitor; and, GP/Doctor. However, other jobs were much more stereotyped. 72% and 70% of pupils felt that Lorry Driver and Engineer respectively was best suited to men while 53% and 49% thought Care Assistant and Nurse respectively was more suited to women. [See Figure 1 below].



Boys held more stereotypical views about who was best suited to these particular jobs and occupations than girls. An analysis compared the proportions of girls and boys who stated that 'Both' men and women were suited to the jobs and occupations. In all jobs and occupations, a significantly higher proportion of girls than boys stated 'Both' were suited [See Table 3.1].

Girls also displayed more liberal attitudes in their responses to a series of statements about gender issues. They were more likely to agree that

'It is OK if the father stays at home and looks after the children and the mother goes out to work', that 'Women can be good engineers' and that 'Men can be good nurses'. They were more likely to disagree that 'A man's job is to earn money; a women's job is to look after the family' [See Table 3.2].

A Gender Stereotyping Index was created in order to measure the extent of gender stereotyping by pupils across the jobs and occupations [See Appendix A: Technical Notes].

There were significant differences in gender stereotyping of jobs and occupations based on pupils' levels of achievement. In all cases, the higher the level of achievement the less likely pupils are to gender stereotype jobs and occupations [See Table 3.3].

S1 pupils were significantly less likely to indicate both men and women were suitable than either S2 or S3 pupils. Since S1 pupils also receive much less careers and guidance input than older pupils, this finding may indicate that views change significantly as children mature, or perhaps the effectiveness of these interventions. However, this is difficult to ascertain because we do not know what type of interventions have been given to pupils [See Table 3.4].

There were no significant differences between white and non-white ethnic minority pupils.

There were no significant differences between pupils whose parents both worked full-time, father worked full-time and mother worked part-time, father works and mother looks after the family or father or mother unemployed.

There were no significant differences between S2 pupils in West Lothian and Edinburgh.

3.1.1 Statistical Model

In order to test for gender stereotyping of jobs, the number of times respondents indicated that 'both' men and women were suited across the range of 17 jobs was counted. Therefore, at one extreme, respondents scored '0', indicating that they had not stated 'both' were suited to any of the jobs, while at the other those who scored '17' had stated that all of

the jobs were suited to 'both'. So, a higher score suggests less gender stereotyping of these jobs. In order to test what variables were associated with the number of jobs pupils stated were suited to 'both', a linear regression model was run. This model is presented in Table 3.5. The models relate to S2 and S3 pupils since the inclusion of S1 pupils may skew the findings.

In order to clarify further the influence of the factors examined in the earlier statistics, linear regression modelling was employed. This method controls for various characteristics at the same time. For example, it shows that being female was significantly associated with having less stereotyped responses (after taking into account all other variables in the model). A full explanation of the method can be found in Appendix A: Technical Notes.

Demographic Characteristics

As per the earlier findings, the model shows that girls were less likely to gender stereotype jobs since they were more likely to state that a greater number of jobs were suited to 'both' men and women. Ethnicity and year in school did not have a significant effect.

Achievements and Aspirations

For the most part, achievement and aspirations were not related to variations in gender stereotyping of jobs, with two exceptions: Higher levels of achievement in English were associated with stating more jobs that 'both' men and women suited to - this would suggest that higher achieving pupils are less stereotyping, although this was not significant for achievement in Maths; those studying Chemistry were more likely to be associated with less stereotyping.

Socio-economic and family characteristics

Socio-economic and family characteristics were not significantly related to gender stereotyping. However, the indicative measures used for socio-economic characteristics are imperfect and incomplete (although the best available for this study), and therefore, caution is advised in the interpretation of this conclusion.

Careers Advice

The ways in which pupils would use careers advice was not significantly related to gender stereotyping.

Attitudes

Pupils who agreed more strongly with the statement 'A man's job is to earn money; a women's job is to look after home and family' were likely to indicate fewer jobs that were suited to 'both' men and women.

Job Characteristics

The job characteristics that were important to pupils were largely not significantly related to gender stereotyping, except that the more important 'Earn a lot of money' was for pupils, the less likely they were to indicate a greater number of jobs were suited to 'both'. This would suggest that a desire to earn a lot of money is associated with greater gender stereotyping.

The linear regression models largely confirmed the early statistical findings. Gender and level of achievement (at least in English) are related to gender stereotyping of jobs, but ethnic origin and socio-economic characteristics were not significantly related. The model found that, unsurprisingly, attitudes to mens' and womens' roles were significantly related to gender stereotyping of jobs. Those who wanted to help others were associated with less gender stereotyping, as were those studying Chemistry. However, a range of other factors were unrelated to gender stereotyping of jobs.

3.2 GENDER STEREOTYPING: RESULTS FROM THE CASE STUDY INTERVIEWS

3.2.1 Types of stereotyping

In the self-completion questionnaire, pupils were asked to choose who they thought was most suited to a range of jobs and occupations. The options they could choose included 'Women', 'Men', 'Both' or 'Don't Know'. Where pupils had elected either 'Women' or 'Men' for particular occupations, they were then asked in the interview why they thought each gender was particularly well suited and why the other was not.

Responses to why men or women were or were not well suited across the range of jobs and occupations could be categorised into 6 broad types: Characteristics/aptitude; Mostly men or women who do the jobs; Men or women are more interested; It is a 'man's' or 'woman's' job; Don't know or unsure, and; Other. Tables 3.6 & 3.7 record the number of times each of these reasons were given for men or women being well and for *not* being well suited to particular occupations.

The most often mentioned reasons for men or women being well suited (or not well suited) to occupations involved reference to either a characteristic or aptitude attributed to a particular gender. These included factors associated with perceived intrinsic differences between the sexes, for instance

"Women have the personality for these jobs"
"Men are stronger"

Others referred more to the perceived preferences of men and women

"Women don't like getting dirty"
" They [men] can't be bothered doing caring stuff".

A number of pupils responded that the reason was because it was mainly one gender who does these jobs

"I've never seen a woman drive a lorry"
"Fewer men do these jobs" [Nurse].

Fewer pupils responded that men or women wouldn't be interested in these jobs. This category is treated as distinct from characteristic or aptitude, because in these cases the pupils did not specify a particular reason why men or women weren't interested,

"Women are less interested in it" [Computer/Software Designer]

In reality it was sometimes difficult to separate out a characteristic from an interest, since an interest could potentially also be treated as a characteristic.

A small number of pupils replied that the reason they thought men or women were or were not suited to particular jobs and occupations was that it was 'A man's job' or 'A woman's job'. In these cases pupils appear to be unreflectively assigning a gender stereotype to particular jobs and occupations.⁸

A small number of pupils did not know or were unsure why men or women were or were not suited, and would appear to have assimilated these opinions without being able to articulate why they think this is the case.

A small number of responses didn't easily fit into this classification system, some of these were because they were difficult to interpret or read. Others made reference to a broad range of wider social factors, and these points will be picked up later on. These were classed as 'Other'.

3.2.2 Characteristics and Aptitudes Associated with Men and Women

The most often mentioned reason for pupils to think men or women were or were not suited to certain jobs and occupations, therefore, related to the perceived characteristics or aptitudes of each gender.

Tables 3.8 and 3.9 illustrate some of the characteristics and aptitudes that pupils associated with men and women across a range of jobs and occupations. The factors included in the lists were mentioned by at least two pupils, and usually many more.

On the whole, women were perceived to have good communications skills, to be caring and understanding and good at helping people. They were

⁸ It must also be noted that most of these responses came from pupils at Liberton School.

also perceived to be patient and organised. Table 3.8 sums up some of the characteristics and aptitudes associated with women by the pupils.

Caring	Understanding
Help people	Good at talking to people/talkative
Good at explaining things	'softer touch'
Patient	Better-natured/nicer/kinder
Organised	Creative/stylish
Polite	Good at listening
Brainier	Good at following orders
Careful	

On the other hand, men were perceived to be stronger and fitter. They were also perceived to be more technical and practical. Table 3.9 sums up some of the characteristics and aptitudes associated with men by the pupils.

Strong	Fit
Brave	Good at fighting/violent
Technical/practical	Good at fixing things
Good at working with tools	Better understanding of mechanics
Better drivers	Clever at computing
Don't mind getting dirty	Don't mind working outside/working long hours/being away from home
Patient on the roads	Able to cope with pressure
Organised	Better at giving orders

When asked why women were not as well suited as men to some occupations, pupils often contrasted women negatively against the characteristics and aptitudes associated with men. Likewise, men were perceived negatively with the characteristics/aptitudes associated with women. Tables 3.10 & 3.11 list the negative characteristics and aptitudes of men and women when not suited to particular jobs and occupations.

Table 3.10: Characteristics/Aptitudes Associated with Women that made them less well suited to certain job and occupations than Men.

Less strong	Less fit
Don't like getting dirty	Don't like fighting/violence
Not as good with equipment	Not able to keep control
Not as good at computers	Don't understand how things work (mechanical)
Not very good with machines	Not as technical
Don't like to be bossed around	Less patient on the roads
Don't drive as much	Don't like to work long hours/travel long distances/be away from hom

Table 3.11: Characteristics/Aptitudes Associated with Men that made them less well suited to certain job and occupations than Women.

Less caring	Not so good at talking to people/less talkative
Less patient	Get angry and frustrated
Not as organised	Not as neat and tidy
Don't listen	Not as careful
Shout	

3.2.3 Gendered Characteristics and Aptitudes that Pupil's Associated with Particular Jobs/Careers

When it came to particular jobs and occupations, pupils tended to choose specific characteristics or aptitudes that were perceived to be appropriate to the job/occupation at hand. Here we discuss these in relation to particular jobs/occupations: those that were selected as more suited to women; those selected as more suited to men; and those that were selected as suited to either men or women. We also refer to some of the 'other' reasons (where appropriate) chosen by pupils for choosing a particular gender.

Jobs/Occupations selected as more suited to Women

Care Assistant

In the case study survey a total of 22 boys (out of 37) and 21 girls (out of 43) indicated that the job of a Care Assistant was best suited to women. When asked 'Why', many of the pupils (number=33)⁹ pointed to a characteristic or aptitude they felt women were better at. In most cases these related to women being good that caring and related activities. For instance, they were described by pupils as being:

"more caring, better at talking to people" (boy)

"really good with people and children" (boy)

"As mothers, women are naturally more caring and understanding" (girl)

When it came to why men were not so well suited for the job of Care Assistant, the answers were slightly more varied, although the majority revolved around men's lack of ability (n=26). For instance:

"Men get angry and frustrated" (girl)

"Not as caring or helpful as women" (girl)

"Some men are more ignorant and unable to talk politely to people" (girl)

"A lot of men don't have the ability, in terms of personality [to do this job]" (girl)

Three pupils made reference to other peoples reactions to a male Care Assistant. For instance:

"Women may not like being cared for by a man" (boy)

"People would not trust them" (girl)

Clerk/Office Assistant

Most pupils thought that this job was suitable for both men and women. Only 4 boys and 4 girls thought it was best suited to women, while 2 boys thought it was best suited to men.

⁹ This refers to the number of pupils who stated this to be the case. Thereafter, number of pupils will be referred to as n=.

Of the two pupils who identified a characteristic or aptitude, the responses included:

"They're [women] more organised than men" (boy)
"Women are better writers" (boy)

When asked why these jobs were not as well suited to men, only one response referred to a characteristic/aptitude:

"Men are not as neat and tidy" (boy)

Hairdresser/Barber

15 boys and 11 girls thought that this job was best suited to women. The comments relating to female characteristics/aptitudes that made women more suited revolved around women's communication skills, included, for instance

"Can talk to people better" (girl)
"They're more creative" (boy)
"They have better style for doing hair" (boy).

When asked why men are less well suited to do hairdressing/barber work, there was a variety of responses. Nine pupils (six of them girls) thought men would not be as good at this work, for instance:

"Men are less talkative. You need to be nice" (girl)
"They are not as careful at cutting hair" (girl)

Two pupils also made reference to the social stigma of men doing hairdresser/barber work:

"They'd be embarrassed to do the job. Would get slagged off" (girl)
"They would get laughed at" (boy)

Nurse

26 boys and 14 girls thought this job was best suited to women. Twenty pupils (14 of them boys) made reference to women being better at the job, for instance:

"More caring, better at talking to people" (boy)
"More patient than men. Better at caring for others" (boy)
"They are more helpful to people" (boy)

Of these, four pupils made specific reference to female nature, for instance

"More caring nature" (girl)
"Women are better-natured, kinder to people" (boy).

When asked why men are not as well suited to nursing as women, many responses echoed the sentiments expressed above.

"Men have little patience and can't be bothered to look after others"
(boy)
"Men are not as caring" (girl)

Three girls thought men would think nursing was beneath them:

"Men are supposed to be butch and harder than women. Some people think men would be wasting themselves by being a nurse" (girl)
"Nurse is one of the lowest things in a hospital and guys might like mightier things" (girl)
"They would think they are better than that" (girl)

Shop Work

Most pupils thought shop work was suited to both men and women. Only 4 pupils (2 boys and 2 boys) thought it was better suited to women, while two pupils (1 male and 1 female) thought this work was better suited to men [reasons for this were not recorded].

Of the few who thought Shop Work was best suited to women, two referred to women having better qualities for the job:

"Polite and like to serve people" (girl)
"More patient and able to deal with complaints" (girl).

Pupils struggled to find reasons why men were less well suited to shop work, although one pupil felt that men were

"not as caring or helpful as women" (girl).

Teacher

Eight boys and 4 girls felt that teaching was better suited to women than men. None stated that this job was better suited to men. In most cases, the reason referred to women's aptitude for the job. For instance:

"Better at explaining themselves in-depth. Helpful" (boy)
"Don't shout as much as men" (boy)¹⁰
"Women have more control over challenging classrooms" (girl)
"Women are brainier and would be better at teaching" (boy)

When asked why men were not as well suited, most answers again, referred to aptitude in much the same way as the quotes above.

"Can't handle challenging classrooms" (girl)
"Men don't go into a much depth" (boy)
"Men tend to shout and give out punishments rather than listen" (girl)

However, one (female) pupil did feel that when it came to work with children

"Children find men more scary and primary teaching is not a good job for men" (girl)

Waiter/Waitress

Five boys and 4 girls felt this job was better suited to women. Only one pupil (a boy) felt the job was better suited to men [reason why was not recorded]. Aptitude was given as the main reason. For instance:

¹⁰ A lot of comments about male teachers shouting come from pupils at Liberton

"Better at doing what they are told/following orders" (boy)

"Not as clumsy as men" (boy)

"More patient, able to deal with complaints" (girl)

When it came to why men were not as well suited as women, a couple of pupils were unable to find an answer, while others refers to men's preferences

"Most men would prefer to be outdoors" (boy)

and lack of aptitude:

"Women are faster and more organised" (boy).

Jobs/Occupations selected as more suited to Men

Armed Forces

Twenty-three boys and 13 girls felt that Armed Forces was more suited to men than to women. The most common set of reasons for this view related to aptitude and abilities.

Eighteen pupils (14 of them boys) made comments relating to men's perceived superior physical strength or fitness:

"Men are stronger" (girl & boy)

"Training is hard physically" (boy)

Six pupils made comments that related to the perception of men as more violent and inclined to fighting. A further 5 pupils made reference to the dangerous nature of the work and the need for bravery, suggesting that men were better able to deal with this.

When asked why women would not be as suitable, the majority of comments reflected the patterns above, e.g.

"Not fit enough. Not strong enough" (boy)

"Women would be too scared to be involved with fighting and killing" (girl)

One boy expressed a moral tenet that women "shouldn't go to war/fight/kill", while another boy was still under the impression that "Women are not allowed to join".

Computing/Software Design

Twelve boys and 7 girls indicated that this job was better suited to men than to women. Five pupils made comments relating to characteristics/aptitudes, for instance:

"Men are clever at computing subjects, women tend to pick administration" (boy)

"Men are better with computers" (boy)

When asked why women were less suited to be Computing/Software Designers, many pupils referred to their lack of interest (n=6), the lack of women in computing jobs (n=2) and their lack of aptitude (n=4).

Engineering

Thirty boys and 28 girls indicated that men were better suited to Engineering jobs. Around half of the pupils referred to the aptitudes and abilities that made men more suitable for work in this area. The most commonly mentioned was the perceived greater strength of men (n=13, of which 9 were boys):

"Need to be strong for these jobs and men are stronger" (girl)

Technical and practical ability, as well as the ability to 'fix things' and 'work with tools' was mentioned by 6 pupils as reasons why men were more suitable than women. Other aptitudes that made men more suitable included, for instance,

"Men understand how things work better" (girl).

Five mentioned that the work can be 'dirty' and this was a reason why men were better suited.

However, it was also clear that quite a number of pupils associated 'Engineer' with 'Car Mechanic'. For instance: *"Because they love their motors"* (boy), "Do not see women in garages. You see them driving cars,

but not fixing them" (girl) and "*Men are Mechanics*" (boy). This would indicate a lack of understanding of Engineering, although this is perhaps not surprising given the range of jobs labelled 'Engineer'.

When asked why women were less well suited to be Engineers than men, aptitude and ability (including strength) was mentioned by a number of pupils (n=25). However, interestingly, some 11 pupils mentioned that were less suited because they would not want to get 'dirty'.

One girl also felt that women

"don't want to get hassle from working with a load of guys".

Labourer

20 boys and 21 girls thought that men were better suited for this type of work (one boy thought this was best suited to women although the reasons were not recorded).

The majority of pupils referred to men's perceived superior physical strength as one of the reasons why men are better suited to Labouring work (n=23)

"They have the strength needed to do these jobs" (boy)

A further five (all girls) indicated that the work was 'dirty' and therefore men were more suited to it. Other reasons included working outdoors (n=2), poor wages (n=1), long hours (n=1), men know more about what is involved (n=1).

When asked why women were less well suited to do Labouring work, again the main answer revolved around women being less strong than men "*Heavy duty work on building sites is not suitable for women*" (boy), while 8 pupils indicated that women "*Do not like to get dirty*". Other reasons mentioned included: low pay (n=2), working outdoors (n=2) and long hours (n=1). One boy found the idea of women doing this type of work very difficult to imagine "*I don't want to think about women walking about dirty building sites*".

Lorry Driver

32 boys and 29 girls felt that men were better suited than women to do the work of a lorry driver. The pupils gave a number of reasons for this. 13 pupils felt that men were more suited because they were stronger "Men are good at lifting" and 3 felt they didn't mind getting 'dirty'. Nine pupils referred to men as enjoying driving more or being better drivers than women. Four pupils mentioned that the long hours involved were more suitable for men "*It's long hours. Men are more tolerant of this*" (boy). Other reasons included: travel (n=3), men are more patient on the roads (n=2), being outside (n=1), women couldn't manage this type of work (n=1).

When asked why women are less well suited to this type of work, there were a wide range of reasons mentioned, although many reflected the early comments. Five pupils also mentioned that long hours and distances were a disincentive to women

"women are better with children, so would be missed too much if away overnight" (girl),

"Hours and distances don't appeal to women" (boy).

Five pupils were unable to give a reason why women were less well suited, although some pupils had their own more personal opinions, for instance:

"Women don't have a good sense of direction" (girl).

Plumber/Electrician

35 boys and 29 girls felt that men were better suited than women to do the work of a plumber or electrician. The two most often mentioned reasons why this was perceived to be the case by the pupils was because women rarely do these jobs (n=14) and because the job involves strength (n=12, of which 9 were boys). Six pupils also mentioned that the job was dirty and that "*Men don't mind getting dirty*" (girl). Four pointed to the technical aspects of the job for which they believed men to be better suited.

When asked why women were less well suited to be plumbers/electricians the two most often mentioned reasons were lack of strength (n=12) and

that Women "*Don't like getting dirty*" (n=12). For instance, one girl commented that

"Women wouldn't like putting their hands down toilets"

and

"Women would not want to work under floors, with dirty water - perhaps they could be an Electrician at a push" (boy).

A number of pupils felt that women would not have the aptitude to do this

"Women would get confused" (girl)
"Not as good at fixing things as men" (boy).

Police Officer

Most pupils indicated that they thought both men and women were suited to be police officers. However, 5 boys and 2 girls felt that men were better suited to this job. When asked why, 6 indicated that this was because the job need strength and men were stronger "*Need to be stronger and men are stronger and tougher*" (boy). One also mentioned that men would be able to "*handle situations better*" (girl).

When asked why women were less well suited, a couple of pupils again pointed to male strength, eg. "*Men are stronger to fight and better at it*" (girl) and one felt that "*it's dangerous work*" (girl), and therefore, not suitable for women.

Jobs/Occupations selected as suited to Men and Women

GP/Doctor

The majority of pupils thought that both men and women were suited to do the work of GP/Doctor. However, 6 pupils felt that men were still better suited to this job (5 boys; 1 girl), while 2 pupils felt that women were better suited (1 boy; 1 girl).

Of those who thought that men were better suited, 2 boys mentioned because men are "*Better at coping with pressure*" (boy). When asked

why women were less well suited, one boy referred to the technological aspects of the job and that women "*may not cope with the equipment*".

Of the two pupils who thought women were better suited to GP/Doctor, one thought women were "*better at caring*" (girl).

Lawyer/Solicitor

Most pupils thought that both men and women were suited to this work. However, 2 boys felt that men were better suited and 3 pupils (2 girls; 1 boy) thought women were better suited. Pupils who thought that men were better suited indicated this was because it was "*A man's job*" (girl) and because "*On TV they are mostly men*" (boy). However, of those who thought women were better suited and whose answers were recorded, one felt "*They're women's jobs*" (boy), while another felt that "*Girls have more confidence*" (boy).

Manager

Seven pupils (6 boys; 1 girl) thought that men were better suited to be managers, while one girl thought women were better suited to be managers. Of the answers recorded (all boys) pupils felt that men were "*Better at giving orders*" (boy) and "*Better organised. Better at being in charge*" (boy). When asked why women were not as well suited, both these boys felt it was because men were better "*Able to keep control*" (boy).

3.3 SUMMARY

An examination of pupils' gender stereotyping of occupations shows that there may be grounds for some optimism. There were a number of jobs and occupations that over 80% of pupils felt were suitable for both men and women. These included: Waiter/Waitress; Teacher; Shop Worker; Police Officer; Manager; Lawyer/Solicitor; and, GP/Doctor. However, other jobs and occupations remained persistently gender stereotyped, among them were Lorry Driver, Engineer, Plumber/Electrician, Labourer, Armed Forces, Nurse; and Care Assistant.

In common with other research¹¹, our analysis shows that girls are significantly less stereotyping of jobs and occupations than boys. More girls than boys stated that both men and women were suited to most of the jobs and occupations. Girls also displayed less gender stereotyped attitudes towards wider gender roles in society. This was confirmed in the linear regression models.

Gender stereotyping of jobs was also related to pupils' levels of achievement. Those at working at lower levels in Maths and English were more likely to stereotype than those working at higher levels. However, when accounting for other factors in a linear regression model, only achievement in English was significantly related to stereotyping jobs less.

Gender Stereotyping did not appear to be significantly related to ethnic background, family background or family-work situation (using both cross-tabulations or linear regression modelling). As proxy measures of socio-economic class, it is interesting that neither family background nor family-work situation made any significant difference to gender stereotyping.

Interviews with pupils in the four case study schools indicate that the main reason why pupils think men or women are better suited for particular occupations is because of characteristics or attributes associated with a particular sex. However, there was a proportion of pupils who stereotyped the jobs because they perceived more men or women to be doing these (which may reflect the current situation for those occupations).

On the whole, women are perceived to have better communication skills, to be more caring and understanding and good at helping people than men. Men, on the other hand, are perceived to be stronger and fitter and more technical and practical.

¹¹ EOC (2001) 'Young People and Sex Stereotyping', EOC, Manchester and Millar, L. and Budd, J. (1999) 'The Development of Occupational Sex-role Stereotypes, Occupational Preferences and Academic Subject Preferences in Children Aged 8, 12, 16', in *Educational Psychology*, Vol. 19, No. 1

Chapter 3 TABLES

(See Appendix A: Technical Notes for explanations of statistical procedures used in the following tables)

Table 3.1: Proportion of Boys and Girls who stated that 'Both' men and women are suited to jobs and occupations

% Stating 'Both' are suited	Boys	Girls	Total	Chi-square
Armed Forces	41.0	62.9	52.1	**
Care Assistant	39.3	48.6	44.0	**
Clerk/Office Assistant	74.0	78.3	76.2	*
Computer/Software Designer	65.3	74.5	70.0	**
Engineer	20.7	33.5	27.2	**
GP/Doctor	79.0	90.4	84.8	**
Hairdresser/Barber	62.8	77.5	70.33	**
Labourer	34.3	47.2	40.8	**
Lawyer/Solicitor	84.3	92.2	88.3	**
Lorry Driver	20.0	29.3	24.7	**
Manager	74.5	90.6	82.7	**
Nurse	41.8	56.4	49.2	**
Police Officer	80.0	90.9	85.5	**
Shop Worker	83.0	90.0	86.5	**
Teacher	80.9	88.1	84.6	**
Waiter/Waitress	83.2	87.3	85.3	*

**Significant to 99% level

*Significant to 95% level

Table 3.2: What Pupils Think about Gender Roles

Mean Score	Boys	Girls	Total	ANAOVA
It is OK if the father stays at home and looks after the children and the mother goes out to work	2.47	2.07	2.26	**
Women can be good engineers	2.45	1.73	1.94	**
Men can be good nurses	2.17	1.73	1.94	**
A man's job is to earn money; a woman's job is to look after the home and family	3.53	4.42	3.98	**

Scores are calculated by averaging the responses across the 5-point scale ranging from 1 representing 'strongly agree' to 5 representing 'strongly disagree'. The lower mean number suggests less agreement with the statement

**Significant to 99% level

*Significant to 95% level

Table 3.3: Gender Stereotyping Index by Level of Achievement

ANOVA	S2 Maths Level	S2 English Level	S3 Maths Level	S3 English Level
Gender Stereotyping Index Score	*	*	*	**
N	826	796	1014	986

**Significant to 99% level

*Significant to 95% level

See Note on Gender Stereotyping Index in Appendix A: Technical Notes

Table 3.4: Gender Stereotyping Index by Year

Age Cohort	Stereotyping Index Score	N
S1	9.8	220
S2	10.6	1125
S3	10.8	803
N	10.6	2148
ANOVA		*

**Significant to 99% level

*Significant to 95% level

There was no significant difference between white and non-white pupils, between S2 pupils in West Lothian and Edinburgh, between the family status or family working situation of pupils.

Table 3.5: Linear Regression Model for Gender Stereotyping (Forward Selection Method)

Independent variables that were significant in the model		
	Standardised Coefficient (B)	Sig.
<i>Demographic characteristic:</i> Sex (female) (dummy)	.124	.000
<i>Achievement and Aspirations:</i> Achievement in English (F/E/Credit) (dummy)	.095	.003
<i>Achievement and Aspirations:</i> Chemistry chosen to study (dummy)	.099	.002
<i>Attitude:</i> 'Man's job to earn money...'	-.277	.000
<i>Job Characteristic:</i> 'Earn a lot of money'	-.069	.028

Adjusted R Square=.18

Model significance = .000 (i.e. highly significant)

Variables that were 5% significant were entered into the model.

Independent variables excluded from the model:

Demographic Characteristics: Ethnicity (non-white); Year (S3);
Achievement and Aspirations: Achievement in Maths (F/E/Credit); 'Want to go to University'; Physics chosen to study; Biology chosen to study; Computing chosen to study;
Socio-economic and family characteristics: Single Parent Household; Not Owner Occupier; Father Unemployed; Social Inclusion Partnership Area; Area (Edinburgh);
Careers Advice: Would use Careers for Advice; Would use Parents for Advice;
Job Characteristics: 'Helping others'; 'Dealing with the public'; 'Involves interests'; 'Working with technology'; 'Involves a lot of travel'; 'Working outdoors'; 'Being Creative'; 'Good promotion prospects'; 'Plenty of opportunities for further training'; 'Means you can live in Edinburgh and the Lothians'; 'Will fit in well with having a family'; 'Allows you to work flexible hours'.

Note: Pupils at Bathgate, Broxburn, St. Margarets and West Calder excluded. S2 pupils also excluded. (See Appendix A Technical Notes for full details).

Table 3.6 Numbers of pupils were give reasons for Why Men/Women Were Well Suited to Particular Jobs*

	Character istic/Apti tude	Mostly Men/Wom en who do it	Men/Wom en more intereste d	'Man's job' or 'Woman's job'	Don't know/Uns ure	Other	N Responses recorded	N
Armed Forces (Men)	24	3	2	1	1	2	31	36
Care Assistant (Women)	32	3		1	1	4	42	43
Clerk/Office Assistant (Women)	2	2		1	1	2	8	8
Computer/Software Designer (Men)	5	2	4		1	4	16	19
Engineer (Men)	27	10	7	3	2	5	52	58
GP/Doctor (Women)	1	1		1			2	1
GP/Doctor (Men)	3	1			1	2	7	6
Hairdresser/Barber (Women)	10	7	3	5		1	25	26
Labourer (Men)	26	5	3	2	1		36	41
Lawyer/Solicitor (Women)	1			1			2	2
Lawyer/Solicitor (Men)	0	1		1	1		3	3
Lorry Driver (Men)	27	15	4	4	2	1	52	61
Manager (Men)	2					2	4	7
Nurse (Women)	22	10	1	2	1	2	38	40
Plumber/Electrician (Men)	18	15	6	4	3	2	48	64
Police Officer (Men)	6					1	7	7
Shop Worker(Women)	2	1	1				4	4
Teacher (Women)	10	2					12	12
Waiter/Waitress (Women)	5	1					6	9

Table 3.7: Numbers of pupils were give reasons for Why Men/Women NOT well suited to particular jobs occupations*

	Character istic/Apti tude	Mostly Men/Wom en who do it	Men/Wom en more intereste d	'Man's job' or 'Woman's job'	Don't know/Uns ure	Other	N Responses recorded
Armed Forces (Men)	17	2	6		2	3	30
Care Assistant (Women)	26	1	3	1	5	5	41
Clerk/Office Assistant (Women)	1		3	2	1		7
Computer/Software Designer (Men)	4	2	6		1		13
Engineer (Men)	25	3	7	1	8	5	49
GP/Doctor (Women)	1	2	1		1		5
GP/Doctor (Men)	1			1			2
Hairdresser/Barber (Women)	9	4	3	2	6	4	25
Labourer (Men)	26	2	4		4	5	39
Lawyer/Solicitor (Women)		1			2		3
Lawyer/Solicitor (Men)	1			1			2
Lorry Driver (Men)	29	7	3	1	6	5	52
Manager (Men)	2					1	3
Nurse (Women)	14	6	2	2	2	8	35
Plumber/Electrician (Men)	23	8	8	3	8	2	52
Police Officer (Men)	3	1					4
Shop Worker(Women)	1				2		3
Teacher (Women)	7	1				2	10
Waiter/Waitress (Women)	4				2		6

***Note (1):** Not all pupils who had chosen either 'Women' or 'Men' were asked the follow-up question in the interview, therefore there are sometimes fewer responses recorded in the interview than on the self-completion questionnaire.

***Note (2):** Some responses were recorded twice were they fitted into more than one category, although in reality this happened fairly infrequently, therefore, the rows will not necessarily add up to the N responses recorded.

4. PUPILS' PERCEPTIONS OF THEIR OWN SUITABILITY FOR JOBS

In this section, findings from the survey and the case study interviews will be presented in order to provide an insight into how suited pupils thought they were for particular jobs, the factors associated with particular responses and the reasons why pupils feel they were or were not suited to particular jobs.

4.1 RESULTS FROM THE SURVEY

4.1.1 How Suitable Pupils Think They Are For Occupations

Pupils were asked to rate their suitability for a number of jobs and occupations on a 5-point scale. There were significant differences in how girls and boys rated themselves in all of the 17 jobs and occupations listed. In some previously male-dominated professions, more girls than boys rated themselves as 'suitable' or 'very suitable'. For instance, GP/Doctor (38% of girls compared to 29% of boys) and Lawyer/Solicitor (51% compared to 47%). Many of the differences, however, remained along traditional lines. For instance, while 63% of boys thought they were suitable or very suitable to work as an Engineer, only 10% of girls thought so. While 57% of girls thought they were suited to nursing, only 11% of boys thought so [See Table 4.1.1].

There were some significant differences in how S2 pupils in West Lothian and Edinburgh rated themselves in relation to some occupations¹². More pupils in West Lothian rated themselves as suitable for Labourer, Lorry Driver, Manager and Police Officer than pupils in Edinburgh. However, on the whole, a greater number of West Lothian pupils rated themselves as 'very suitable' or 'suitable' across the range of jobs. Only small percentages of pupils were sampled in most West Lothian schools and there may have been some sampling bias in the classes invited to take part. Otherwise, it is not clear why this should be the case [See Table 4.1.2].

There were few significant differences depending on school year of pupils [See Table 4.1.3].

¹² Statistics comparing West Lothian and Edinburgh examine S2 pupils only because there are large differences in the sampling of S1 and S3 pupils between the areas.

How well suited pupils rated themselves for some jobs and occupations also depended on their level of achievement in Maths and/or English. For instance, a greater number of those who rated themselves as 'suitable' or 'very suitable' for work in the Armed Forces also reported lower levels of achievement in English at S2 and S3. This indicates that there may be a perception that academic ability is not necessary for work in this area. This may also be the case for a high proportion of those indicating their suitability for labouring work and lorry driver. Hairdressing and barber work, Care Assistant work and Plumber/Electrician were all rated as more suitable by those in the middle-range academic ability. However, in the case of Clerk/Office Assistant, Computer/Software Designer, GP/Doctor, Lawyer/Solicitor, Nurse and Teacher, it was the pupils indicating higher levels of academic ability who felt they were 'suitable' or 'very suitable' for these occupations [See Table 4.1.4].

Non-white pupils¹³ perceived themselves to be significantly less suitable for the job of Waiter/Waitress than white pupils and significantly more suitable for: Computer/Software Designer; Engineer; GP/Doctor; and, Lawyer/Solicitor. However, non-white ethnic groups cannot be treated homogeneously. Given the diversity of these groups and the small numbers involved it cannot be determined within which ethnic groups the differences are apparent. There are also likely to be differences between boys and girls from different ethnic backgrounds, but again, the small numbers involved make this difficult to ascertain statistically [See Table 4.1.5].

There were some significant differences between pupils' perceptions of their suitability depending on the household type. Pupils from 'Other' households (that is, not living with either parent) and from Single Parent households tended to perceive themselves to be less suitable for some professional jobs such as GP/Doctor and Teacher. Pupils from 'Other' households also perceived themselves to be more suitable for some low-skilled jobs such as Labourer and Lorry Driver. The exception here was that more pupils in 'Other' households felt they were suitable for the job of Plumber/Electrician (skilled trade) [See Table 4.1.6].

¹³ We recognise that there are usually variations between non-white ethnic groups, but in this case, there are too few in the sample for meaningful comparison. Therefore, these groups have been aggregated into one group for ease of analysis.

There were a number of significant differences in pupils perceptions of their suitability depending on whether both parents worked full-time, father worked full-time and mother part-time, father worked and mother looked after the family, or either mother and father unemployed. Pupils who lived in families where either their mother or father was unemployed were more likely to rate themselves as less suitable for professional or skilled jobs (Engineer; GP/Doctor; Lawyer/Solicitor; Plumber/Electrician; Police Officer, Teacher) and, in some cases, more suitable for lower skilled jobs (Care Assistant, Hairdresser) [See Table 4.1.7].

4.1.2 Statistical Model for Job Suitability

A more rigorous statistical model was used to test the influence of the various factors (such as gender, subject choice, home circumstances etc.) on the likelihood that a pupil would feel suitable for a specific job or occupation. For example, The probability of a pupil that they were 'very suitable' or 'suitable' for being an Engineer was significantly associated with them being male, choosing Physics, not having an unemployed father, agreeing that 'It's a man's job to earn money', agreeing that 'both' men and women are suitable to do the job of Engineer, would like to work with technology and outdoors.

Technical Background

In order to clarify further the influence of these factors, logistic regression modelling was employed. This method controls for various characteristics at the same time. A full explanation of the method can be found in Appendix A: Technical Notes. Logistic regression models were run for the 17 jobs and occupations where pupils rated how suited they were to do each job. A series of independent variables were entered into each model in order to explain the variations in pupils' responses for each individual job. Table 4.1.8 presents the results.

The dependent variables were derived by creating a dichotomous variable for each of the 17 jobs. Hence, the logistic regression models were set up to ascertain what variables influenced a pupil to feel suited (i.e. 'Very

suitable' or 'suitable') or not particular suited (i.e. where they responded 'Neither' suitable nor unsuitable, 'Not very suitable', or 'Not suitable at all').

Demographic Characteristics

Sex, ethnicity and school year of pupil were entered into the model. The sex of pupils was associated with how suitable pupils thought they were for most jobs (except GP/Doctor, Lawyer/Solicitor, and Manager). These were of the same nature as found in the earlier survey findings, e.g. boys were more likely to feel that they were suitable for Armed Forces, Computer/Software Engineer, Engineer, Labourer, Lorry Driver, Plumber/Electrician and Police Officer.

The models indicate that non-white pupils are more likely to feel they are suited to do the job of GP/Doctor. This was also found to be significant in the cross-tabulation analysis, and may suggest that for some professional jobs, there tend to be higher aspirations among the ethnic minorities in this sample.

As found in the crosstabulations, the models showed little difference between S3 and S4 pupils, although in both methods, fewer S3 pupils felt suited to work as Waiter/Waitress.

Achievement and Aspirations

Higher levels of achievement in Maths were associated with a higher probability of pupils reporting that they were more suited to the jobs of Clerk/Office Assistant, GP/Doctor, Lawyer/Solicitor, Manager and Teacher and less suited to Plumber/Electrician. Clearly, these are higher skilled jobs, and many require a university degree, therefore, it would seem reasonable for pupils of different academic abilities to aspire to different jobs. Higher achievement in English, on the whole, was associated with feeling better suited to higher skilled jobs and less suited to some non-professional jobs (Care Assistant, Labourer and Lorry Driver). These findings confirm the general findings found in the crosstabulations.

Wanting to go to university was also associated with a higher probability of pupils perceiving themselves to be more suited for GP/Doctor, Lawyer/Solicitor, and Manager which would seem to be realistic.

Some of subjects that pupils were studying were entered into the models in order to ascertain if pupils doing particular subjects were more likely to report being more suited to certain jobs. Only selected subjects were entered based on the importance of these for entry into some occupations. These included science subjects and computing.

The results show that those pupils who had taken Physics were more likely to feel that they were suitable for the jobs of Computer/Software Designer, Engineering and GP/Doctor and less suited to Hairdresser/Barber and Waiter/Waitress. Pupils doing Chemistry thought they were better suited to Computer/Software Designer, GP/Doctor (for which Chemistry at Higher level is required) and less suited to Hairdresser/Barber and Electrician. Similarly, those doing Biology felt they were more suited to GP/Doctor and Nurse and less suited to Armed Forces, Engineer, Hairdresser/Barber, and Plumber/Electrician. Clearly, doing science subjects, has an impact on pupils' aspirations for the future and possibly reflects realistic expectations that these subjects are necessary for some jobs. There may be an important motivational issue in that once a pupil has decided upon a career and they know what subjects (and pass levels) are required, then this may act as a major motivator for them. Hence early career advice may have a role in motivating some pupils.

Those doing Computing were not likely to state any difference in their suitability for jobs, except for Computer/Software Engineer for which they felt they would be better suited, which is as we would expect and for Hairdresser/Barber, were they felt less suited.

Socio-economic and family characteristics

Various socio-economic and family characteristic indicators were entered into the models but, on the whole, these had relatively little impact on pupils' perceptions of their suitability for most jobs. The impact of coming from a Single Parent household, not being an owner occupier (i.e. Renting or accommodation provided through work), father being unemployed, living in Edinburgh (compared to West Lothian) or living in a Social Inclusion Partnership (SIP) area were all tested. Father being unemployed was associated with reporting less suitability for GP/Doctor and Engineer. Living in a Single Parent household was associated with pupils feeling less suited to

Shop Work, while living in a SIP area was associated with feeling more suited to be a Lorry Driver. When other factors are controlled for, it would appear that living in an area of multiple deprivation, on the whole, has a limited effect on job expectations. However, this conclusion must be tentative since the indicative measures are imperfect and incomplete.

A comparison of pupils in Edinburgh and West Lothian indicated that, when all other variables are held constant, there were no differences between pupils in the two areas in their perceptions of suitability for the listed jobs, except for Armed Forces, where fewer pupils in Edinburgh felt suited.

Careers Advice

Pupils' preferences in whom they would seek careers advice also had limited impact on their reports of suitability for each job. There were very few pupils who had not talked to either their mother or father as one of their top three choices for careers advice and therefore, few others to compare with hence it is not surprising that this variable was not significant. Given the wide range of pupils and wide range of potential choices, it is unsurprising that sources of advice should have limited impact on perceptions of suitability for a limited range of jobs.

Attitudes

Pupils who agreed more strongly with the statement 'A man's job is to earn money: a women's job is to look after home and family' were more likely to perceive themselves as being more suited to Engineer. This would indicate that pupils with more traditional views feel more suited to this traditionally 'male' area of work.

Where pupils indicate that they think 'both' men and women *in general* are suitable for certain jobs they are also likely to feel *themselves* better suited to these particular jobs. The jobs where this relationship occurred included: Armed Forces and Engineer. This would suggest a link between less gender stereotyping of these jobs and a pupil's own perception of their suitability for the same job.

Job Characteristics

The importance of various job characteristics for pupils in their future employment were examined for their impact on pupils perceptions of suitability. Where 'Helping Others' was perceived to be important by pupils, they were more likely to perceive themselves to be suited to a range of jobs that generally involved just that: Care Assistant, Clerk/Office Assistant, GP/Doctor, Nurse, Teacher and Waiter/Waitress.

Pupils who felt 'Dealing with the public' was important also felt more suited to a number of jobs (most of which involve a good deal of interface with the public). For instance, GP/Doctor, Hairdresser/Barber, Lawyer/Solicitor, Manager, Police Officer and Shop Worker. Labourer would appear to be an anomaly.

For those who 'Earns a lot of money' was important were also more likely to feel they were suited to Armed Forces, Hairdresser/Barber and Manager. It is not clear why Armed Forces or Hairdresser/Barber should fall into this category, although to school pupils, this wage may seem substantial.

Those for whom it was important to work with technology also felt better suited to a range of jobs that could be perceived to involve greater use of technology: Armed Forces, Computer/Software Designer, Engineer and Plumber/Electrician. Certainly, these jobs are all 'male' dominated. While this group felt less well suited to some jobs where technology is perhaps less present: Care Assistant, Hairdresser/Barber and Teacher.

Pupils who wanted to 'Work Outdoors' were more likely to feel suited to Armed Forces, Engineer and Plumber/Electrician. While many of these jobs do involve being outdoors they are also noticeably all traditionally 'male' jobs. Those who wanted to work outdoors felt less suited to Clerk/Office Assistant, Computer/Software Designer and Lawyer/Solicitor (all of which are office-based jobs).

Wanting to be creative was associated with pupils feeling more suited to Computer/Software Designer, Clerk/Office Assistant, Shop Worker and Waiter/Waitress and less suited to Armed Forces.

Pupils who indicated that it was important that work fit in with having family were more likely to feel suited to Armed Forces, Care Assistant,

Clerk/Office Assistant, Hairdresser/Barber, Police Officer, Teacher and Waiter/Waitress. It is unclear why, for instance, this should be associated with Armed Forces in particular. However, this question may have been misinterpreted by some pupils or may reflect strong attachment to family.

The importance of doing work that involved interests, involves a lot of travel, offered good promotion prospects or opportunities for further training, meant they could live in Edinburgh and the Lothians and involved flexible working were only associated with being suited (or not suited) to a small number of jobs.

Results from the linear regression models broadly confirm earlier findings. Gender is a significant factor in pupils perceptions of their suitability for most of the jobs. Ethnicity, school year and achievement in English and Maths were also associated with suitability. However, socio-economic and family characteristics appeared to have a limited influence when other factors were taken into account. In addition, choosing certain subjects to study was linked to perceptions of suitability for some of the jobs and 'traditional' attitudes were associated with feeling suitable for some of the more traditionally 'male' jobs. The importance of various job characteristics were also associated with pupils' perceptions of their suitability for particular jobs.

4.2 RESULTS FROM THE CASE STUDY INTERVIEWS

In order to find out why pupils felt they were personally suited (or not suited) to particular jobs, pupils taking part in the case study interviews were asked why they thought they were 'very suitable' for particular jobs or occupations (if pupils had not indicated 'very suitable' then they were asked about jobs or occupations they thought they were 'suitable' for). Pupils were then also asked why they thought they were 'not suitable at all' for particular jobs or occupations.

Responses to why pupils thought they were 'very suitable' or 'suitable' and why they were 'not suitable at all' could be broadly categorised in terms of interest, aptitude, aspects of the job, knowing someone who did the job and gender stereotyping of the job¹⁴.

4.2.1 Why pupils thought they were suitable for certain jobs/occupations

Pupils who thought they were 'very suitable' or 'suitable' for particular jobs generally explained why in terms of interest or aptitude, with only relatively small numbers referring to the other reasons (none mentioned gender stereotyping of the job).

For instance, being *interested* in a job might take the form of

*"Likes computers" (Statement by a Boy in relation to the job of
Computer/Software Designer)*

"Interests me" (Boy, Engineer)

"I'm into hair" (Girl, Hairdresser/Barber)

"Enjoys bossing people around" (Girl, Manager)

*"Likes to help people" (Girl, Nurse), "Willing to work at this because he likes
it" (Boy, Plumber/Electrician)*

¹⁴ Pupils would sometimes explain why they were 'very suitable', 'suitable' or 'not suitable at all' in terms of a number of different reasons. Some pupils were also quite vague about describing why, particularly when they thought they were 'not suitable at all'. For instance, a number of pupils gave reasons such as "Does not appeal", "Don't like the idea of that". These were eventually categorised as lack of interest.

"Likes to watch TV programmes about how the police work - finds it interesting" (Boy, Police Officer)
"Like meeting new people" (Girl, Shop Worker)

Stating an *aptitude* for a job might take the form of

"Because he is very fit, strong and able to take instructions" (Boy, Armed Forces)
"...Am creative. Have played loads of computer games and am good at them. Have already done web design on the internet" (Boy, Computer/Software Designer)
"Good at sciences" (Boy, GP/Doctor)
"Talkative, funny, makes friends easily. Does sisters hair" (Girl, Hairdresser/Barber)
"Good at arguing and winning" (Girl, Lawyer/Solicitor)
"Well organised. Good at managing people" (Girl, Manager)
"Good at/enjoy working with children...Good communication skills. Good at explaining things..." (Girl, Teacher)
"Gets on well with people" (Girl, Waiter/Waitress)

Eleven pupils stated that they *knew someone* and gave that as a reason (usually because this increased their aptitude) for being 'very suitable' or 'suitable' for a particular job. For instance

"Dad was a Chemist. This has helped knowledge of science careers" (Boy, GP/Doctor)
"Mum is a hairdresser and shares tips regarding hair care" (Girl, Hairdresser/Barber)
"His uncle is a lorry driver and has talked to him about it" (Boy, Lorry Driver)
"Granddad was a plumber" (Boy, Plumber/Electrician)

A small number of pupils mentioned some *aspect of the job* that clearly had attracted them to particular jobs/occupations.

"Can train to be a chef there" (Girl, Armed Forces)
"Good rate of pay" (Boy, Plumber/Electrician)

Note: It was difficult to assign precisely some of the comments made by pupils since some comments could be seen as evidencing interest, aptitude and aspects of the job.

4.2.2 Why pupils thought they were NOT suitable for certain jobs/occupations

Pupils who thought they were 'not suited at all' for particular jobs also explained this in terms of interest or aptitude although reference to perceived undesirable aspects of the job was also common. A small number also used gender stereotyping as a reason and a few pupils mentioned they knew someone who did the job and that put them off.

Many pupils were non-specific about their *lack of interest* in a particular job. For instance:

"Don't not like the idea of being in the Army" (Girl, Armed Forces)
"Wouldn't like that kind of work" (Boy, Care Assistant)
"Wouldn't enjoy it" (Girl, Engineer)
"Don't fancy it" (Boy, Hairdresser/Barber)
"I'm not interested" (Boy, Waiter/Waitress)

Many pupils also felt that they *did not have the aptitude* to do a certain job, in terms of they wouldn't be any good at it, or didn't have the right personality, or were not likely to be able to do it.

"I'm not caring" (Boy, Care Assistant)
"Not patient enough to look after people" (Boy, Care Assistant)
"Not good with computers" (Girl, Computer/Software Designer)
"I'm not good with my hands" (Girl, Engineer)
"No good a Physics" (Girl, Engineer)
"Not brainy enough" (Girl, GP/Doctor)
"Not very strong or very active" (Girl, Labourer)
"Not very good a technical things" (Girl, Plumber/Electrician)
"Not enough patience" (Girl, Teacher)

Comments about *perceived aspects of the job* were also made as reasons why pupils did not consider themselves suited to certain jobs. These sorts of

comments were made across the range of occupations, but some jobs attracted more comments of this nature than others. For instance, most comments about why they were 'not suited at all' to Police Officer were of this kind:

"Dangerous. Scary" (Girl, Police Officer)

"Too much stress" (Boy, Police Officer)

The jobs of Armed Forces, Clerk/Office Assistant, Labourer, Lorry Driver, GP/Doctor and Plumber/Electrician also attracted a number of such comments, such as

"Too dangerous" (Girl, Armed Forces)

"It means going away from family" (Girl, Armed Forces)

"Boring" (Girl, Clerk/Office Assistant)

"Wouldn't like sitting down all day" (Girl, Clerk/Office Assistant)

"Pay poor" (Boy, Labourer)

"Too heavy and dirty" (Girl, Labourer)

"Boring. Hours and pay are terrible" (Girl, Labourer)

"Boring, sitting all day...Poor Pay" (Boy, Lorry Driver)

"Would mean travelling all over the country and I would not want to be away from my family" (Girl, Lorry Driver)

"Don't like blood" (Boy, GP/Doctor)

"Dirty jobs" (Girl, Plumber/Electrician)

"Pay is not good and doesn't take a great amount of work to do" (Girl, Plumber/Electrician).

Only a couple of pupils mentioned that *they know someone who did the job* and that had put them off, for instance

"Gran did it and has put him off. Moaning job, being told all the time. Very hard work" (Boy, Care Assistant)

Twelve pupils mentioned that they weren't suited to a particular job because it is a *"Man's" or "Woman's" job*. Hairdresser/Barber attracted the most comments along these lines: "Not a boy's job", "Women or gay folk do it", "more a woman's job". Either one or two pupils also mentioned this as reason for being 'not suitable at all' for Armed Forces, Engineer, Labourer, Nurse

and Plumber/Electrician. Few pupils mentioned explicitly the fear of social stigma attached to doing a job dominated by another gender, although one boy indicated that his

*"Friends would joke about it because hairdressers are generally women"
(Boy, Hairdresser/Barber),*

It was difficult to ascertain if there were differences between boys and girls in the reasons for thinking they were 'very suitable', 'suitable' or 'not suitable at all' for particular jobs because (a) of the relatively small numbers of pupils whose responses were available for each job and (b) there were sometimes a particularly small number of one gender (sometimes none at all) giving responses and this made comparison with the other gender impossible.

However, one tentative pattern was noticeable in the responses to why pupils thought they were 'very suitable' or 'suitable' for particular jobs. Of the nine pupils who were asked to explain why they thought they were 'very suitable' or 'suitable' for work as a Clerk/Office Assistant, eight were girls and of those, six girls gave "Good with computers" as a reason for thinking this. 14 pupils were asked why they thought they were 'very suitable' or 'suitable' to work as a Computer/Software Designer. 11 of these pupils were boys and of these 7 boys (and also one girl) stated "Good with computers" as a reason. This would seem to suggest that girls who feel that they are "Good with computers" are more likely to feel that makes them more suited for Clerk/Office work rather than Computer/Software Design, whereas the reverse is the case for boys.

4.3 SUMMARY

The survey shows that many occupational preferences remain along traditional lines. Significantly fewer boys than girls feel they are suited to jobs in 'female' areas such as Care Assistant, Hairdressing, Nurse, Teacher and Waiter. Significantly fewer girls than boys feel that are suited to jobs in 'male' areas (particular 'traditional' male jobs) such as Armed Forces, Computer/Software Designer, Engineer, Labourer, Lorry Driver, and Plumber/Electrician. However, women have recently been making inroads into some previously male-dominated professional occupations and this may be reflected in our survey. Given that more girls than boys in the survey

thought they were suited to work as GP/Doctor and Lawyer/Solicitor perhaps these occupations will become increasingly feminised in the future. Few girls feel they are suited to be an Engineer (only 10% compared to 63% of boys). This raises questions about whether initiatives to promote careers in science and engineering among girls, such as WISE and/or SET, operate in the survey schools and age groups¹⁵. For the specific occupations listed in the survey, more boys felt they were suited to 'female' jobs than girls felt they were suited to 'male' jobs. Less than 10% of girls felt they were suited to be an Engineer, Labourer, Lorry Driver or Plumber/Electrician, while only in Hairdresser/Barber did less than 10% of boys feel they were suited.

Perceptions of suitability for certain jobs were principally influenced by levels of achievement in Maths and English, choice of science subjects and differences in job characteristics perceived important by pupils. However, for the most part, it would appear that socio-economic measures do not in themselves affect job aspirations to any great extent¹⁶. Ethnic background, year in school and attitudes had an impact on perceptions of suitability for some jobs.

Results from the case study interviews showed that pupils justified their perceived suitability for certain jobs mainly in terms of their interest or attitude, although knowing someone who did the job was also used as a reason.

Those who felt they were not suited to particular jobs justified this in terms of lack of interest or aptitude, but also perceived negative aspects of the job. A small number of pupils also claimed they were not suited because they were the wrong gender, e.g. "It's a man's/woman's job".

¹⁵ Due to difficulties in contacting representatives from the four case study schools, only data from one school had been gathered at the time of writing.

¹⁶ These measures were imperfect and this finding does not necessarily mean there is no link between socio-economic factors and job aspirations. However, due to the nature of the sample group, more accurate measures could not be used.

Chapter 4: TABLES

(See Appendix A: Technical Notes for explanations of statistical procedures used in the following tables)

Table 4.1.1 Pupil Perceptions of their suitability for Jobs and Occupations

% stating 'very suitable' or 'suitable'.	Boys	Girls	Total	Chi-square sig	ANOVA
Armed Forces	57.7%	19.1%	38.1%	**	**
Care Assistant	15.3%	62.0%	39.2%	**	**
Clerk/Office Assistant	31.3%	52.2%	42.0%	**	**
Computer/Software Designer	58.9%	29.7%	44.1%	**	**
Engineer	63.0%	9.8%	36.0%	**	**
GP/Doctor	28.5%	38.1%	33.4%	**	**
Hairdresser/Barber	9.9%	63.3%	37.0%	**	**
Labourer	28.5%	7.7%	17.9%	**	**
Lawyer/Solicitor	46.5%	50.8%	48.7%	*	
Lorry Driver	35.6%	9.1%	22.2%	**	**
Manager	70.9%	69.1%	70.0%		*
Nurse	11.4%	57.1%	34.7%	**	**
Plumber/Electrician	49.5%	5.4%	27.1%	**	**
Police Officer	52.0%	40.2%	46.0%	**	**
Shop Worker	36.5%	55.7%	46.3%	**	**
Teacher	27.8%	58.7%	43.6%	**	**
Waiter/Waitress	27.8%	64.4%	46.5%	**	**

**significant to 99% level

*significant to 95% level

Table 4.1.2: Pupil Perceptions of their suitability for Jobs and Occupations among S2 Pupils by Area

% stating 'very suitable' or 'suitable'.	West Lothian	Edinburg h	Total	Chi-square sig	ANOVA
Armed Forces	40.7	36.4	37.7		
Care Assistant	41.8	36.7	38.2		
Clerk/Office Assistant	40.5	40.3	40.4		
Computer/Software Designer	46.0	45.8	45.8		
Engineer	41.0	35.6	37.2		
GP/Doctor	35.7	32.0	33.1		
Hairdresser/Barber	37.4	35.4	36.0		
Labourer	19.2	15.7	16.8		*
Lawyer/Solicitor	47.5	47.7	47.6		
Lorry Driver	28.3	19.9	22.4	*	*
Manager	74.4	67.6	69.7	*	*
Nurse	34.7	33.3	33.7		
Plumber/Electrician	28.2	27.0	27.3		
Police Officer	50.2	41.7	44.2	*	
Shop Worker	45.3	44.4	44.6		
Teacher	46.0	41.0	42.5		*
Waiter/Waitress	44.1	42.6	43.0		

**significant to 99% level

*significant to 95% level

Table 4.1.3: Pupil Perceptions of their suitability for Jobs and Occupations by School Year

% stating 'very suitable' or 'suitable'.	S1	S2	S3	Total	Chi-square	ANOV A
Armed Forces	39.5	37.7	39.0	38.3		
Care Assistant	43.5	38.2	39.0	39.0		
Clerk/Office Assistant	38.6	40.4	45.4	42.1		
Computer/Software Designer	47.6	45.8	41.8	44.5		*
Engineer	37.9	37.2	35.0	36.5		
GP/Doctor	34.1	33.1	33.4	33.3		
Hairdresser/Barber	43.8	36.0	36.2	36.8		
Labourer	17.6	16.8	19.8	18.0		
Lawyer/Solicitor	51.0	47.6	49.7	48.7		
Lorry Driver	27.9	22.4	21.1	22.5		
Manager	73.6	69.7	70.0	70.2		
Nurse	38.6	33.7	34.6	34.5		
Plumber/Electrician	28.8	27.3	26.8	27.3		
Police Officer	56.1	44.2	45.8	46.0	*	
Shop Worker	51.2	44.6	47.3	46.3		
Teacher	47.2	42.5	43.6	43.4		
Waiter/Waitress	50.0	43.0	50.0	46.3	*	*

**significant to 99% level

*significant to 95% level

Table 4.1.4: Levels of Chi-square significance for relationship between Perception of suitability for jobs and occupations and Level of achievement

% stating 'very suitable' or 'suitable' (Chi-square) ANOVA	S2 Maths Level	S2 English Level	S3 Maths Level	S3 English Level
Armed Forces	-	*	-	*
Care Assistant	-	-	-	*
Clerk/Office Assistant	-	-	*	**
Computer/Software Designer	-	-	*	*
Engineer	-	-	-	-
GP/Doctor	*	**	**	**
Hairdresser/Barber	*	-	**	*
Labourer	-	-	-	*
Lawyer/Solicitor	**	**	**	**
Lorry Driver	*	**	-	*
Manager	*	*	**	**
Nurse	-	-	-	*
Plumber/Electrician	-	-	-	*
Police Officer	-	-	-	-
Shop Worker	-	-	-	-
Teacher	-	*	**	**
Waiter/Waitress	-	-	-	-

[Note that this table refers to the survey completed and not necessarily the actual year of pupils].

** Significant to 99% level

* Significant to 95% level

Table 4.1.5: Pupil Perceptions of their suitability for Jobs and Occupations by Ethnic Background

% stating 'very suitable' or 'suitable'.	White	Non-White	Total	Chi-square sig	ANOVA
Armed Forces	38.5	36.2	38.4		
Care Assistant	39.4	34.1	39.1		
Clerk/Office Assistant	41.9	43.9	42.0		
Computer/Software Designer	43.1	62.6	44.0	**	**
Engineer	35.8	46.8	36.5	*	*
GP/Doctor	31.9	51.8	33.3	**	**
Hairdresser/Barber	37.0	31.9	36.6		
Labourer	17.8	20.6	18.0		
Lawyer/Solicitor	47.9	60.4	48.7	*	*
Lorry Driver	22.3	25.0	22.5		
Manager	69.9	74.3	70.2		
Nurse	34.3	36.4	34.5		
Plumber/Electrician	27.3	27.3	27.3		
Police Officer	46.4	41.0	46.0		
Shop Worker	46.5	39.9	46.0		
Teacher	43.7	40.3	43.4		
Waiter/Waitress	47.0	35.9	46.2	*	*

**significant to 99% level

*significant to 95% level

Table 4.1.6: Pupil Perceptions of their suitability for Jobs and Occupations by Family

% stating 'very suitable' or 'suitable'.	Both parents	Single parent	'Other'	Total	Chi-square	ANOV A
Armed Forces	36.7	42.6	43.7	38.2		
Care Assistant	38.7	40.8	43.7	39.3		
Clerk/Office Assistant	42.3	42.0	40.8	42.2		
Computer/Software Designer	43.5	48.3	44.1	44.6		
Engineer	35.7	37.3	38.9	36.2		
GP/Doctor	35.6	27.9	28.6	33.7	*	*
Hairdresser/Barber	35.8	40.0	40.3	36.9		
Labourer	17.0	18.7	28.6	17.8	*	
Lawyer/Solicitor	49.1	50.2	41.2	49.1		
Lorry Driver	20.9	23.4	37.7	22.0	*	*
Manager	69.9	71.7	65.7	70.2		
Nurse	35.1	31.6	38.5	34.5		
Plumber/Electrician	25.2	30.8	40.3	26.9	*	
Police Officer	46.8	41.9	52.8	46.0		
Shop Worker	46.4	45.3	42.9	46.1		
Teacher	45.3	38.9	35.7	43.7	*	
Waiter/Waitress	46.8	43.0	49.3	46.1		

**Significant to 99% level

*Significant to 95% level

Table 4.1.7: Pupil Perceptions of their suitability for Jobs and Occupations by their Family-work situation

% stating 'very suitable' or 'suitable'.	Both Parents work full-time	Father works full-time, Mother works part-time	Father works, mother looks after family	Either father or mother unemployed	Chi-square Sig.	ANOVA sig.
Armed Forces	40.7	38.7	34.4	36.3		
Care Assistant	39.8	36.8	36.0	49.0	*	*
Clerk/Office Assistant	44.2	42.6	45.5	38.8		
Computer/Software Designer	43.8	46.4	48.4	41.7		
Engineer	39.4	37.8	30.6	29.6	*	
GP/Doctor	37.4	36.6	30.8	22.1	*	**
Hairdresser/Barber	38.4	32.7	35.8	43.6		*
Labourer	17.3	16.6	17.8	22.1		
Lawyer/Solicitor	55.0	50.2	48.4	39.4	*	*
Lorry Driver	23.4	19.6	20.1	23.3		
Manager	73.6	70.6	71.9	70.1		
Nurse	37.2	33.5	32.7	32.2		
Plumber/Electrician	28.6	28.7	21.9	21.2		*
Police Officer	48.3	43.8	44.0	40.4		*
Shop Worker	47.6	44.3	46.6	50.0		
Teacher	49.6	41.9	44.0	32.9	*	**
Waiter/Waitress	45.5	46.4	42.5	53.7		

**Significant to 99% level

*Significant to 95% level

Table 4.1.8: Binary Logistic Regression Models (WALD) for Pupils' Suitability for Jobs (3 of 4 pages)

	ARMED FORCES	CARE ASSISTANT	CLERK/OFFICE ASSISTANT	COMPUTER/SOFTWARE DSN	ENGINEER	GP/DOCTOR	HAIRDRESSER /BARBER	LABOURER	LAWYER/SOLICITOR	LORRY DRIVER	MANAGER	NURSE	PLUMBER/ELECTRICIAN	POLICE OFFICER	SHOP WORKER	TEACHER	WAITER/WAITRESS
Job Characteristics																	
Helping others		.896 .112	.165 .085			.284 .092						.448 .094				.469 .092	.166 .083
Dealing with the public						.177 .084	.255 .095	.233 .096	.198 .073		.243 .079			.179 .071	.222 .070		
Earns a lot of money	.371 .110						.321 .108				.299 .099						
Involves interests																	
Working with technology	.208 .085	-.186 .085		.626 .091	.522 .094		-.197 .098						.247 .094				-.209 .078
Involves a lot of travel		.165 .078															-.139 .070
Working outdoors	.420 .077		-.332 .070	-.380 .080	.185 .078				-.282 .067				.245 .083	.248 .065			
Being creative	-.174 .077		.180 .067	.193 .077											.149 .062		.141 .066
Good promotion prospects									.254 .083		.304 .088						
Plenty of opportunities for further training								.231 .106						.210 .078		.196 .087	
Means you can live in Edinburgh and Lothians									-.144 .063								
Will fit in well with having a family	.206 .090	.232 .095	.266 .081				.346 .100							.178 .078		.288 .085	.263 .082
Allows you to work flexible hours																	

Table 4.1.8: Binary Logistic Regression Models (WALD) for Pupils' Suitability for Jobs (4 of 4 pages)

	ARMED FORCES	CARE ASSISTANT	CLERK/OFFICE ASSISTANT	COMPUTER/SOFTWARE DSN	ENGINEER	GP/DOCTOR	HAIRDRESSER /BARBER	LABOURER	LAWYER/SOLICITOR	LORRY DRIVER	MANAGER	NURSE	PLUMBER/ELECTRICIAN	POLICE OFFICER	SHOP WORKER	TEACHER	WAITER/WAITRESS
Statistics for the Models																	
Overall Explained (%)	75.4	76.5	64.0	74.1	78.9	72.4	80.6	80.7	66.2	80.2	76.1	74.7	79.0	61.1	60.0	70.1	67.8
'Suitable' or 'very suitable' explained (%)	60.9	72	52.5	64.6	68.1	48.4	75.2	3.8	78.1	14.2	97.9	80.0	61.1	52.5	52.9	69.2	67.3
'Neither', 'Not suitable' or 'Not suitable at all' explained (%)	82.5	79.5	75.6	81.3	84.1	86.2	83.7	99.1	51.1	96.4	12.1	71.5	85.7	68.8	66.3	70.9	68.3
N	874	876	868	860	875	876	878	810	868	859	877	871	863	877	876	876	879bv

Notes: Note: Pupils at Bathgate, Broxburn, St. Margarets and West Calder excluded. 52 pupils also excluded. (See Appendix A Technical Notes for full details).

5. JOB CHARACTERISTICS AND INDUSTRIAL SECTORS

In this section, the characteristics of jobs that pupils rate as important, the sectors of work they would like to work in, and their attitudes towards self-employment will be examined.

5.1 JOB CHARACTERISTICS

Respondents were asked to rate how important certain job characteristics were (on a 5-point scale). Significantly more girls than boys rated 'Helping others', and 'Dealing with the public' as more important. Boys, however, rated 'Earn a lot of money', 'Working with technology', 'Involves a lot of travel', 'Working outdoors', 'Good promotion prospects' and 'Means you can live in Edinburgh and the Lothians' as more important than girls. There were no significant differences between boys and girls when it came to 'Involves your interests', 'Fit in well with having a family', 'Being creative', 'Plenty of opportunities for further training' and 'Allows you to work flexible hours'. [See Table 5.1]

5.2 INDUSTRIAL SECTORS

The survey asked pupils to indicate (on a 4-point scale 'A lot', 'Some', 'A little', 'Not at all') how much they would like to work in a number of areas of work. The sectors of work that were particularly unpopular among girls included: Engineering, maintenance and garage work (with 78% saying they would not at all like to work in this area); Construction (73% 'not at all'); Transport, wholesale and delivery (70% 'not at all'); Processing, manufacture and assembly work (59%), and; Technical and scientific (52%). While there were a number of sectors that boys were more likely to say 'not at all' than girls, there was never more than 46% of boys saying this. On the whole, the areas that boys were less keen on working in included: Hotel and Catering (46% compared to 20%), Personal service and retail (37% compared to 26%), and Community and health services (39% compared to 19%). [See Table 5.2]

5.3 ATTITUDES TO SELF-EMPLOYMENT

The questionnaires included four questions asking what pupils thought of self-employment (defined as working for yourself rather than someone else). The idea of being one's own boss was popular among the pupils although there was a perception that being self-employed was risky

among over half the pupils. When it came to whether pupils would like to be self-employed if they got the chance or whether they would rather work for someone else, a greater proportion indicated that they would rather work for someone else (38% compared to 29%). However, there was a high proportion of pupils who stated 'Don't know' to all these questions. This perhaps indicates a lack of knowledge about self-employment (for instance 27% felt they didn't know if being self-employed was very risky), as well as indecision about which they might prefer (40% and 42% didn't know whether they would like to be self-employed or work for someone else). [See Table 5.3]

Self-employment was less popular among girls than boys in this sample, although girls were also more uncertain. Fewer girls than boys agreed that 'It would be good to be your own boss' (68% compared to 75%). Girls were more likely to say they would prefer to 'work for someone else' than boys (41% compared to 35%) and less likely to agree that 'I would like to be self-employed if I got the chance' (25% of girls compared to 33% of boys). [See Table 5.3]

5.4 SUMMARY

There were significant differences between boys and girls in some of the job aspects that they rated as important. In common with earlier research¹⁷, girls rated 'Helping others' and 'Dealing with the public' as more important than did boys. Girls also rated 'Allows you to work flexible hours' as more important than boys. However, 'Earn a lot of money', 'Working with technology', 'Means you can live in Edinburgh and Lothians', 'Involves a lot of travel', 'Working outdoors', 'Being creative' and 'Good promotion prospects' were all rated as more important by boys than girls.

There were strong preferences by boys and, in particular, girls against working in sectors and industries that were traditionally the domain of the opposite sex. For instance, many girls stated they would 'not at all' like to work in either Engineering, maintenance and garage work (78%), Construction (73%) and Transport, wholesale and delivery (70%). Although some boys were negative about areas of work, they were not as negative as girls (for instance, hotel and catering was the sector where

¹⁷ Eccles, J. S. (1994) 'Understanding Women's Educational and Occupational Choices: Applying the Eccles et al. Model of Achievement-Related Choices', in *Psychology of Women Quarterly*, Vol. 18.

the highest proportion of boys (46%) would 'not at all' like to work). Hence, industrial segregation is also clearly an important issue as well as occupational segregation, and pupils' (particularly girls') negativity to certain sectors needs to be addressed. However, these findings may partly relate to pupils' understanding of and the nature of the sectors.

Our survey confirmed findings from the Scottish School Leavers Survey about attitudes to self-employment. While many pupils expressed an interest in self-employment, they were cautious of the difficulties. There was also a lack of knowledge and/or decision among many about self-employment. Boys also viewed self-employment more positively than girls.

Chapter 5: TABLES

Table 5.1: Importance of Job Characteristics in Future Jobs

% stating 'very important' or 'important'.	Boys	Girls	Total	Chi-square	ANOVA
Helping others	67.4%	83.3%	75.5%	**	**
Dealing with the public	54.9%	62.6%	58.8%	**	**
Earn a lot of money	91.4%	83.5%	87.4%	**	**
Involves your interests	91.4%	93.1%	92.3%		
Working with technology	65.3%	26.7%	45.7%	**	**
Means you can live in Edinburgh and the Lothians	50.8%	46.8%	48.8%	*	*
Fit well with having a family	75.6%	74.8%	75.2%		
Involves a lot of travel	32.1%	24.1%	28.1%	**	**
Working outdoors	45.4%	23.8%	34.5%	**	**
Being creative	60.8%	55.2%	58.0%	*	
Plenty of opportunities for further training	75.1%	76.1%	75.6%		
Allows you to work flexible hours	72.5%	76.2%	74.4%	*	
Good promotion prospects	84.2%	80.0%	82.1%	*	*

**Significant to 99% level

*Significant to 95% level

Table 5.2: Proportion of Boys and Girls who would "Not at All" want to work in particular areas of Work

% stating 'Not at all'	Boys	Girls	Total	Chi-square sig	ANOVA
Administration, clerical and office work	34.7%	29.3%	31.9%	*	*
Agriculture, horticulture, forestry and work with animals	43.7	39.5	41.5	*	*
Art, design and other creative work	28.0	21.6	24.7%	**	**
Engineering, maintenance and garage work	17.5	78.5	48.5	**	**
Technical and scientific	18.7%	51.6%	35.5%	**	**
Processing, manufacture and assembly work	30.1	59.4	45.1	**	**
Construction	24.6	72.6	49.0	**	**
Hotel and catering	46.2	20.1	32.9	**	**
Personal service and retail	37.4	26.3	31.7	**	**
Community and health services	39.3	19.4	29.1	**	**
Transport, wholesale and delivery	37.8	69.6	54.0	**	**

**Significant to 99% level

*Significant to 95% level

Table 5.3: Opinions about self-employment

It would be good to be your own boss	Boys	Girls	Total	Chi-square
Agree	74.6	67.9	71.2	
Disagree	10.3	11.4	10.8	
Don't know	15.1	20.7	18.0	
Total	1040	1071	2111	*
Being self-employed is very risky	Boys	Girls	Total	Chi-square
Agree	55.9	48.5	52.1	
Disagree	20.9	21.0	20.9	
Don't know	23.2	30.6	27.0	
Total	1034	1069	2103	**
I would like to be self-employed if I got the chance	Boys	Girls	Total	Chi-square
Agree	32.6	25.4	28.9	
Disagree	28.4	30.6	29.5	
Don't know	39.0	44.0	41.5	
Total	1034	1070	2104	**
I'd rather work for someone else	Boys	Girls	Total	Chi-square
Agree	34.5	41.3	38.0	
Disagree	26.8	16.9	21.8	
Don't know	38.7	41.8	40.3	
Total	1037	1072	21109	**

**Significant to 99% level

*Significant to 95% level

6. PUPIL'S VIEWS ON CAREER AND JOB CHOICES: RESULTS FROM THE CASE STUDY INTERVIEWS

The survey was not able to elicit actual job and career choices of pupils¹⁸, therefore this was examined in the case study interviews. The reasons why pupils wanted to do their chosen job/career and the influence of role models will be covered, as will work experience.

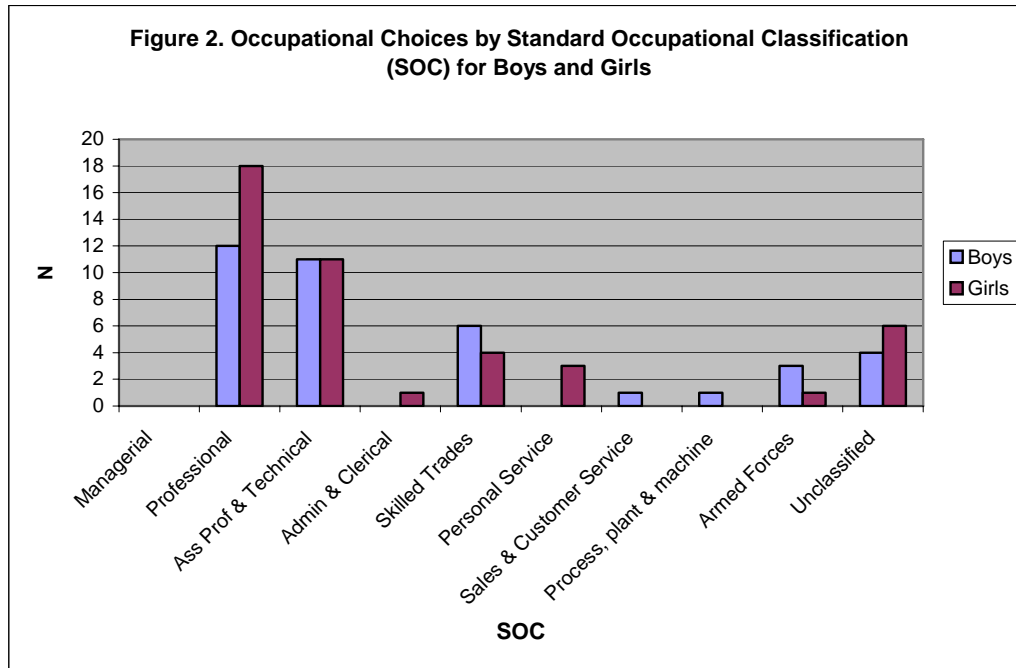
6.1 CAREER/JOB CHOICES

The majority of pupils claimed that they had thought 'quite a lot' about the jobs and careers they would like to do when they eventually leave school. Only 5 pupils in total said they had 'not at all' thought about this [Table 6.1].

Pupils were asked what job they would realistically like to do in the future. They could specify up to two jobs they were considering. All pupils specified at least one job which was their favourite choice (or in some cases type of job, for instance, 'something with Science') and 39 pupils also specified an additional job (second favourite). Table 6.2 outlines the first and second choices of boys and girls. However, most of the following analysis will be based on pupils first choice (merging of both first and second choices would lead to double counting of pupils and would skew the results).

Figure 2 presents the numbers of boys and girls whose first job choice falls into SOC codes [Also see Table 6.3 for percentages]

¹⁸ The question was not asked on the self-completion survey because this was considered an inadequate and unreliable means to illicit the information required. Also, the additional coding of a large number of self-reported jobs and careers, was outwith the resources of the project.



'Professional' jobs were the most popular choices among the pupils, with slightly more girls wanting to do these jobs than boys (nearly 41% of girls compared to nearly 32% of boys) although this was not statistically significant. Associate Professional and Technical jobs were also quite popular, with nearly 27% of pupils mentioning jobs that fitted into this category. Similar proportions of boys and girls specified these jobs. 12% of pupils specified jobs that are 'Skilled Trades' with nearly 16% of boys and 9% of girls indicating these jobs. However, of the 4 girls who choose these jobs, all wanted to work as a Chef or in cooking and catering. Other categories of work such as 'Administrative and Clerical', 'Personal Service', 'Sales and Customer Service' and 'Process, Plant and Machine Operatives' were unpopular as job choices for most of the pupils. Aspirations for future jobs would therefore appear to be high among this sample of pupils. However, 'Professional' and 'Associate Professional and Technical' jobs may be more easily identified by young people (eg. doctor, lawyer, nurse etc.) than jobs in other SOC categories.

6.2 EXPLANATIONS OF JOB/CAREER CHOICES

6.2.1 Job Characteristics

Pupils were asked why they would particularly like to do the jobs they had indicated. Responses were coded into the categories used in the Job Characteristics section of the survey: Helping others, Dealing with the

public, Earn a lot of money, Involves interests, Working with technology, Means you can live locally, Will fit in well with having a family, Involves a lot of travel, Working outdoors, Being creative, Plenty of opportunities for further training, Allows you to work flexible hours and Good promotion prospects. In addition, 'Enjoy subjects related to the job' was added as a category. Pupils were able to list as many reasons as they wished and responses given by boys and girls for their first choice of job were analysed (See Table 6.4).

There was also a large number of 'other' responses (with some 61% mentioning these as a reason for choosing their first job). These were specific to the particular job named and, given the wide range of choices, could not be readily classified.

Of the general job characteristics mentioned, 'Involves interests' was the most popular reason for choosing a job with nearly 49% of pupils mentioning this. 'Helping others', 'Earns a lot of money' and 'Enjoy subjects related to the job' were each mentioned by between 31% and 33% of pupils. Other reasons were mentioned only by a small number of pupils. These included 'Allows you to work flexible hours' (1.2%), 'Fit in well with having a family' (4.9%) and 'Means you can live in Edinburgh and Lothians' (6.1%).

There were also differences in reasons given between boys and girls. 'Dealing with the public' was given as a reason by 25% of girls compared to only 10% of boys and 'Being creative' was mentioned by 25% of girls compared to only 8% of boys. 'Earns a lot of money', 'Working with technology' and 'Involves a lot of travel' were mentioned by more boys than girls. There were differences by gender for other reasons, for instance 'Helping others', 'Involves interests', 'Working outdoors' and 'Enjoy subjects related to the job'. Given the small sample size and the unavailability of statistical tests for multiple responses, caution is advised in assuming differences. However, it is clear that, on the whole, boys and girls often have different reasons for wanting to do their chosen jobs.

6.2.3 Levels of Achievement

An examination of job choices by levels of achievement in Maths and English shows that those studying at Credit level are more likely to choose jobs in the 'Professional' SOC category than those who are not

[See Tables 6.6 & 6.7]. Nearly 57% of pupils at Credit in Maths and 46% of pupils at Credit in English chose 'Professional' jobs compared to 22% of pupils not doing so in Maths and 27% not doing so at English. Very few pupils studying at Credit level in Maths and English (but particularly in Maths¹⁹) choose jobs that were not at either 'Professional' or 'Associate Professional' levels. Those who were not studying Credit in these subjects chose jobs from a wider range of SOC categories although the most popular job choices were at 'Associate Professional and Technical' level (32% of those studying Maths and 27% studying English), with 'Skilled Trades' being the third most popular job choices after 'Professional'. It is questionable whether those who are not studying at Credit level in these subjects will be able to go on and do jobs at the 'Professional' level since most require a Degree level qualification.

6.2.4 Family Employment Background

Job choices were also examined by the jobs done by pupils' parents. Pupils were asked for the occupation/job of their mother/step-mother and their father/step-father. Of those pupils whose parents were in employment, their jobs were coded according to the SOC codes. Responses that could not be coded were counted as 'Unclassified' [See Tables 6.8 & 6.9].

Pupils' choice of job appeared to be relatively unrelated to their mother's (or step-mother's) actual job. For instance, 41% of pupils whose mothers were in the 'Managerial', 'Professional' or 'Associate Professional and Technical' categories favoured a 'Professional' job, compared to 36% of those whose mothers were in other occupational categories and this small difference was not statistically significant. However, the differences in pupils' choices does appear to vary much more depending on their father's SOC (this was statistically significant). 63% of pupils with fathers (or step-fathers) in the 'Managerial', 'Professional' and 'Associate Professional and Technical' categories wanted to do a 'Professional' job compared to only 24% of pupils whose fathers were in other occupational categories. Very few pupils whose fathers were in the higher SOC wanted to do jobs other than 'Professional' and 'Associate Professional and Technical'. This was less the case for pupils whose fathers were other SOC categories. Based on this sample of pupils, it would therefore

¹⁹ More pupils were studying English at Credit level than Maths (43 compared to 37), therefore this partly explains the wider spread of job choices among Credit English pupils.

appear that pupils choice of future job is related to fathers SOC but not to mothers SOC.

6.2.5 Local Context: School

The job choices of pupils were also examined by case study school [Table 6.10]. However, when the data is disaggregated to this level, the numbers become very small and it is difficult to draw any valid conclusions.

6.2.6 Role Models

54% of pupils said they knew someone who did their first favourite job and 67% of those who named a second favourite job (n=39) said they knew someone who did this job. In total, 68% of pupils (n=56) knew someone who did either their first or second favourite job. A higher proportion of boys than girls said they know someone who did either their first or second job (76% of boys compared to 61% of girls).

Out of a total of 73 jobs that were mentioned by 56 pupils, Table 6.11 shows the relationship between the pupil and the person who did the job. Over 27% of pupils mentioned other family members (eg. sisters, brothers, uncles, aunts, grandparents etc.), while 26% mentioned 'other' such as teacher, coach etc., and 26% mentioned family friend. Relatively small numbers of pupils mentioned father or step-father (14%) and even fewer mother or step-mother (7%). Only 6% of pupils explicitly mentioned someone on TV or in the media. However, when pupils were asked if they knew someone who does their chosen job, many may have interpreted this as 'knew personally'. Therefore, the research could not accurately ascertain the influence of the TV and media on pupil's careers choices.

In order to ascertain the importance of same-gender role models, the proportion of boys and girls who indicated male, female and both sexes as role models were examined [Table 6.12]. 73% of the jobs mentioned by boys were done by men whereas 53% of the jobs mentioned by girls were done by women. Roughly equal proportions of boys and girls mentioned 'both sexes' (24% of boys and 22% of girls). While, same gender role models are clearly important for both boys and girls, they would appear to be more important for the boys in this sample. However, it is difficult to draw definite conclusions here due to the small sample size.

58% of pupils indicated that they had talked to the named person about doing their job choice of job and 56% of pupils who had mentioned a second job choice had also talked to a named person about the job. In total, some 64% of pupils (n=36) had talked to a known person about either their first or second choice of job.

6.2.7 Work Experience

The final question on the interview schedules asked pupils if they had any work experience, including part-time or holiday jobs. This question was not completed for pupils at Liberton. However, in the other three schools 27 pupils did have some sort of work experience compared to 34 who did not (one missing case).

Of those who had some sort of work experience, 16 were girls and 11 were boys. The majority were in S4 (n=18), although some were also in S3 (n=9). Over half of pupils at Firhill had work experience (n=12), while under half at Deans (n=6) and Armadale (n=9) had so.

Seven pupils explicitly stated that the work experience was part of a school placement (2 at Firhill and 5 at Armadale). The most common form of working experience among the pupils was doing a paper round (n=8), although other jobs varied from Retail Assistants, Landscape Architecture, Hairdressing, Joinery, Under 10's football coach, Nursing Assistant, working in a Dog's Home, a motor auction, in a garage to grouse beating. Nine pupils claimed to have done these jobs in order to earn money and 15 pupils said they would do the same sort of work again. However, it was clear that a number of pupils were not thinking of these sorts of jobs as careers, but a way of earning money. For instance, a boy who had been a Waiter said '*Yes [I would do this again], as a way of earning extra money while studying*' (S4 Armadale). However, one boy's work experience in a garage had more of a lasting impact '*I would like to be an apprentice*' (S4, Armadale).²⁰

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There was limited detail gathered from the pupils about their attitudes to their work experience, and therefore it is not possible to glean any further trends among the sample of pupils.

6.3 SUMMARY

Aspirations for future jobs appeared to be fairly high among the sample of pupils. The majority of pupils aspired to jobs that fell into the Standard Occupational Classification (SOC) of Professional and Associate Professional. Given the wide range of occupational choices and the relatively small numbers of pupils interviewed, it was not possible to perceive statistical differences between boys and girls based on SOC.

The key reasons why pupils choose particular jobs appear to be based on interest (and 'Enjoy subjects related to the job' may also be included in this). However, there is clearly also a key drive in some pupils to 'Earn a lot of money' and to 'Help others'.

There appeared to be differences in reasons given for wanting to do their chosen jobs between boys and girls, although this is best illustrated in the section on Job Characteristics.

Pupils at Credit in Maths or English were more likely to choose Professional jobs than pupils who were not at Credit in these subjects.

Pupils' choices of future jobs appeared to be related to their fathers' SOC, but not to their mothers' SOC, with a higher proportion of pupils whose fathers (or step-fathers) worked in 'Managerial', 'Professional' and 'Associate Professional and Technical' wanting to work in 'Professional' jobs.

68% of pupils knew someone who either did their first or second choice of jobs. These included other family members, others, family friends, although only relatively small numbers mentioned their parents (particularly their mothers). Of those who indicated that they knew someone who did their chosen job, the majority of boys said these were male and just over half of girls said these were female. Around 23% of both girls and boys said they were both male and female. Same gender role models would appear to be important for both boys and girls, but particularly for boys. There are many complex issues tied up in these findings, including the gender splits in growing and declining industries. One is that boys may often still be focusing upon male dominated careers which are often declining (e.g. parts of manufacturing), while girls may be focusing somewhat more on the expanding parts of the economy (such as service sectors with more female workers).

44% of pupils had some work experience, including part-time and holiday jobs. While the research established that work experience was fairly common among the pupils interviewed, the link between work experience and gender stereotyping was not explored. However, this has been explored elsewhere.²¹

²¹ Hamilton, S. (2002) 'Equality in education: Work experience placements', SCRE Research Findings, University of Glasgow

Chapter 6: TABLES

Table 6.1: How much Pupils had thought about future career choices (N)

	Male	Female	N
Quite a lot	25	26	51
Some	6	7	13
A bit	5	8	13
Not at all	2	3	82

Table 6.2: Occupational Choices of Pupils: First and Second Choices

Occupation	First Choice		Second Choice		Total	
	No. Boys	No. Girls	No. Boys	No. Girls	Boys	Girls
Management						
Hotel Manager				1		1
<i>Total</i>				<i>1</i>		<i>1</i>
Professional						
Accountant	1				1	
Architect	1		1	1	2	1
Astrophysicist				1		1
Biochemist		1				1
Computer programmer/ Software Development	3		1		4	
Dietician		1				1
Doctor	1	3	1		2	3
Engineer (mechanical)	1				1	
Forensic Scientist	1				1	
Graphic/Web Designer	1				1	
Pathologist		1				1
Pharmacist			1		1	
Social Worker				1		1
Solicitor/Law	1	3			1	3
Teacher	2	8	1	2	3	10
Vet		1				1
<i>Total</i>	<i>12</i>	<i>18</i>	<i>5</i>	<i>5</i>	<i>17</i>	<i>22</i>

**Table 6.2: Occupational Choices of Pupils: First and Second Choices
Cont.**

Associate Professional & Technical						
Actor	1				1	
Beauty Therapist		2		1		3
Fashion Designer				1		1
Footballer	1				1	
Football Coach	1				1	
Fitness InstructOr	1				1	
Gymnastic Coach		1				1
Interior Designer		2		1		3
Interpreter			1		1	
Journalist	1				1	
Musician				1		1
Nurse		2				2
Physiotherapist	3	1			3	1
Police Officer	2	2	2		4	2
Speech Therapist		1				1
Train Driver	1				1	
<i>Total</i>	<i>11</i>	<i>11</i>	<i>3</i>	<i>4</i>	<i>14</i>	<i>15</i>
Administration and Clerical						
Office Junior		1			1	
Office Work				1		1
<i>Total</i>		<i>1</i>		<i>1</i>	<i>1</i>	<i>1</i>
Skilled Trades						
Chef	1	2		2	1	4
Cooking/catering			1		1	
Electrician	2				2	
Joiner	1		2		4	
Mechanic	1	1	2		3	1
Plumber	1				1	
<i>Total</i>	<i>6</i>	<i>3</i>	<i>5</i>	<i>2</i>	<i>11</i>	<i>5</i>

**Table 6.2: Occupational Choices of Pupils: First and Second Choices
Cont**

Personal and Protective						
Air Hostess		1				1
Hairdresser		3				3
Nursery Nurse				2		2
Pest Controller				1		1
<i>Total</i>		4		3		7
Sales						
Car sales	1				1	
Travel Representative				1		1
<i>Total</i>	1			1	1	1
Process and Plant Operatives						
Lorry Driver	1		1		2	
<i>Total</i>	1		1		2	
Armed Forces						
Armed Forces/Army	1	1		1	1	2
RAF	2				2	
<i>Total</i>	3	1		1	3	2
Other (unclassified)						
Building			1		1	
Career using Science		1	1		1	1
Career with music		1				1
Design		1				1
Designing planes	1				1	
Dolphin Trainer		1				1
Medical career				1		1
Running own business			1		1	
Sport and Leisure	1				1	
Work with animals		1		1		2
Work with children		1		1		2
Work with computers	1				1	
Work with figures, maths	1				1	
Wrestling			1		1	
<i>Total</i>	4	6	4	3	8	9
TOTAL (ALL)						
	38	44	18	21	56	65 (64)

Table 6.3: SOC Codes of Occupational Choices

	Boys	Girls	Total
Managerial	0	0	0
Professional	31.6% (12)	40.9% (18)	36.6% (30)
Associate Professional and Technical	28.9% (11)	25.0% (11)	26.8% (22)
Administrative and Clerical	0	2.3% (1)	1.2% (1)
Skilled Trades	15.8% (6)	9.1% (4)	12.2% (10)
Personal Service	0	6.8% (3)	3.7% (3)
Sales and Customer Service	2.6% (1)		1.2% (1)
Process, plant and machine operatives	2.6% (1)		1.2% (1)
Armed Forces	7.9% (3)	2.3% (1)	4.9% (4)
Unclassified*	10.5% (4)	13.6% (6)	12.2% (10)
Total	38	44	82

*This category includes choices that could not be classified using the SOC system. For instance, many of these involved general choices 'Work with animals' etc.

Chi-square sig=.377

Table 6.4 Reasons for Choosing First Occupation/Job: Job Characteristics

	Boys % (N)	Girls % (N)	Total % (N)
Helping others	28.9% (11)	36.4% (16)	32.9% (27)
Dealing with the public	10.5% (4)	25.0% (11)	18.3% (15)
Earn a lot of money	42.1% (16)	22.7% (10)	31.7% (26)
Involves interests	44.7% (17)	52.3% (23)	48.8% (40)
Working with technology	26.3% (10)	4.5% (2)	14.6% (12)
Means you can live locally	7.9% (3)	4.5% (2)	6.1% (5)
Will fit in well with having a family	2.6% (1)	6.8% (3)	4.9% (4)
Involves a lot of travel	18.4% (7)	4.5% (2)	11.0% (9)
Working outdoors	10.5% (4)	6.8% (3)	8.5% (7)
Being creative	7.9% (3)	25.0% (11)	17.1% (14)
Plenty of opportunities for further training	13.2% (5)	9.1% (4)	11.0% (9)
Allows you to work flexible hours	0	2.3% (1)	1.2% (1)
Good promotion prospects	15.8% (6)	11.4% (5)	13.4% (11)
Enjoy the subjects related to the job	28.9% (11)	34.1% (15)	31.7% (26)
Other	71.1% (26)	52.3% (23)	61.0% (50)
Total	46.3% (38)	53.7% (44)	100% (82)

*The table presented is multiple response since pupils gave multiple responses.

Table 6.5: Proportions of Pupils indicating the Job Characteristics that were 'Very important' in their future jobs

'Very important'	Boys % (N)	Girls % (N)	Total % (N)	N
Helping others	26.3% (10)	34.1% (15)	30.5% (25)	82
Dealing with the public	23.7% (9)	32.6% (14)	28.4% (23)	81
Earn a lot of money	34.2% (13)	29.5% (13)	31.7% (26)	82
Involves interests	64.9% (24)	65.9% (29)	65.4% (53)	81
Working with technology	28.9% (11)	9.1% (4)	18.3% (15)	82
Means you can live locally	15.8% (6)	22.7% (10)	19.5% (16)	82
Will fit in well with having a family	31.6% (12)	25.6% (11)	28.4% (23)	81
Involves a lot of travel	21.1% (8)	2.3% (1)	11.0% (9)	82
Working outdoors	18.4% (7)	9.2% (4)	13.4% (11)	82
Being creative	10.5% (4)	13.6% (6)	12.2% (10)	82
Plenty of opportunities for further training	31.6% (12)	36.4% (16)	34.1% (28)	82
Allows you to work flexible hours	31.6% (12)	29.5% (13)	20.7% (17)	82
Good promotion prospects	42.1% (16)	29.5% (13)	35.4% (29)	82

Table 6.6: Job Choices (SOC) by Level of Achievement in Maths

Job Choices (SOC)	Credit % (N)	Other % (N)	Total % (N)
Professional	56.8% (21)	22.0% (9)	38.5% (30)
Associate Professional and Technical	21.6% (8)	31.7% (13)	26.9% (21)
Administrative and Clerical		2.4% (1)	1.3% (1)
Skilled Trades	5.4% (2)	17.1% (7)	11.5% (9)
Personal Service		7.3% (3)	11.5% (9)
Sales and Customer Service		2.4% (1)	1.3% (1)
Process, plant and machine operatives		2.4% (1)	1.3% (1)
Armed Forces		7.3% (3)	3.8% (3)
Unclassified	16.2% (6)	7.3% (3)	11.5% (9)
Total	37	41	78

chi-square sig=.017

Table 6.7: Job Choices (SOC) by Level of Achievement in English

Job Choices (SOC)	Credit % (N)	Other % (N)	Total % (N)
Professional	46.5% (20)	27.3% (9)	38.2% (29)
Associate Professional and Technical	20.9% (9)	27.3% (9)	23.7% (18)
Administrative and Clerical	2.3% (1)		1.3% (1)
Skilled Trades	2.3% (1)	24.2% (8)	11.8% (9)
Personal Service	2.3% (1)	6.1% (2)	3.9% (3)
Sales and Customer Service	2.3% (1)		1.3% (1)
Process, plant and machine operatives		3.0% (1)	1.3% (1)
Armed Forces	4.7% (2)	6.1% (2)	5.3% (4)
Unclassified	18.6% (8)	6.1% (2)	13.2% (10)
Total	43	33	76

Chi-square sig=.050

Table 6.8: Job Choices (SOC) by Mothers Occupation (SOC)

Mothers Occupation (SOC)	Managerial, Professional and Ass. Professional and Technical	Others (inc. Armed Forces)	Total
Job Choices (SOC)			
Professional	40.9% (9)	36.4% (16)	37.9% (25)
Associate Professional and Technical	27.3% (6)	29.5% (13)	28.8% (19)
Administrative and Clerical	0	0	0
Skilled Trades	9.1% (2)	11.4% (5)	10.6% (7)
Personal Service	0	6.8% (3)	4.5% (3)
Sales and Customer Service	0	0	0
Process, plant and machine operatives	4.5% (1)		1.5% (1)
Armed Forces		4.5% (2)	3.0% (2)
Unclassified	18.2% (4)	11.4% (5)	13.6% (9)
Total	22	44	66

Chi-square: not significant

Table 6.9: Job Choices (SOC) by Fathers Occupation (SOC)

Father's Occupation (SOC)	Managerial, Professional and Ass. Professional and Technical	Others (inc. Armed Forces)	Total
Job Choices (SOC)			
Professional	63.3% (19)	23.7% (9)	41.2% (28)
Associate Professional and Technical	20.0% (6)	34.2% (13)	27.9% (19)
Administrative and Clerical	0	0	0
Skilled Trades	3.3% (1)	18.4% (7)	11.8% (8)
Personal Service		7.9% (3)	4.4% (3)
Sales and Customer Service		2.6% (1)	1.5% (1)
Process, plant and machine operatives		2.6% (1)	1.5% (1)
Armed Forces	0	0	0
Unclassified	13.3% (4)	10.5% (4)	11.8% (8)
Total	30	38	68

Chi-square significance= .021

Table 6.10: Job Choices (SOC) by Case Study School

	Firhill	Deans	Armadale	Liberton	N
Professional	38.1% (8)	38.1% (8)	45.0% (9)	25.0% (5)	36.6% (30)
Associate Professional and Technical	33.3% (7)	19.0% (4)	25.0% (5)	30.0% (6)	26.8% (22)
Administrative and Clerical				5.0% (1)	1.2% (1)
Skilled Trades	19.0% (4)	4.8% (1)	10.0% (2)	5.0% (1)	12.2% (10)
Personal Service				15.0% (3)	3.7% (3)
Sales and Customer Service		4.8% (1)			1.2% (1)
Process, plant and machine operatives			5.0% (1)		1.2% (1)
Armed Forces		9.5% (2)		10.0% (2)	4.9% (4)
Unclassified	9.5% (2)	23.8% (5)	15.0% (3)		12.2% (10)
Total	21	21	20	20	82

Chi-square sig=.141

Table 6.11: Relationship of Pupil to Person they Know Who does their Chosen Jobs (First & Second Choices)

	%
Mother/step-mother	6.8%
Father/step-father	13.7%
Family friend	20.5%
Other family member	27.4%
TV	5.5%
Other	26%

Table 6.12: Gender of Known Person who does chosen jobs by Boys and Girls

	Boys	Girls	N (%)
Male	70.3% (26)	25% (2)	47.9% (35)
Female	5.4% (2)	52.8% (19)	28.8% (21)
Both	24.3% (9)	22.2% (8)	23.3% (17)
Total	37	36	73

7. LINKS BETWEEN PUPIL'S GENDER STEREOTYPING AND JOB SUITABILITY

This section examines whether gender stereotyping of jobs is linked to actual perceptions of a pupil's suitability for those jobs. Are their views on stereotyping of jobs in general likely to influence their own choices?

7.1 RESULTS FROM THE SURVEY

While girls appear to be more liberal when it comes to gender stereotyping of jobs and occupations and men's and women's roles in society (See Chapter 3.1), this does not appear to necessarily translate into their own choices. The proportion of girls who felt they were suited to work in traditional 'male' jobs or would like to work in traditional 'male' sectors was even lower than the proportions of boys who indicated preferences for 'female' jobs and sectors [See Table 5.2], and the proportions of girls feeling suited to certain traditional male jobs is still very low, in particular for Engineer, Armed Forces, Plumber/Electrician, Lorry Driver, Labourer [See Table 4.1].

However, correlations [Table 7] between perceived job suitability and gender stereotyping of jobs (i.e. where pupils thought 'both' men and women are suitable for particular occupations), shows that, for certain occupations, where boys and girls have stated 'both' men and women are suited²², were also more likely to state that they themselves were more suited to that job.

For instance, girls who state that 'both' men and women are suited to Armed Forces, Computer/Software Designer, Engineer, Labourer, Manager, Lorry Driver, Plumber/Electrician and Police Officer were more likely to feel better suited to those jobs themselves. Likewise, boys who think 'both' were suited to Care Assistant, Clerk/Office Assistant, Hairdresser/Barber and Nurse were more likely to state they were themselves more suited to those jobs. Therefore, increased liberalism

²² Where pupils did not state 'both' for a job or occupations, the vast majority selected a particular gender. For instance, while 52% of pupils thought 'both' were suited to Armed Forces, over 47% thought this was suited to 'men' and less than 1% thought this was suited to 'women'. Where a higher proportion of pupils thought 'both' were suited to a job, then there tended to be a more mixed response from other pupils as to whether 'men' or 'women' were best suited, although one gender was still always dominant. For instance, 84% of pupils thought GP/Doctor was suited to both, 10% said 'male' and 4% said 'female'.

about gender roles of jobs and occupations is linked to actual choices, although the size of this influence may be relatively small.

Further analysis using crosstabulations (Tables not presented) also show that where boys perceive men to be more suited in the male dominated jobs, they were more likely to perceived themselves as suitable. Likewise for girls, in female dominated jobs where girls perceived women to be better suited, they perceived themselves to also be more personally suited to these jobs.

These findings highlight the link between perceptions of gender suitability for jobs and own suitability. However, it is difficult to ascertain the direction of causality. For instance, do attitudes to gender suitability for jobs influence pupils perceptions of their own suitability, or do perceptions of own suitability influence attitudes to gender suitability for jobs? In reality, it is likely to be a two-way process. Further research would be required to ascertain the precise nature of the relationship.

7.2 SUMMARY

Girls who stated that 'both' men and women were suited to a traditionally 'male' job, were also more likely to feel themselves better suited to that particular job. Similarly, boys who stated that 'both' were suited to a traditionally 'female' job were more likely to feel themselves better suited to that particular job. However, it is unclear whether attitudes to gender suitability for jobs influence pupils perceptions of their own suitability or whether perceptions of their own suitability influence their attitudes to gender suitability for jobs.

However, even though we established that girls were less gender stereotyping of jobs than boys, there are still substantial differences between boys and girls in the actual perceptions of their own suitability for particular jobs and work sectors.

Chapter 7: TABLE**Table 7: Correlations: How Suitable Boys And Girls (Separately) Thought They Were By If They Thought 'Both' Men And Women Suitable For Each Occupation.**

	GIRLS	BOYS
Armed Forces	.184**	
Care Assistant		.128**
Clerk/Office Assistant		.137**
Computer/Software Designer	.164**	
Engineer	.255**	-.098**
GP/Doctor		
Hairdresser/Barber	-.067*	.127**
Labourer	.117**	-.138**
Lawyer/Solicitor		
Manager	.090*	
Nurse		.164**
Lorry Driver	.121**	
Plumber/Electrician	.139**	
Police Officer	.119**	
Shop Worker		
Teacher	-.092*	
Waiter/Waitress		.114**

** 99% level of significance

* 95% level of significance

8. ADVICE ABOUT CAREERS

In this section, findings from the survey will be examined to determine pupils' preferences for receiving careers and subject choice advice. Findings from the case study interviews explore use of various sources of information on careers and subject choice and their perceived usefulness.

8.1 RESULTS FROM THE SURVEY

Amongst girls, mothers were rated as the first choice for advice about careers (51% of girls). Fathers were rated third most importance source of advice (9%). Fathers and mothers were both important for boys (30% and 28% respectively indicated fathers and mothers to be their first choice). Careers advisers were also rated as first choice for 23% of boys and girls. Other sources of advice as their first choice was small compared to mother, father and careers advisor [See Table 8.1].

Being spoken to by a guidance teacher or a careers adviser as part of a class or group in school were the most common forms of receiving careers or subject choice advice (79% receiving advice from a guidance teacher and 64% from a careers advisor). 56% of pupils claimed to have talked alone with a guidance teacher. Talking alone with a careers adviser or visiting a careers centre was much less common with 18% talking with a careers adviser and 19% visiting a careers centre [See Table 8.2].

There were differences between boys and girls in how they received advice. However, these differences are most likely because of differences in levels of achievement [See Table 8.2].

As anticipated, S1 pupils were much less likely to have received advice in any of these ways than S2 or S3 pupils [See Table 8.3].

A greater number of those reporting lower levels of achievement in Maths and English said they had talked alone with a careers adviser and visited a careers office. Being spoken to by careers adviser or a guidance teacher as part of a class or group was more common for those reporting higher levels of achievement in these subjects [See Table 8.4].

8.2 RESULTS FROM THE CASE STUDY INTERVIEWS WITH PUPILS

Pupils were asked if they had used certain people or sources of information for advice about future jobs and careers. If they had used the sources, they were then asked how useful they were on a 5 point scale ranging from 'Very useful' to 'Not useful at all' [Table 8.5].

Mothers (84%) and fathers (78%) were the sources of information used by most people, following by guidance teacher (67%), the internet (64%) and friends (54%). Less than half of pupils had used a Careers Advisor (44%). Fewer pupils claimed to have used newspapers or magazines (37%), grandparents (30%), other relatives or carer (28%) or other teachers (23%).

Of those who used these sources of advice, careers advisor was useful to a higher proportion of pupils than that for other sources (94%), although many pupils also found mother 'useful' or 'very useful' (92%) and other relative or carer (91%). Fathers were perceived to be less useful than mothers (with nearly 84% of pupils saying fathers were 'useful' or 'very useful' compared to over 92% of mothers). Although consulting with friends was popular among the pupils interviewed, only 58% thought this was useful. Only 59% of pupils thought grandparents were useful, although fewer consulted with this source. Guidance teachers were found to be useful by most of the pupils who used them (87%). The internet was used by 64% of pupils and, of those, 86% thought this was useful.

Pupils were also asked if they had received careers or subject choice in a number of different ways and, if so, how helpful this had been (on a 5-point scale from 'Very useful' to 'Useful' [Table 8.6].

Over 90% of pupils had received careers or subject choice advice by being spoken to in a group or class by a guidance teacher and 79% had also been spoken in this way by a careers advisor. Just over half of pupils also had the opportunity of talking alone with a guidance teacher although only 18% had been able to talk alone with a careers advisor. Very few pupils had visited a careers centre (5%), although all had found this to be useful. Talking alone with a guidance teacher or a careers advisor was found to be useful by a greater proportion of pupils (91% and 87% respectively) than being spoken to as part of a group or class by either of these (78.1% for careers advisor and 72.6% for guidance teacher). However, the numbers of pupils involved are relatively small and

statistical tests could not be run in order determine if the associations were statistically significant.

8.3 SUMMARY

As previous research showed²³, more young people turn to their parents as their first choice for advice about future jobs and careers than to a Careers Adviser. We also found that mothers, in particular, were important for both boys and girls, but especially girls. Fathers were important mostly for boys. 'Informal' networks of advice are more important than 'formal' ones, which raises issues about the accuracy of the advice. Pupils may also be influenced by the bias and preferences of their parents.

Our findings on the ways in which boys and girls receive advice on careers or subject choice from 'formal' sources, show differences in how these methods are used. While pupils at lower levels of achievement in Maths and English received more one-to-one advice, those at higher levels received more input through talks in a group/class. However, we do not know what sort of advice is being given in the different forums (i.e. careers or subject choice). The findings may also reflect different policies for different groups of pupils. Certainly, S1 pupils receive much less input than S2 and S3 pupils, which possibly reflects policy by schools and the careers service as well as the need to choose particular subjects in the later years.

Findings from the case study interviews confirm the importance of parents, particularly mothers, as sources of careers advice. However, the findings also indicate that pupils have used a wide range of information sources for this purpose.

Pupils were positive about the advice they received from careers advisors, mothers, and other relatives/carers, guidance teachers and fathers. Grandparents and friends were perceived to be less useful. Many pupils had also used the internet and a high proportion had also found this useful.

Although fewer pupils had the opportunity to talk alone with a guidance teacher, and particularly a careers advisor, a greater proportion of those

²³ Semple, S., Howieson, C. and Paris, M. (2002) 'Young People's Transitions: Careers Support from Family and Friends', CES Briefing No. 24, University of Edinburgh

who had found this useful than being spoken to by either of these in a classroom situation.

Chapter 8: TABLES

Table 8.1: First Choice for Advice about Careers

	Boys (%)	Girls (%)	Total (%)
Mother	28.2	51.1	40.0
Father	30.4	9.1	19.5
Grandparents	2.2	1.3	1.7
Other relative/carer	1.7	1.4	1.5
Careers Adviser	23.4	23.4	23.4
Guidance Teacher	2.7	3.3	3.0
Other teacher	0.2	0.6	0.4
Friends	2.5	3.1	2.8
Newspapers/magazines	0.5	0.2	0.3
Internet	5.8	4.8	5.3
Other	0.6	0.6	0.6
Don't know	1.8	0.9	1.3
Total (N)	879	929	1808

(Chi-square shows significance to 99% level)

Table 8.2: Ways in which pupils receive advice about careers or subject choices

	Boys	Girls	Total	Chi-square
Talking alone with a careers adviser in school	21.6%	14.5%	18.0%	**
Being spoken to by a careers adviser as part of a group or class in school	61.9%	65.4%	63.6%	
Visiting a careers centre	21.4%	16.8%	19.0%	*
Talking alone with a guidance teacher in school	55.2%	56.3%	55.8%	
Being spoken to by a guidance teacher as part of a group or class in school	77.5%	80.7%	79.2%	*

**Significant to 99% level

*Significant to 95% level

Table 8.3: Ways in which pupils receive advice about careers or subject choices by Year in School

	S1	S2	S3	Total	Chi-square
Talking alone with a careers adviser in school	5.1	20.1	18.5	18.0	**
Being spoken to by a careers adviser as part of a group or class in school	8.8	78.3	57.8	63.5	**
Visiting a careers centre	13.0	26.0	10.9	19.0	**
Talking alone with a guidance teacher in school	32.7	61.0	54.3	55.6	**
Being spoken to by a guidance teacher as part of a group or class in school	51.6	82.8	81.4	79.1	**

**Significant to 99% level

*Significant to 95% level

Chapter 8: TABLES

Table 8.4: Ways in which pupils receive advice about careers or subject choices by Level of Achievement

Chi-square	S2 Maths Level	S2 English Level	S3 Maths Level	S3 English Level	Nature of relationship
Talking alone with a careers adviser in school	*	*	**	*	S2 Levels A-D and S3 Foundation and below more likely
Being spoken to by a careers adviser as part of a group or class in school	**	**		*	Higher levels more likely
Visiting a careers centre			**	**	More likely for lower levels, particularly foundation and below
Talking alone with a guidance teacher in school					
Being spoken to by a guidance teacher as part of a group or class in school	*	**	**	**	More likely at higher levels.

**Significant to 99% level

*Significant to 95% level

Table 8.5: Use and Usefulness of Sources of Careers Advice

	% (N) who had used this source	% 'Useful' or 'Very Useful'	N
Mother	83.5% (66)	92.4%	79
Father	77.5% (62)	83.9%	80
Grandparents	30.4% (24)	58.5%	79
Other Relative or carer	28.3% (22)	90.9%	78
Careers Advisor	43.9% (36)	94.4%	82
Guidance Teacher	66.7% (54)	87.0%	81
Other Teacher	22.5% (18)	88.9%	80
Friends	59.3% (48)	58.3%	81
Newspapers/magazines	37.0% (30)	70.0%	81
Internet	63.8% (51)	86.3%	80

Table 8.6: Use and Usefulness of Ways of Receiving Subject and Careers Advice

	% (N) who had used this source	% 'Useful' or 'Very Useful'	N
Talking alone with a Careers Advisor in school	18.3% (15)	86.7%	82
Being spoken to by a Careers Advisor as part of a group or class in school	79.0% (64)	78.1%	81
Visiting a Careers Centre	4.9% (4)	100%	81
Talking alone with a Guidance Teacher in school	51.9% (42)	90.5%	81
Being spoken to by a Guidance Teacher as part of a group or class in school	90.1% (73)	72.6%	81

9. RECOMMENDATIONS

9.1 Our findings suggest that those who are apparently less academically able in Maths and English are more likely to gender stereotype jobs and occupations. Therefore, it would be helpful to be aware that gender issues may be different for different groups of pupils, e.g. those working at different levels of achievement.

9.2 Since boys and girls have different patterns of gender stereotyping of jobs, it may be worthwhile targeting these groups in separate ways for some things.

9.3 Initiatives aimed at gender stereotyping of career choice need to address the reasons why girls and boys continue to stereotype women and men in general, and in occupations particularly. The main reasons given for stereotyping relate to the attribution of particular characteristics or aptitudes to either men or women which are perceived to make them better suited to particular jobs. For nursing and care work, the emphasis was on caring qualities and communication skills, but the more technical aspects of these jobs could be identified. For many of the 'male' jobs, there could be increased emphasis on the customer service and communication characteristics of the job needed. A number of pupils also identified that women or men were less 'interested' in certain types of jobs and that none or very few men or women did a particular job. Showing children that at least some women are interested in, for instance, engineering may help here, and some initiatives do pursue this line. However, it is important that there are also role models for boys of men doing 'female' jobs and also for girls of women doing non-professional jobs, e.g. Plumber/electrician. Teaching pupils that some jobs that we now think of as suitable for both men and women, e.g. Doctor and lawyer, were once thought of as 'male' jobs might help pupils to see beyond stereotyped ideas. For pupils who are unsure about why they think men or women are suited to particular jobs, or where they have stated it is because it is 'A man's job' or 'A woman's job', their stereotypes need to be deconstructed to find out why they think this way.

9.4 A further way of helping pupils to think of their own career choices may be to focus on job characteristics. This would involve showing pupils a wide range of jobs where, for example, 'helping others' is an aspect, and this could include traditionally 'male' jobs where this characteristic does not immediately come to mind for many pupils, e.g. Engineer,

Computer/Software Designer. Likewise, with, for instance, 'working with technology' pupils could be shown that some 'caring' jobs do involve a lot of work with technology, e.g. Doctor, Nurse. Initiatives may need to address key misunderstandings that young people often have about particular jobs. For instance, 'dirty' was a word that often came up when describing engineer (and why women were less suited or interested in doing this), yet much engineering is not often 'dirty' in the way they conceive (e.g. bio-engineering or software engineering may be in a 'clean' laboratory setting. It was also clear that pupils confused engineering with 'mechanic'. Therefore, young people need to be educated more accurately as to what Engineering is and what it entails. In summary, different careers should be unpacked into sets of characteristics. Emphasis could then be given to the components of these which match the aspects of jobs that boys or girls look for. For example, the career of nursing could emphasise the aspects of sophisticated use of technology (as in the operating room or intensive care), as well as the more 'traditional' characteristics such as caring. Conversely, customer care could be emphasised for certain types of plumbing. This should particularly be done for those careers/occupations suffering from severe gender stereotyping.

9.5 In order to encourage more girls to do traditionally 'male' jobs and more boys to do 'traditionally' female jobs, pupils need to have their interest in these jobs stimulated. One way this could be done is through same-sex role models across a range of non-traditional jobs.

9.6 The research has illustrated the importance of role models within the pupils family and social circles. Initiatives may find it useful to draw upon role models within pupils' own family and social circles who could come and talk in the school. Role models who are known to pupils or by other pupils may have more of an impact on pupils choices than more distant role models. However, the research was unable to ascertain the impact of wider role models, such as those in the media. Further research would be necessary to establish this and compare to the impact of role models closer to home.

9.7 Pupils, particularly girls, appear to have strong preferences against working in some sectors of work. Therefore, initiatives could also target gendered preferences about industries as well as occupations. However, there may be issues with the actual industrial classification systems adopted in the survey questionnaire (which is the system used by Careers

Scotland in careers centres). It appears to be broadly based on the Standard Industrial Classification (SIC) system but with some amendments and a number of omissions. Some of the categories appear to be very broad and encompass a wide range of different jobs e.g. 'Engineering, maintenance and garage work', 'Art, design and other creative work'. This means that there is limited potential for comparison with national SIC-based statistics and finer categories should be used where possible.

9.8 Young people could be given more information on self-employment, particularly targeting girls who are less positive about this.

9.9 Initiatives aimed at reducing gender stereotyping of careers and career choice, would need to address both how gender stereotyping generally may have an impact on pupils' own choices and how pupils' own gendered career choices may have an impact on their general gendered attitudes. Both approaches may need to be employed. Addressing gender stereotyping generally could be done using existing modules, for instance, 'Educating for Sex Equality: Tackling Gaps, Traps and Stereotypes' by Equal Opportunities Scotland (2003) (among a number of others).

9.10 Given the importance of parents, particularly mothers, as sources of careers advice, involving them in equal opportunities work would be useful, and they could be targeted with more information on how to help their children choose careers etc.

9.11 The internet was also a widely used and generally useful source of information on careers. Developing equal opportunities training within existing careers internet sites might be beneficial, as would dedicated equal opportunities careers training websites. Pupils could then work on these in their own time and at their own pace and this might be particularly useful as a supplementary teaching aid. If the website could be accessed by all schools in the Lothians, then it would also ensure a certain level of consistency in training. However, broad access may be restricted by limited IT facilities in some schools and by some pupils.

9.12 While one-to-one advice from a Guidance Teacher, and in particular, a Careers Adviser, was found to be useful, it may be not realistic to extend these options due to resources. However, if, as indicated in the research, Careers Advisers have more contact with lower ability groups (at least for Maths and English), then this does present an opportunity

for interventions with groups that may be particularly liable to chose gender-stereotyped jobs and careers. Classroom or group-based initiatives aimed at reducing gender stereotyping of career choices would probably be more widely effective if there was consistency between groups and schools in the training given to pupils. This would require facilitators (either Guidance Teachers or Careers Advisors) to undergo standardised training.

9.13 Pupils appear to recognise that some subjects (e.g. sciences, computing etc.) are necessary for some future careers. However, for pupils who are undecided at this stage, not choosing certain science subjects may limit future possibilities (even though taking at least one science subject is usually compulsory). It would be unrealistic to make all science subjects compulsory for pupils. So opportunities for pupils to pick up these subjects at a later stage (e.g. Highers and pre-Degree level) are important with an emphasis that certain occupational routes may not necessarily be blocked because of early subject choices. Stimulating enjoyment and interest at an early age (e.g. at least S1) and showing the links to different types of careers for unpopular or important subjects may be a way to get pupils to choose these subjects to study.

APPENDIX A

TECHNICAL NOTES

Gender Stereotyping Index

A gender stereotyping index was created to measure the number of jobs that pupils stated were suitable for 'both' men and women. Responses range from 0, where a respondent has indicated that none of the jobs in Table 3.1 are suitable for both men and women, to 17, where a respondent has indicated that all the seventeen jobs are suitable for both.

The average (mean) score for boys on the stereotyping index was 9.7 which was significantly different from the mean average score of 11.6 recorded for girls, thereby suggesting that girls appear to be less stereotyping in jobs than boys, at least for this list of jobs.

Linear Regression Modelling

Linear regression is a statistical method used to measure the relationship between a continuous (numerical) dependent variable (i.e. the variable whose behaviour or change we wish to measure) and a set of one or more predictor or independent variables (the factors whose effects on the dependent variable we wish to observe). A linear regression model is used when the dependent variable is continuous (i.e. were a number is measured) as in the model for measuring gender stereotyping were the number of times a respondent has indicate 'both' men and women are suitable across 17 jobs. In terms of the results, a positive 'regression coefficient' indicates a positive association between the independent and dependent variables. If the value is negative, then there is a negative association between the independent and dependent variables. The significance levels given for each independent variable indicate whether that particular independent variable is a statistically significant predictor of the dependent variable. If the significance is <0.05 (i.e. 5 per cent) then the result is generally considered to be statistically significant. This means that there is only a 5 per cent probability that the observed result is due to chance, rather than being the result of a 'real' association between the variables in question.

Logistic Regression Modelling

The key difference between logistic and linear regression is that the dependent variable in logistic regression is dichotomous (e.g. an answer of either 'yes' or 'no') whereas in linear regression the dependent variable is continuous. Logistic regression is used to consider the variables that are associated with pupils' perceived suitability for 17 jobs. Interpretation of the models is the same as with linear regression.

Samples

Most of the tables presenting results from the survey are based on S2 and S3 pupils only. This is because data were only available from S1 pupils in West Lothian and this group was excluded because they may skew the results for S2/S3 pupils. S1 pupils were only included in the tables where specific comparisons were made between school years.

Some schools have been excluded from the regression models. This is because they had a low response rate that may be biased. Schools excluded on this basis include: Bathgate, Broxburn, St. Margarets and West Calder.

Statistical Tests

Where possible, statistical tests have been used to examine if there are statistically significant differences between sample groups. Cross-tabulations of categorical variables use the chi-square test. Means of continuous variables use ANOVA. Significance levels are generally presented at the level of 99% confidence (**) and 95% confidence (*). Where a test shows significant differences between the sample groups, these tests suggest either a 99% or 95% level of confidence that this is a real difference in the sample and not an erroneous finding.

APPENDIX B

PUPILS' LEARNING STYLES

There were some differences between boys and girls in preferences for learning. Boys preferred learning by trial and error more than girls, girls preferred talking about it and learning through games, music, drama and other creative activities.

Table B1: Preferred ways of learning

	Boys	Girls	Total	ANOVA
By being given instructions and examples in writing	2.29	2.27	2.28	
By being shown and then trying and experimenting until you get it right (trial and error)	1.63	1.75	1.69	*
By talking about it	1.90	1.82	1.86	*
Through pictures, diagrams and other visual aids	1.96	1.99	1.98	
Through games, music, drama and other creative activities	1.77	1.65	1.71	*

Scores are calculated by averaging the responses across the 4-point scale (ranging from 'A lot', 'some', 'a little', 'not at all'). Average scores range between 1 and 4 (with 1 representing 'a lot' and 5 representing 'not at all').

**Significant to 99% level

*Significant to 95% level

APPENDIX C1

GENDER STEREOTYPING IN CAREER CHOICE LITERATURE REVIEW

Gender Stereotyping in Career Choice

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INTRODUCTION

Since the Sex Discrimination Act 1975 was introduced to outlaw discrimination in employment on the basis of gender, there have been significant changes to labour markets, family structures and education.

Traditional sectors such as manufacturing have contracted while the service sector has expanded. At the same time, increasing numbers of women have entered the labour market and the dual-earner family is now the dominant mode. Where once boys outstripped girls in terms of school results, this has turned around in recent years to see girls gaining more and higher levels of qualifications and also staying on in school longer than boys.

Despite initiatives and campaigns to encourage young people into a variety of non-gendered career patterns, occupational choices continue to be based on traditional gender patterns. Millar and Budd (1999) found that despite the 1975 legislation, and the requirement for careers advisors to embody equal opportunities principles in their advice to young people, occupational preferences have changed little since the early 1970s.

Research carried out for the Equal Opportunities Commission found evidence of persistent sex stereotyping in occupations. For instance, 90% of engineering jobs are held by men and 93% of primary school teachers in Scotland are women (EOC 2001a; Statistics of Education 2000).

Further research for the EOC found a prevalent gender divide in subject choice at school, higher education and work-based training (EOC 2001a; EOC 1999) all of which form the basis for occupational segregation at work. Further, although girls have made improvements in academic achievement outstripping boys, this has not resulted in any marked change in their occupational choices.

This continued situation has implications for individuals, the economy and society. Individuals face restricted job opportunities; one reason women continue to earn less than men is because of their concentration in certain occupations, young people are not able to fulfil their potential, and some industries face skills shortages due to having a restricted pool of entrants.

Research has shown that while the attitudes of young people to gender roles are changing, these changes are not reflected in their educational and occupational choices (EOC 2001b). Reasons for persistent occupational segregation are complex and multi-faceted but include: socialisation, poor information, social class, expectations about future family roles and labour market contexts.

This report examines research that addresses the question of gender stereotyping and provides an analysis of relevant secondary sources such as statistics from the Scottish Census 2001, School Leaver Destinations (1992-2002) and Scottish School Leaver Survey (1997).

The report begins by examining the **Background and Context** through an overview of gender segregation in the labour market in Scotland, including occupational segregation and industrial segregation.

Section Two examines some characteristics of the **Labour Markets** in Edinburgh and West Lothian, labour market demand, school leavers destinations and self-employment.

Section Three examines **Education and Attitudes** and includes research on school subject choice, attainment and young peoples' attitudes to occupations.

Section Four is concerned with **Explanations of Gender Stereotyping in Career Choice**. This section briefly outlines some careers theories that look at gendered choices, the concept of socialisation, and the agents in the formation of young people's choices. The labour market contexts of gendered choices are then examined, including the nature of local labour markets, employment selection and promotion and perceptions of harassment, discrimination and work-life balance. Finally, an overview of the links between social class, ethnicity and gender is provided.

Section Five examines **Breaking Down Gender Stereotyping in Career Choice**. This includes an examination of women and traditional male careers and men and traditional female careers. Finally, initiatives carried through schools and careers services are considered.

1. BACKGROUND AND CONTEXT

1.2 Gender Segregation in the Labour Market

1.2.1 Occupational Segregation

Gender segregation in the labour market can occur *horizontally* and *vertically*. Horizontal segregation is where men and women do different jobs - for instance, women are disproportionately represented in "women's jobs" and men in "men's jobs" (Preston 1999). Vertical segregation is where men are over-represented at senior levels within occupations and industries, while women are over-represented at the lower levels.

Although there has been some increase in women's participation in professional and associated professional and technical occupations in the 1990s, there has been no increase since 1990 in their participation in managerial occupations (Scottish Executive 2000). Even within the professions women are concentrated in lower level jobs (EOC 2000). Women are concentrated in a narrow range of occupations, many of which are low paid and offer poor employment prospects, for instance, 10% of working women in Britain work as sales assistants (EOC 2001c).

Occupational segregation disadvantages women in terms of income. Female employees working full-time earn on average 18.6% less than the average hourly earnings of male full-time employees in Scotland (EOC 2003a). Across all occupational groups, the hourly pay of women is less than that of men. Women earn an average of 10% less per hour than men in Professional occupations and 28% less in sales occupations (EOC 2003b). Women with dependent children earn 78% of the average hourly earnings of men with dependent children, while women without dependent children earn 85% of the average hourly earnings of men without dependent children (Dench et al, 2002). Therefore, women with dependent children do relatively worse in terms of hourly earnings than either women without children or men with and without children. In terms of total weekly personal income, single women without dependent children under the age of 19 years earn 19% less than single men without children. However, the income gap rises for women in couples. A woman in a couple without children earns 59% less in total weekly income than a man in the same position while a woman in a couple with children earns 56% less than a man in a couple with children (EOC 2003a). Therefore, once a woman establishes a home with a male partner her income relative

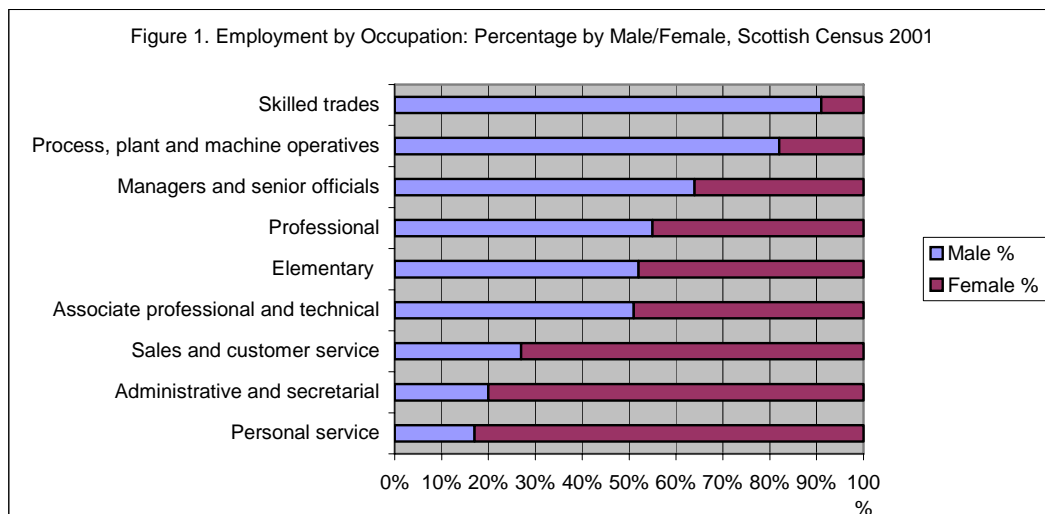
to his diminishes. Further questions arise such as do working patterns change, and are men being promoted more than women?

The 'degree' premium is higher for women than for men. That is the earnings advantage from having a degree is greater for women compared to the earnings of non-graduate women than for male graduates compared to non-graduate men (Purcell 2002).

There are likely to be other differences in terms of occupational segregation and income depending on a woman's age, cohort effects, socio-economic status, race, qualifications and family responsibilities. However, such a detailed analysis is beyond the scope of this report.

There are also wider consequences of occupational segregation. Individuals (particularly women) are unable to maximise their potential in the labour market, since choice of occupation is often determined by gender as much as by ability. There are also currently skills shortages in particular occupations and sectors.

Even in the broadest categories of the Standard Occupational Classification (SOC) system, there are pronounced differences in the distribution of male and female workers (See Figure 1).



Women form over 70% of the employees in Administrative, Personal service and Sales and customer service, whilst men make up over 80% of Skilled trades and Process, plant and machine operatives. However, the proportion of women to men is fairly balanced among Professional,

Associate professional and technical, and Elementary. At the level of Managers and senior officials, men still dominate with 64% in the group.

Women have made inroads into Professional and Associate professional and technical occupations (see later), which explains some of the relative balance between men and women in these occupations. However, these figures also conceal differences in vertical segregation and pay differences between men and women in the same occupation. Elementary occupations cover a wide range of both traditionally 'male' and 'female' jobs which may explain the relative balance at this broad aggregate level.

Skilled trades and Process, plant and machine operatives have traditionally been dominated by men and women have not entered these occupations in large numbers, whereas, Sales and customer service and Personal service are occupations that have expanded in recent decades and contain a greater proportion of female workers.

Although there will be great variations within each occupational class because a broad range of occupations is subsumed within each category, Figure 1 (above) shows that there is a greater balance between men and women at the higher levels of occupational class than at the lower levels (with the exception of Elementary occupations).

There are also differences in terms of income between men and women within each occupational class. Table 1 shows the average hourly earnings of full-time employees, by occupation²⁴.

Table 1: Average hourly earnings of full-time employees, by Occupation: Great Britain, 2000 (New Earnings Survey 2000, reproduced from Dench et al 2002)

Occupations (SOC 1990)	Women £	Men £	Earnings Ratio %
Managers and administrators	12.83	17.80	72.1
Professional	14.98	16.44	91.1
Associate professional and technical	10.96	13.78	79.5
Clerical and secretarial	7.28	7.47	97.5
Craft and related	6.13	8.41	72.9

²⁴ The Standard Occupational Classification (SOC) is based on an earlier classification system which does not exactly correspond to the SOC measures used in Figure 1. Unfortunately, data for hourly earnings are not available based on the new SOC measures.

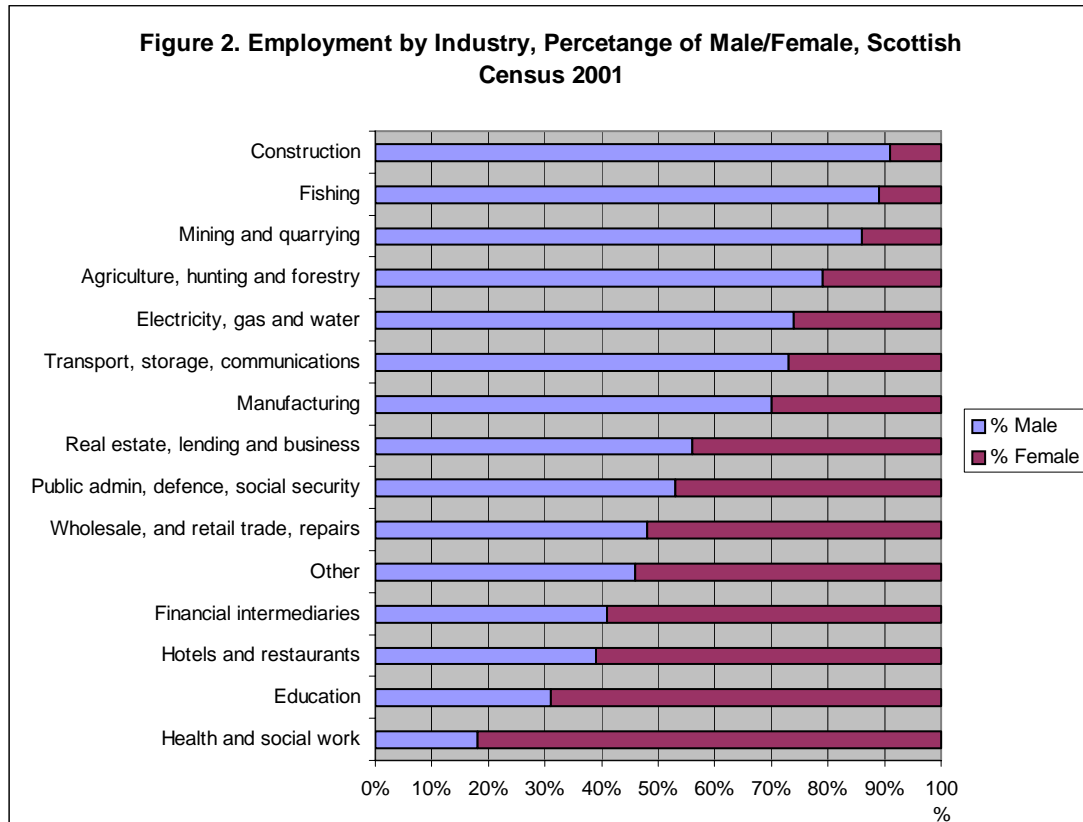
Personal and protective service	6.19	8.60	72.0
Sales	6.45	9.04	71.3
Plant and machine operatives	5.83	7.43	78.5
Other occupations	5.22	6.41	81.4

The earnings ratio between men and women is smaller for those in Professional and Clerical and secretarial occupations and, on the whole, greater for those in the lower occupational classes (with the exception of Managers and administrators and Other occupations). This suggests that there is a greater disparity between men and women at lower occupational levels.

There would appear to be greater differences between men and women in lower occupational classes both in terms of occupational segregation and pay. However, this conclusion is made tentatively, since further disaggregation and analysis would be needed in order to confirm this finding.

1.2.2 Industrial Segregation

The recent Scottish Census also reveals differences in the concentration of males and females by industry type (Figure 1).



Women form over 68% of the employees in the Education, and Health and social work industries, and between 59% and 61% of those in Hotel and restaurants and Financial intermediation, while men make up over 69% of employees in Agriculture, hunting and forestry, Fishing, mining and quarrying, Manufacturing, Electricity, gas and water, Construction, Transport, storage and communications. There is a reasonable balance between men and women in Wholesale and retail trade, repair, Real estate, lending and business, Public administration, defence, social security and Other.

Reasons for the differences between industries in the relative proportion of men and women will depend upon a number of factors including: the distribution of occupations within each sector; the levels of pay and working practices; unionisation; historical reasons; and labour market changes.

However, there will be important differences within the same industry and a relative balance between men and women at the aggregate level is likely to conceal wide variations within actual industries.

2. LABOUR MARKETS

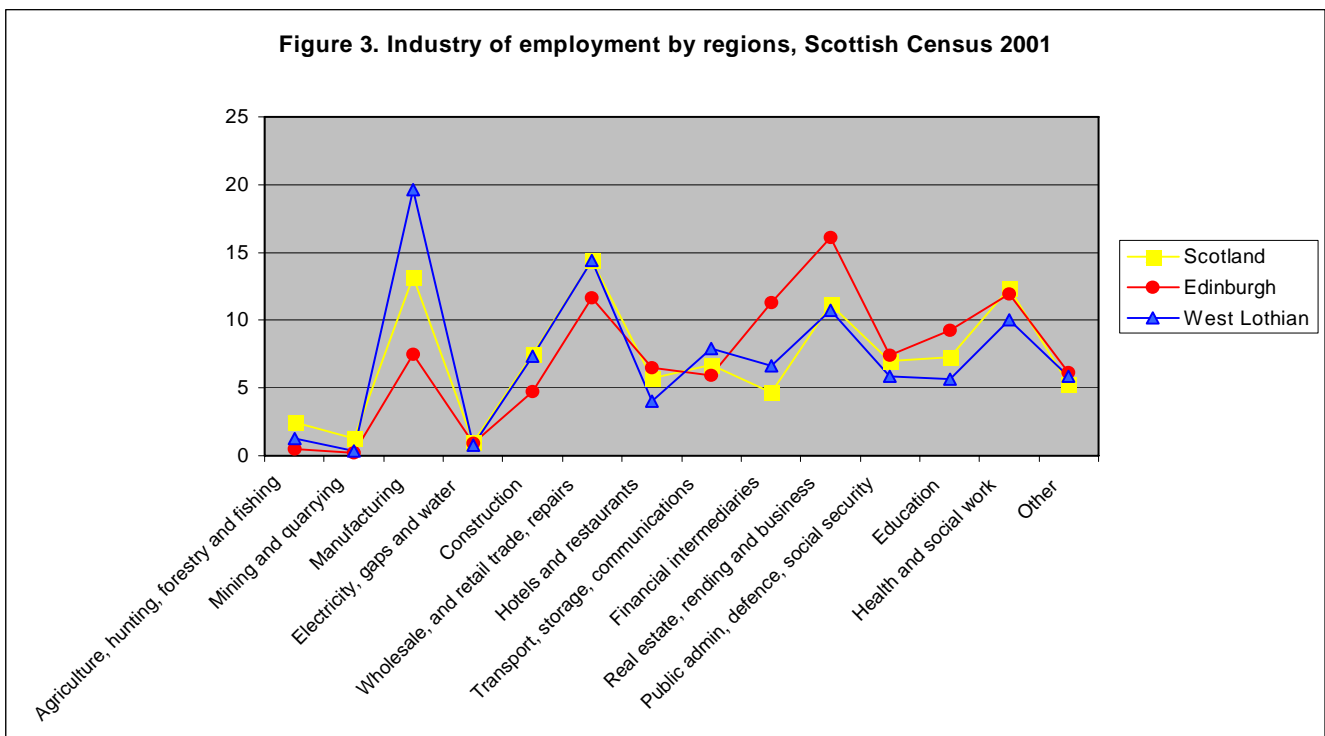
2.1 Local labour markets in Edinburgh and West Lothian

2.1.1 Industry

There are 218,820 people (aged 16-74) employed in City of Edinburgh compared to 77,664 people employed in West Lothian. Edinburgh's labour market accounts for nearly 10% of the whole labour market of Scotland while West Lothian accounts for 3.4% of the national labour market (figures from Scottish Census 2001).

Figure 3 illustrates employment by industry type (SIC) in Scotland, Edinburgh and West Lothian (from Scottish Census 2001). There are significant differences between Edinburgh and West Lothian. In particular, manufacturing is particularly important in West Lothian compared to Scotland and Edinburgh (where its importance is much lower than the national average). Financial intermediation, and Real estate, lending and business employ a greater proportion of employees in Edinburgh than the national average, and in West Lothian.

However, there are a greater number of employment opportunities in all industrial groups in Edinburgh. Even in Manufacturing, the total number employed in Edinburgh is greater than in West Lothian (nearly 17,000 compared to just over 15,000) because the size of the labour market is much greater.

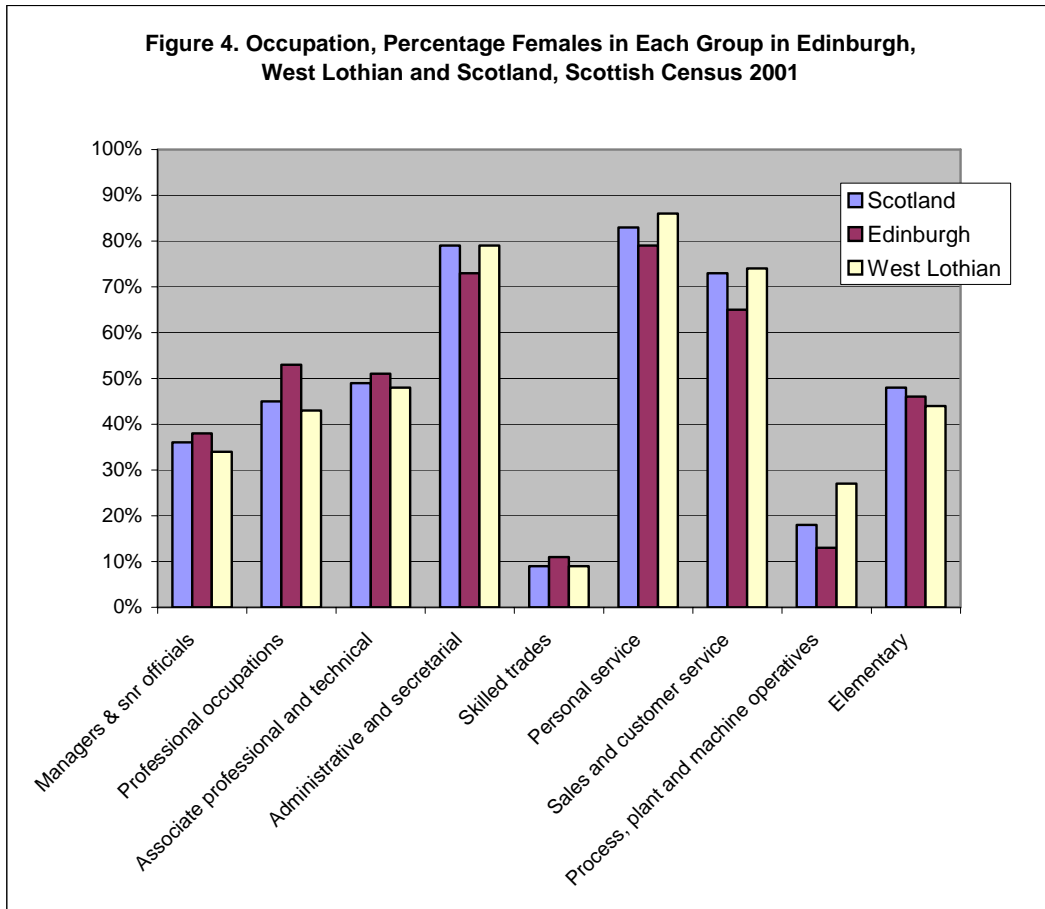


2.1.2 *Occupation*

There are also differences in the proportions of employees by occupation between Scotland, Edinburgh and West Lothian. Edinburgh has a higher proportion of Managers and senior officials, Professionals, and Associate professionals and technical than the national average, whereas West Lothian has either the same or a lower proportion than the national average. However, West Lothian has a particularly high proportion of Process, plant and machine operatives compared to the national average, while Edinburgh has a low proportion of employees in this area. Edinburgh also has a particularly low proportion of Skilled trades occupations compared to the national average.

As with industry, there are still generally more opportunities in all of these occupations in Edinburgh than in West Lothian (except Process, plant and machine operatives where there are some 600 fewer employees employed in Edinburgh than in West Lothian).

Figure 4 shows the proportion of women in each occupational category in Scotland, Edinburgh and West Lothian.



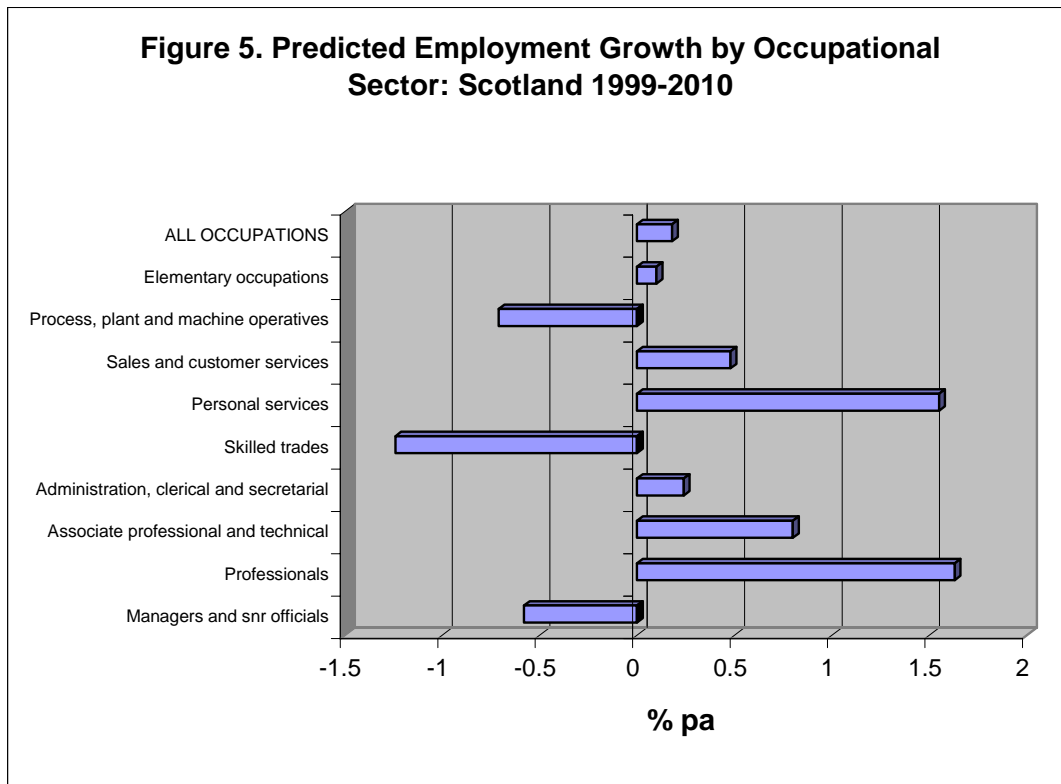
There are differences between the regions in the proportion of women in each occupational category. Edinburgh has a higher proportion of women in Managers and senior officials, Professionals and Associate professional and technical than both the national average and West Lothian. West Lothian, on the other hand, has a slightly lower proportion of women in these occupations than the national average. This may be explained by the higher levels of female-dominated industries in Edinburgh such as Education, Health and social work, Finance and Hotels and restaurants. While Edinburgh has a lower proportion of females in Process, plant and machine operatives than the national average, West Lothian has a much higher proportion of women in this group, reflecting the importance of certain types of manufacturing in the area. In some female-dominated occupations, such as Administrative and secretarial, Personal service and Sales and customer service, there is a lower proportion of females in Edinburgh than in West Lothian or Scotland as a whole, perhaps reflecting a greater proportion of high level jobs. For these occupations, West Lothian has a similar or higher proportion of women. This would indicate that there are greater opportunities for women in higher level occupations in Edinburgh than in West Lothian, while opportunities in West Lothian are limited to the traditionally female dominated areas and manufacturing.

Occupational choice is constrained by local labour markets. As we have seen, West Lothian and Edinburgh have quite different labour market profiles which will affect the opportunities available to young people (particularly in West Lothian with many youngsters favouring local employment) (Lindsay et al 2001). West Lothian has a significantly larger manufacturing sector than the average for Scotland but lower public and other service employment (despite a dramatic increase in service employment over the last decade). Edinburgh, on the other hand, has a higher concentration of employment in skilled occupations and a large local service sector (e.g. banking, finance and business services) (McQuaid et al 2001). These profiles have major implications for the potential for occupational choice of girls and boys. Recent research carried out in West Lothian found that school leavers' occupational choices tend to be influenced by a complex range of factors (Lindsay et al 2001). While there was little apparent prejudice amongst younger men with regards to perceived gender roles in the labour market, there was a strong preference for the traditional forms of manual and outdoor work. One reason for this (also noted by Lloyd 1999) was that some service work was perceived to be low quality and low paying.

Social inclusion issues are also of importance in considering gender stereotyping in career choice, since promoting non-gender stereotyping will promote inclusion. Career choice among both boys and girls tends to be strongly linked to social class. Edinburgh and West Lothian councils both operate social inclusion initiatives. The City Plan and One City (City of Edinburgh Council) gives a commitment to promote and encourage equal opportunities as part of the social inclusion agenda. While a number of projects have been developed to improve the gender balance in both programmes and outcomes, gender mainstreaming is presently an implicit rather than explicit approach across partnership initiatives. The West Lothian Social Inclusion Partnership Implementation Plan set out the measures to be developed over the period 1999-2002. The West Lothian SIP is thematic rather than area focused, and targets two groups: families with pre-school children and young people making the transition between school and the world of work.

2.2 Labour Market Demand

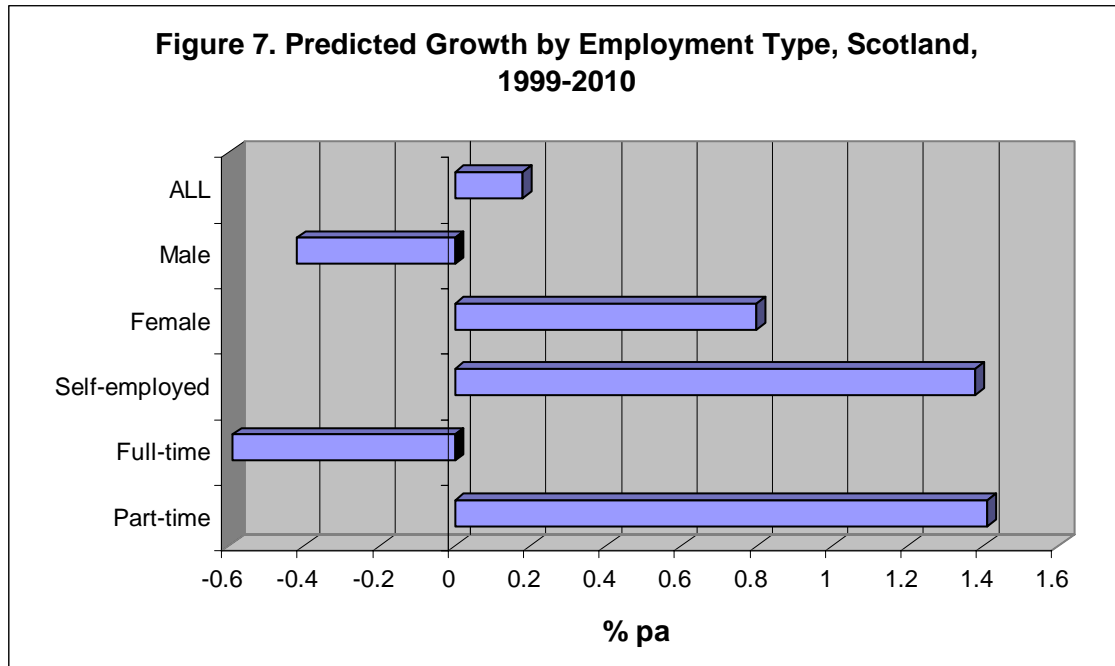
Labour market demand is predicted to increase in both Scotland and the UK in the next 10 years. Between 1999 and 2010 IER/CE (2001a & 2001b) predict there will be over 2 million additional jobs in the UK. In Scotland, employment growth is predicted to increase by 0.18% per annum, although there are variations between different sectors, occupations and regions in expected growth.



[Source: IER/CE 2001b]

Figure 5 shows that the largest growth is expected to be in Personal services and Professional occupations. Negative growth is predicted in Skilled trades, Process, plant and machine operatives and Managers and senior officials.

A different pattern emerges when the types of employment growth are analysed (See Figure 6). There is a predicted overall growth across all occupations to 2010 in part-time, self-employment, and female dominated areas of work, while there is negative growth in full-time and male-dominated work. The pattern of growth between male and female employment reflects that growth areas, such as Personal services are female dominated, while negative growth areas, such as Skilled trades, Process plant and machine operatives and Managers and senior officials are all currently male dominated (see Figure 1)



[Source: IER/CE 2001b]

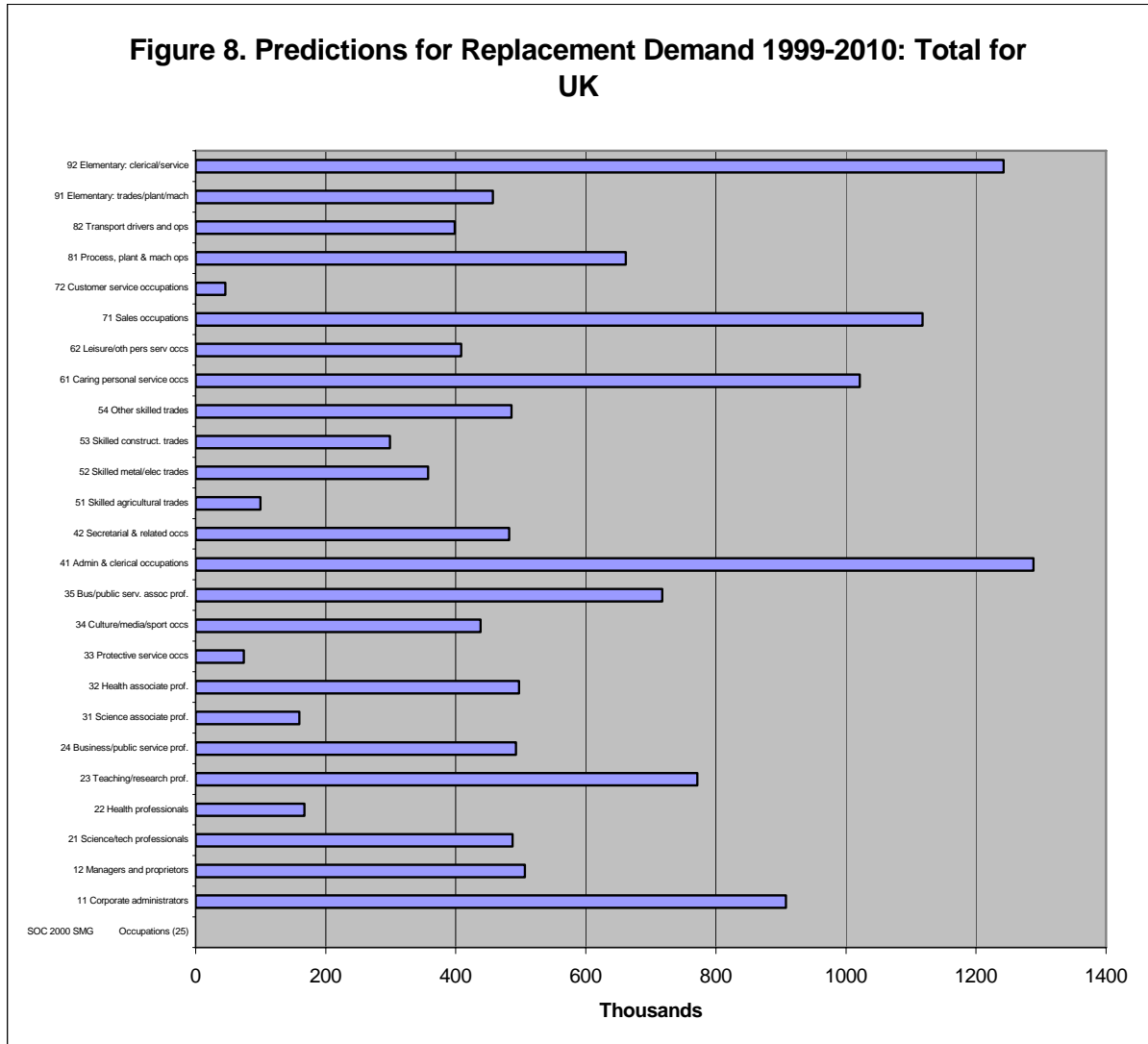
So far, we have only considered employment growth. This refers to the predicted expansion of occupations, it does not take into account replacement demand - that is the employers' need to replace workers due to retirement, career moves, mortality etc. Replacement demand can easily outweigh any changes resulting from expected employment decline (IER/CE 2001a). This is especially true in the context of an ageing workforce.

When replacement demand is taken into account for the UK as a whole, then there is a predicted net demand for some 3.5 million workers over the next 10 years. Figure 7 presents predictions for net demand for selected occupations in the UK²⁵.

Overall demand is predicted to increase across all the occupational groups covered. Even in Skilled trades, where the expansion growth is expected to be negative, net growth is positive. However, the biggest net demand is expected to come from the service and business sectors, particularly in: Elementary occupations relating to clerical and services; Sales occupations; Caring personal service occupations; Administrative and clerical occupations, and; Corporate administrators.

²⁵ UK figures are used here, because predictions for Scotland are unreliable at this level.

However, caution must be taken in placing too much importance on these predictions. They are only indicators of what the future might hold and cannot take account of every current variable or labour market changes that may happen the future.

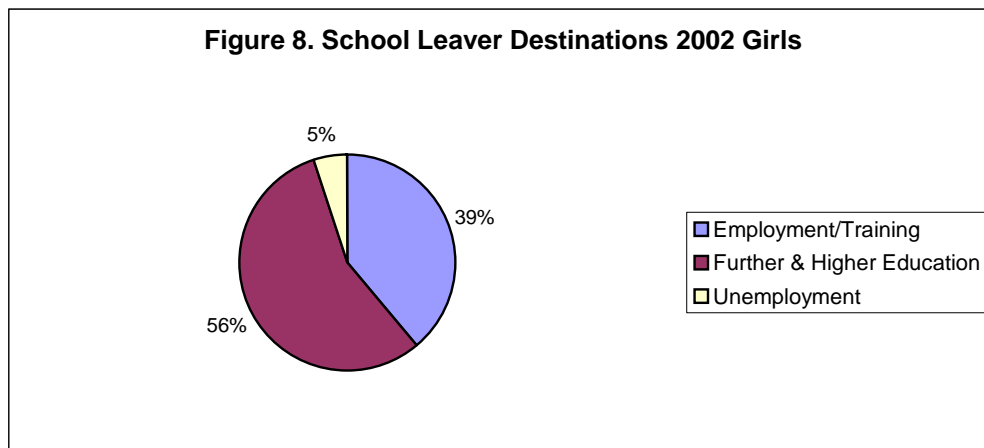


[Source: IER/CE 2001a]

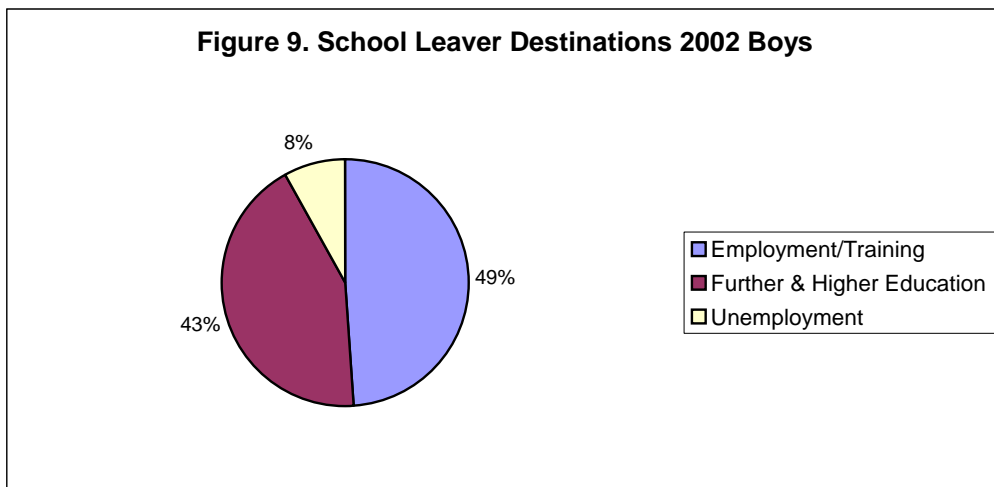
2.3 School Leavers and Graduate Destinations

2.3.1 *School Leavers Destinations*

Participation in further and higher education by secondary school leavers in Edinburgh and Lothians was nearly 50% in 2002²⁶ and has more than doubled since 1987 when it was 22%. A greater proportion of girls are going into further and higher education than boys (Figures 8 & 9).



[source: CDEL 2002]

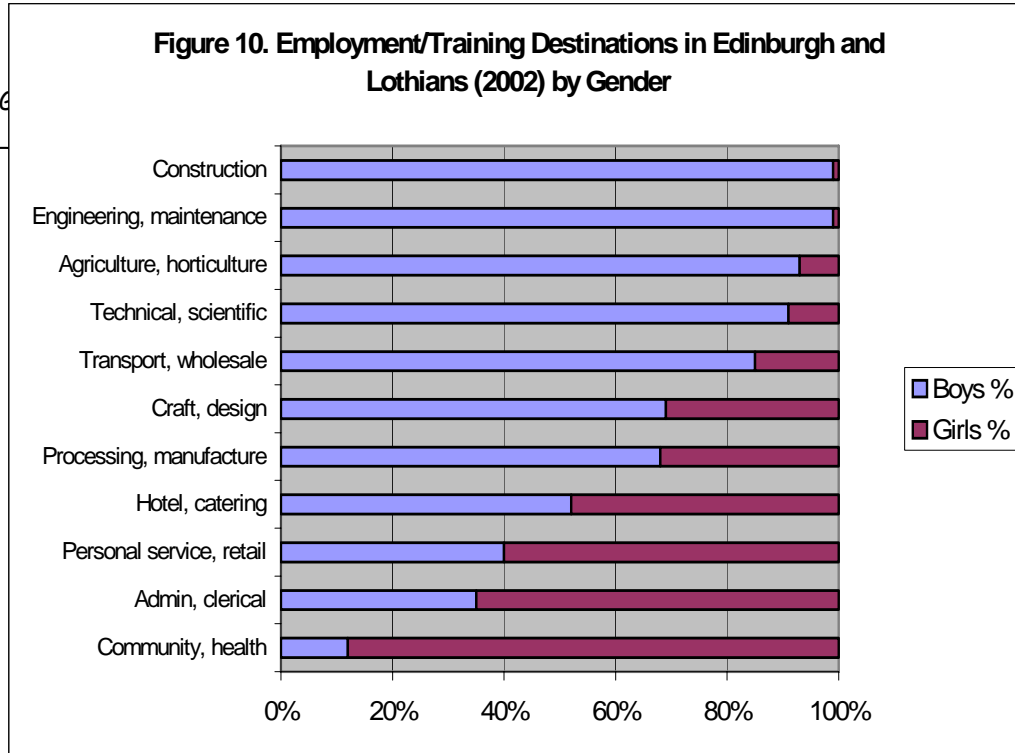


[Source: CDEL 2002]

Of those young people who go into employment or training, there are marked gender differences between the careers choices of boys and girls (Figure 10).

²⁶ These include leavers in Christmas 2001 and Summer 2002

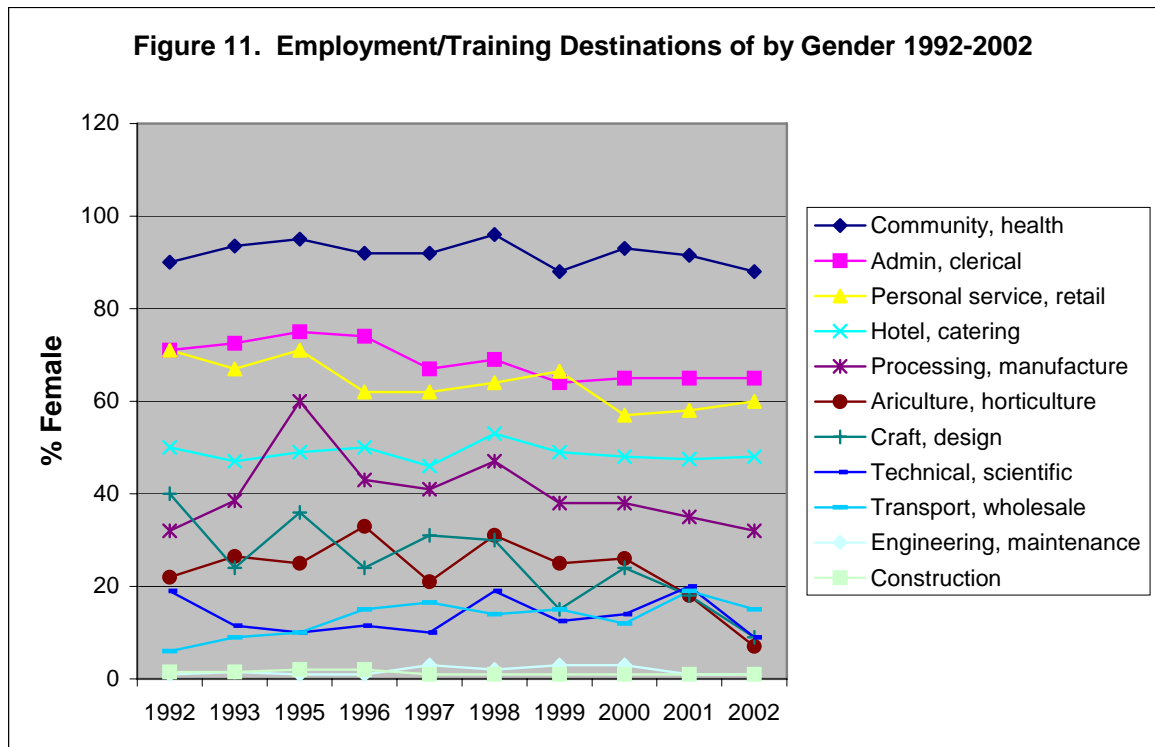
Figure 10. Employment/Training Destinations in Edinburgh and Lothians (2002) by Gender



[Source: CDEL 2002]

Only Hotel and catering has a roughly equal proportion of male and female school leavers entering in 2002. Men dominated in a wider range of occupations than women. For instance: Engineering and maintenance (99%), Construction (99%), Agriculture and horticulture (93%), Technical and scientific (91%), Transport and wholesale (85%), Craft and design (69%) and Processing and manufacturing (68%). Women dominated in Community and health (88%), Administration and clerical (65%) and Personal service and retail (60%). This might be partly accounted for because 10% fewer girls than boys went into employment and training after leaving secondary school.

An analysis of the School Leaver Destinations from 1992 to 2002 (excluding 1994 as figures not available), shows relative stability in the patterns of employment and training entered into by boys and girls. For instance, Figure 11 shows the proportion of girls entering occupations in these years.



[Sources: CDEL 1992, 1993, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002

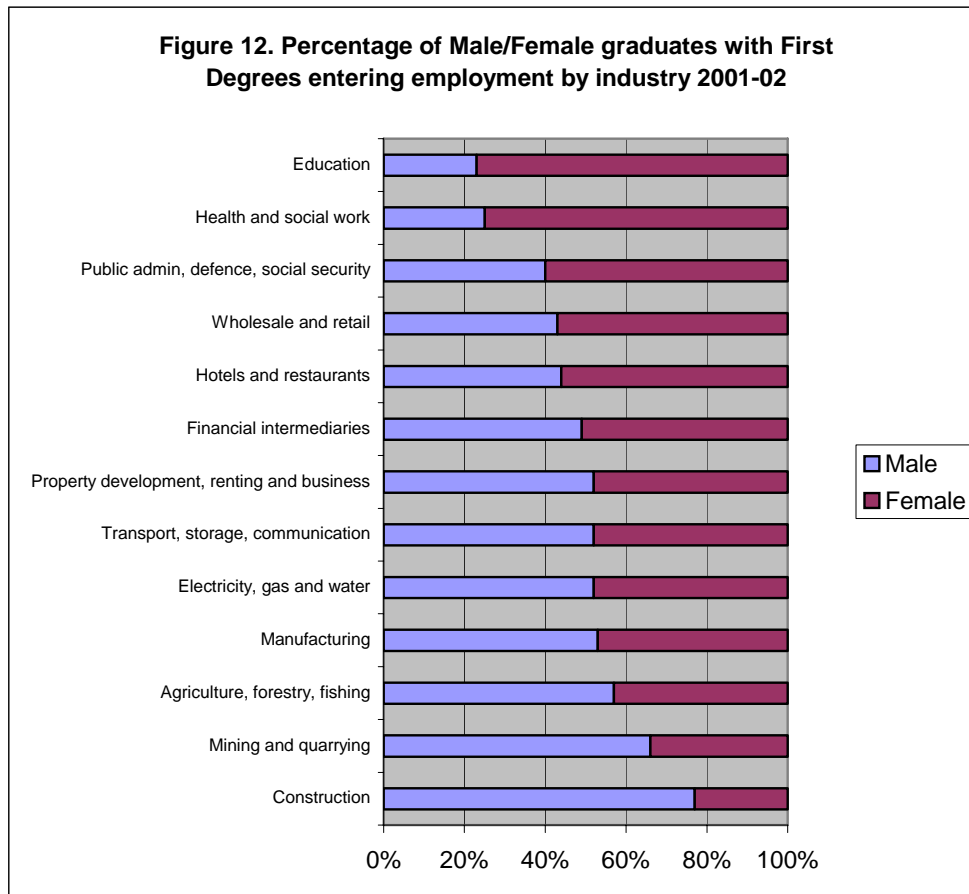
Note: Figures for 1992-1996 are approximate figures only. No data available for 1994]

There has been little change in female participation in Construction and Engineering and maintenance during the 10 year period with around 1% entering these occupations each year. Female participation in Agriculture and horticulture has been around 20-30% up until 2001, when participation fell to under 20%. The table suggests that there is an underlying downward trend in female participation in Craft and design occupations, although there has been a marked increase in 2002. Below 25% of women entered Technical and scientific and Transport and wholesale occupations. The trend for entry into Technical and scientific appears to be stable, although has varied between 9% and 20% over the period. Female participation would appear to be increasing in Transport and wholesale from 6% in 1992 to 15% in 2002.

Less than 12% of entrants to Community and health jobs were male in these years and this pattern appears to be fairly stable. However, female participation in Administration and Clerical and Personal service and Retail both show a slight downward trend during the period (Administration and clerical was 71% in 1992 and 65% in 2002 while Personal service and Retail was 71% in 1992 and 60% in 2002).

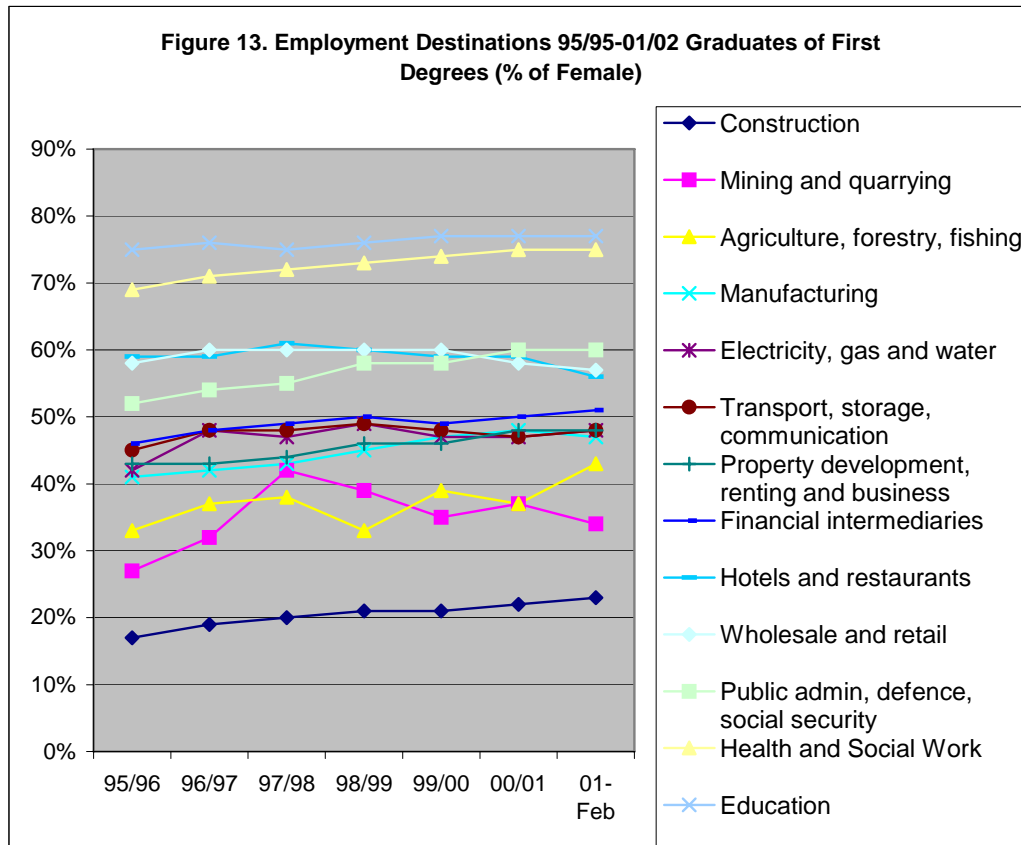
2.3.2 Graduate Destinations

Figure 12 shows the employment destinations of graduates with First Degrees in the UK in 2001/2002 (HESA 2002). These figures are, unfortunately, not strictly comparable with data from the School Leaver Destination Surveys because (1) disaggregated data for Edinburgh and Lothians were not available, and (2) the industrial categories used varied between the two surveys.



There would appear to be less segregation between men and women with First Degrees across the range of industries than between male and female school leavers. For instance, while less than 3% of those going into Construction among schools leavers were female, over 20% of those with First Degrees going into this field were female. However, since the categories are slightly different in the two surveys, different jobs may have been included in similar-sounding categories.

Figure 13 shows the proportion of female First Degree graduates entering industries over a seven year period (data before 1994/1995 are based on different categories and therefore are not comparable).

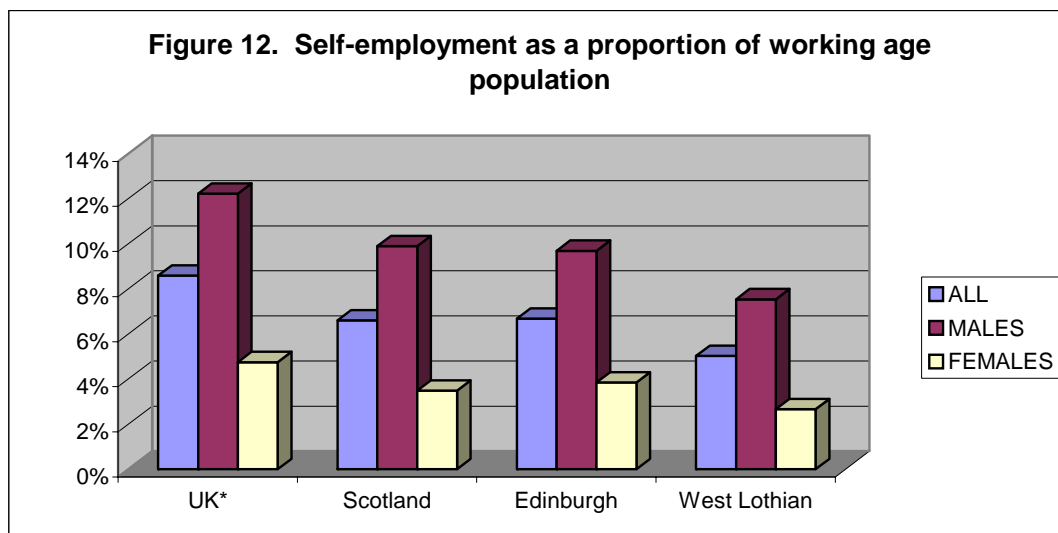


The figure shows that, in many of the industries (including both traditionally 'male' and 'female') the proportion of women has increased during this period. This may largely be because the proportion of women with First Degrees has been increasing compared to men during this period - in 1994/95 women comprised 53% of graduates with First Degrees while in 2001/02 women comprised 58%. Nevertheless this does appear to contrast with the employment and training destination of men and women school leavers where the proportion of women has declined or remained stable. Although, this may be partly because of the lower proportions of female school leavers going into employment and training.

Therefore, indications are that occupational segregation may be smaller among graduates (at least on these highly aggregated measures) than among school leavers.

2.4 Self-employment

Self-employment in the UK accounted for 9% of total employment in 1981 and 13% in 1997 and is predicted to increase to 15%, representing over 4 million workers, by 2007 (DfEE 1997). In Scotland, however, self-employment is lower than the UK average. For instance, Figure 12 (below) shows that as a percentage of all working age adults there are currently 6.6% in Scotland who are self-employed compared to 8.59% in the UK. While Edinburgh has a similar proportion of self-employment to the national average in Scotland, West Lothian has a low level of self-employment. Edinburgh has a low level of Skilled trades, one of the traditional areas of self-employment, but there are high levels of professionals who may be working freelance and technically self-employed. There is also a high proportion of Hotels and restaurants in Edinburgh which have a relatively high level of self-employment. It is not entirely clear why self-employment is low in West Lothian, since the area has a slightly higher proportion of Skilled trades than the Scottish average, although the dependence on large manufacturing companies may go some way to providing an explanation.



[Figures from Scottish Census 2001, expect * from Labour Force Survey, Spring 2001. Scotland figures based on % of people aged 16-74, UK figures based on % of people aged 16-59/65.]

The greatest increases in self-employment have been among the female self-employed and without employees. The rate of increase in self-employment for women since 1979 has been 123% compared to 46% for men (Mukhtar 1998). Despite these increases women continue to account

for only 26% of the self-employed in Scotland (Scottish Business Women 2001). Given that women workers now make up half of total employment, this figure is disproportionately small. In Scotland the proportion of self-employed women is even smaller than in the UK as a whole, 3.49% of all women of working age are self-employed compared to 4.75% in the UK (see Figure 13 above).

Figure 13 also suggests differences in the levels of self-employment between the Edinburgh and West Lothian. Edinburgh has a slightly higher than Scottish average, which is accounted for by the higher proportion of female self-employment. West Lothian, however, has low levels of self-employment among both men and women, with just over 5% of self-employment compared to the Scottish average of 6.6%.

2.4.1 Young People's Attitudes to Self-Employment

Figures from the Scottish School Leavers Survey (SSLS) 1997 show that of those young people who left school in S4, less than 0.5% indicated that they had become self-employed. However, self-employment is more common among older and more qualified workers so it is not surprising that the participation rate is so low among this group.

The SSLS 1997 also asked young people who had left school in S4²⁷ about their attitudes to self-employment through a series of statements (see Table 2 below).

Being their own boss and being self-employed were very popular among this group of young people with 80% agreeing that '*It would be good to be your own boss*' and 64% agreeing that '*I would consider being self-employed if I got the chance*'. However, a high proportion also felt that the paper work in self-employment is complicated (63%) and that you'd never know what you'll earn (77%). One reason that may partially explain the mismatch between low rates of self-employment and its popularity among this group of young people, may be that a very high proportion (81%) did not know much about how to become self-employed.

There were also significant differences in attitudes and opinions to self-employment between boys and girls. A significantly lower proportion of girls than boys agreed that that '*It would be good to be your own boss*' (76% compared to 84%) and 10% fewer girls than boys agreed that they

²⁷ This question was not asked of young people who stayed on

would actually consider being self-employed. A greater number of girls also perceived the paper work to be complicated and felt that they didn't know much about how to become self-employed. However, both girls and boys similarly agreed that '*when you are self-employed, you never know what you'll earn*'.

Table 2. Percentage Agreeing - Statements about self-employment

	ALL	Male	Female	N	Chi-square sig.
The paper work in self-employment is complicated	62.8%	59%	67%	564	.035
I don't know much about how to become self-employed	80.8%	76%	86%	594	.004
It would be good to be your own boss	80.4%	84%	76%	593	.013
When you are self-employed, you never know what you'll earn	76.8%	79%	75%	586	.130
I would consider being self-employed if I got the chance	64.1%	69%	59%	588	.008

[Source: SSLS 1997]

3. EDUCATION AND ATTITUDES

3.1 Subject Choice

Research continues to find a prevalent gender divide in subject choice despite the National Curriculum in England and Wales and a broad based curriculum in Scotland (EOC 2001b).

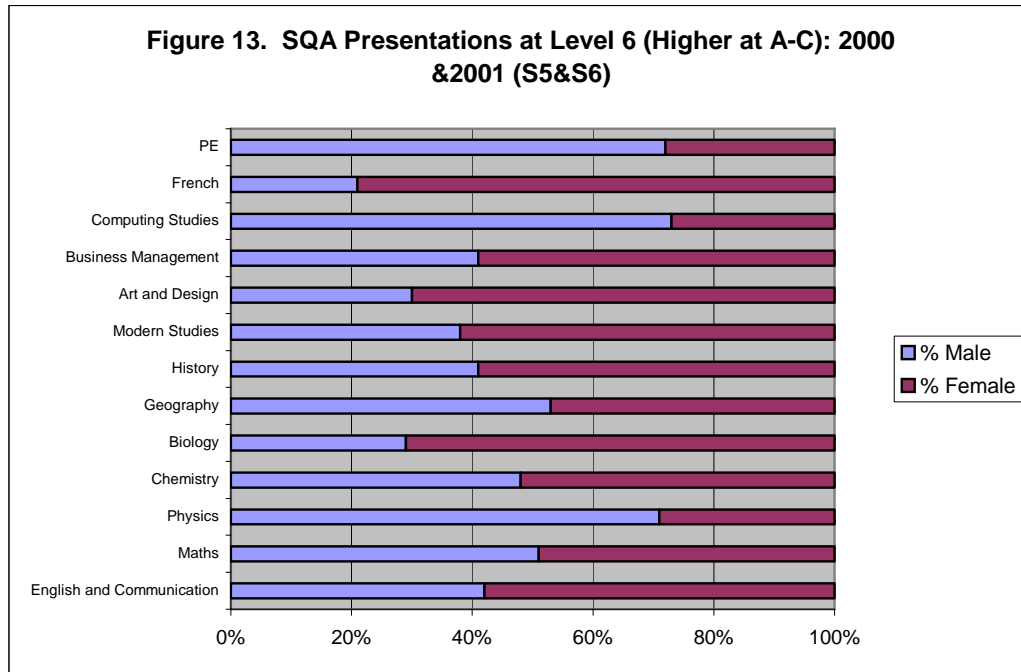
Table 3 presents figures for favourite school subjects of 569 13 to 16 year olds in Great Britain in 2001 and shows significant differences between the sexes although there was a high level of agreement for some subjects (EOC 2001b).

Table 3: Favourite School subjects, top three choices (ages 13-16) (EOC 2001b)

	Girls (%)	Boys (%)
English	47	29
Art/Design	40	25
Maths	30	33
PE/Games	24	41
ICT	22	36

While 37% of both boys and girls aged 13 and 14 listed English as one of their favourite subject, over 50% of girls aged 15 and 16 mentioned English and only 20% of boys.

As Figure 13 shows, choice of subjects for Higher Level 6 among Scottish students also shows marked gender differences in subject choice.



[Source: Scottish Executive 2002, 'SQA Attainment in Scottish Schools: 2000-01', News Release]

Maths, Chemistry and Geography had roughly equal proportions of boys and girls presenting at this level. However, other subjects were dominated by one or other gender. French was the subject most dominated by female entrants with 79%. Other subjects that attracted a higher proportion of female entrants were: Biology (71%); Art and Design (70%), Modern Studies (62%), Business Management (59%) and English and Communication (58%). There were more male than female entrants in only three of these subject areas: Computing Studies (73%), PE (72%) and Physics (71%). Girls therefore dominate in a wider range of subject areas than boys²⁸.

Gender differences in subject choice become more pronounced at degree course level.

²⁸ Some of these subjects may be compulsory and this needs to be considered in the analysis

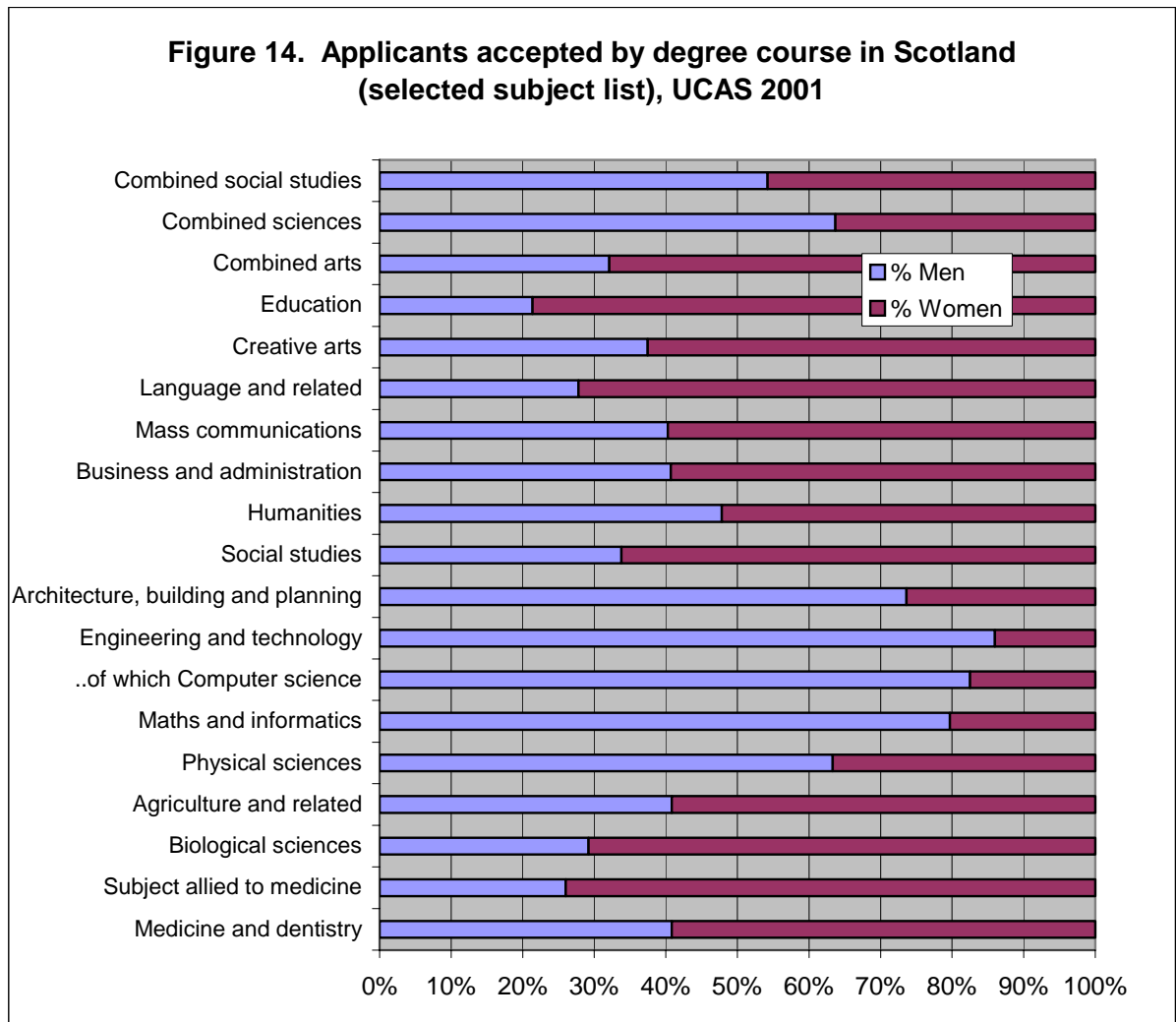


Figure 14 shows that Humanities was the only degree area with rough parity of participation between the sexes (with 52% female). Engineering and Technology courses were the subjects most heavily dominated by male students (86%). Education had the highest female participation with 79%. Women dominated in a total of 11 degree areas while men dominated in only 5 areas²⁹.

Subject choices therefore appear to become more polarised by gender with age. This is partly because there is limited choice when young, but when choice is available, there is still a tendency for young people to choose traditionally sex-typed subjects. This may also be because girls'

²⁹ Computer Science is not included since it is subsumed under 'Maths and Informatics'. It is shown in Figure 14 for illustrative purposes only.

and boys' earlier subject choices will affect the options open to them at a later date.

Tinklin *et al* (1999) study found that men and women were still opting for gender-typical subjects where there was room for choice. The students reported that they chose subjects based on subjects they liked, those they are good at and those they thought would be useful for the careers they were interested in. However, students' perceptions of their preferences, ability and future careers are influenced by a range of other factors. Colley (1998) points to the influence of: stereotypes of male and female abilities and roles; educational factors such as the school environment, teacher beliefs and behaviour; styles of course delivery, syllabus, content and assessment; individual differences such as patterns of achievement, gender stereotyping, educational experiences and family background.

3.2 Attainment

Over the last two decades, there has been a rise in the level of qualifications attained by school leavers in Scotland and fewer students leaving without any qualifications. Girls now gain slightly better grades than boys overall, and fewer girls than boys leave school without any qualifications (Powney 1997; Biggart 2002; Biggart 2000).

In 2000-2001, nearly 80% of girls and 73% of boys left school with five SCQF level 4 or better qualifications. 37% of girls and 28% of boys have three SCQF level 6 or better qualifications 2000-01. A higher proportion of girls than boys achieved passes at level 4 and 5 in all the main subjects. This was similar for passes at level 6 with the exception of Computing Studies where 71% of girls and 75% of boys achieved a pass at level 6. Even in subjects that were dominated by boys, such as Physics, girls still had a better pass rate (81% achieving a pass at level 6 compared to just 72% of boys) (EOC 2003a).

There have been a number of explanations of the changing balance of achievement between boys and girls. There is evidence that peer pressure on some boys deems it is 'uncool' to try too hard or do too well at school (Tinklin *et al* 1999; Arnot *et al* 1999). In contrast to boys, girls tend to be more conscientious and hard-working than boys and there is some evidence that girls do better at coursework (which has become a larger feature of qualifications) (Powney 1997). Other explanations are

examined included the interaction of teaching and learning styles, teacher-pupil relationships and classroom interaction, curriculum content and assessment methods, parents, the local area, society and post-school opportunities. There are also links to wider social change, such as the decline in the model of the male breadwinner and the trend towards increasing female participation in the labour market (Arnot et al 2002).

The success of girls has raised concerns about the 'underachievement of boys'. However, as Tinklin et al (1999) point out, average levels of attainment for both boys and girls have increased, but the gain made by boys has not kept up with girls. They found that social background was a greater source of inequality and underachievement than gender.

Even though fewer girls than boys leave school with no qualifications and girls stay on longer in school, those girls who do leave early are less likely to find employment (Collins et al 2000). Biggart's (2002) analysis of the Scottish School Leavers' surveys also concluded that young women leaving school with no qualifications did significantly worse than young men in the same position. Biggart (2002) suggests that despite the growth of 'female' jobs in the economy, these jobs tend to be of a higher status, whereas young men are still able to find work in traditional sectors. Therefore, young women require higher qualifications than young men in order to enter the labour market.

In addition, girls' success in school attainment has not translated into success in the labour market. Women still tend to be concentrated in certain occupations and industries. They are underrepresented in senior positions, have fewer training opportunities and promotion prospects, they are more likely to earn less and more likely to work part-time.

3.3 Young People's Attitudes

Research carried out for the EOC found that young people's attitudes to traditional gender roles are changing (EOC 2001b). They found that the majority of children (82% of girls and 64% of boys) disagreed with the statement that '*A man's job is to earn money, a woman's job is to look after the home and family*'. Older girls and boys and those in social classes ABC1 were far more likely to disagree than younger children and those in social class C2DE.

When it came to which occupations young people perceived to be suited to which sex, children felt that many jobs were equally suited to both. For instance the majority thought the work of a doctor, a head teacher, a MP and a research scientist were equally suitable for women and men. 87% of girls and 76% of boys also agreed with the statement '*there is no reason why men can't be nurses and women can't be airline pilots*'. However, some jobs were still seen in a fairly stereotypical way by both boys and girls. A greater proportion thought a fire fighter and car mechanic was best suited to a man, while secretary and care assistant was best suited to a woman. There were differences between boys' and girls' attitudes, girls tending to have less gender stereotyped views of occupations on the whole. (EOC 2001b).

Millar and Budd (1999) examined occupational stereotyping of children and young people aged 8, 12 and 16. They found that girls were more likely to believe that more jobs should be carried out by both men and women and that occupational stereotyping decreased with age (although this was attributable to the female sample - male subjects' beliefs showed little change).

Crucially, Millar and Budd (1999) also found that although girls displayed more liberal views about who should perform various jobs, they still showed little interest for themselves in employment in most masculine occupations. In explaining the trend of increasing liberalism in girls, they point to girls increasing awareness of the increased choice and opportunity for women, as well as the barriers. Alternatively, careers programmes that have stressed equal opportunities have tended to emphasis access to non-traditional occupations for girls, but not necessarily boys. This may have led girls to develop more liberal opinions.

4. EXPLANATIONS OF THE PERSISTENCE OF GENDER STEREOTYPING IN CAREER CHOICE

4.1 Career Theory

Traditional careers theory is derived from differential and development psychology (e.g. Holland 1973; Super 1957) is these are based on studies of men to explain male career development. As such, they are inadequate at explaining women's careers. A further weakness with psychological approaches is that they tend to separate the individual from the context within which they exist (Bimrose 2001). Socio-biological theories have also received attention recently, although they are controversial claiming there are fundamental biological differences between men and women that explain why, for instance, there are fewer women in engineering and construction (Pinker 2001; Govier 1998). Consideration of the biological evidence, however, is outwith the scope of this report, and it is considered that a structural approach to this issue is more fruitful for our purposes. There are a number of theories that attempt to incorporate structural aspects to career choice (e.g. gender, class and ethnicity). Two commonly referenced theories are that of circumscription and compromise (Gottfredson 1981) and Self-Efficacy (Hackett and Betz 1981).

Gottfredson (1981) describes circumscription as a process whereby career options are limited by the individual according to socialisation processes and societal expectations of what is appropriate based on gender, social class and ethnicity. Building in a developmental component she explains that the 'zone of acceptable alternatives' will be determined by firstly, sex-typing, where the sex-typing of an occupation is considered in terms of the developing sense of gender identify. Secondly, prestige, where occupations are considered on their appropriateness to social boundaries, i.e. social class. Thirdly, interest, where occupations are scanned for compatibility with interests and abilities. Each of these is theorised to develop at different life stages with sex-typing being the first to develop, then prestige and lastly, interest.

Compromise takes place when personal job preferences have to be tailored to the realities of the world of work. Gottfredson (1981) suggests that earlier development will be the least flexible to compromise, the first element to be compromised will be interest, then prestige and, finally, sex-type, which is particularly resistant to change.

However, problems have been identified with this model of career choice in that some research has found prestige the most resistant to change. In addition, each component is confounded by the others and interrelated (Anderson 1998). However, Gottfredson's theory does allow for the inclusion of social and structural factors to affect career choice and hence is a better tool than traditional theories for analysing women's career choices.

A second theory that offers the potential for further understanding of women's career choices is that of self-efficacy (e.g. Hackett and Betz 1981). This theory suggests that the beliefs an individual holds about their performance capabilities affect their attitudes and behaviours. Different socialization experiences will limit individuals involvement in certain activities, so girls will be encouraged into being 'caring' while boys will be encouraged to 'get their hands dirty'. Differential self-efficacy is therefore based on gender, social class and ethnicity. Men tend to have higher self-efficacy in male-dominated occupations while women have higher self-efficacy in female occupations, therefore men and women will gravitate towards occupations that are dominated by their own sex.

Educational and occupational choices are significantly influenced by environmental factors and can only be seen meaningfully in the context of a person's entire social experiences (Anderson 1998). Two key contexts that will be examined here are that of socialization, which emerges as a central concept in these theories, and labour market contexts, which is referred to by Goffredson.

4.2 Socialisation

Socialisation is "*the process whereby individuals in a society absorb the values, standards, and beliefs current in that society*" (Coleman 1992, p.5). Socialisation is important in the formation of gender role identities, that is the process by which individuals form "sets of behaviours, beliefs, and attitudes socially defined as appropriate for one's sex' (Archer 1992 p.59). There are a number of socialisation agents: family; school; peers; and, media. During childhood, a child's role is ascribed by others while the onset of adolescence marks a period of greater choice for the individual. Adolescence is a time of widening roles, transitions, discontinuity and a heightened sensitivity to the evaluation of others. Peer groups become more influential at this point. Gender identity is described by Archer as a process as well as a product

"the process refers to decision-making as to whether and to what degree these externally defined gender roles are appropriate to one's self-definition" (Archer 1992, p.60)

The formation of gender identity and gender schemas occurs through a processes of reinforcement. Girls and boys learn what is acceptable from the reactions of others to their behaviour. They observe the behaviour of role models and copy others of the same sex (Archer 1992).

Gender stereotypes are oversimplified *"socially shared beliefs that certain qualities can be assigned to individuals, based on their membership in the female or male half of the human race"* (Lips 1988: 2 quoted in Archer 1992, p. 59).

More specifically, in relation to careers choice, Eccles (1994) considers how individuals' perceptions of their viable careers options is shaped through processes of socialisation. Role models, for instance, may provide a legitimisation of gender role deviant options. Others that can influence an individual's perception of their choices through the information and experiences they provide are parents, teachers and school counsellors. Peers can also be important by providing or not providing support for various alternatives.

There are gender differences in the subjective value attached to various options, so that for instance, Eccles (1994) found girls were less likely to enrol in Advanced Maths, mainly because they felt Maths was less important than boys (p.595).

There are also gendered differences in task value, whereby boys and girls place different values on different tasks. Eccles (1994) defines task value as the quality of a task that contributes to the increasing or decreasing probability that an individual will select it. There are four key components to task value:

- Utility value of the task in facilitating one's long-range goals or external rewards
- Intrinsic interest in and enjoyment of the task
- Attainment value, or the value an activity has because engaging in it is consistent with one's self-image

-
- The cost of engaging in the activities, influenced by anticipated anxiety, fear of failure, and fear of the social consequences of success.

Different occupations have different perceived task values, but there are also differences between individuals in the importance of gender roles to their identity. *"If success in one's gender role is a central component of one's identity, then activities that fulfil this role should have high subjective task value and activities that hamper efforts at successfully fulfilling one's gender role should have lower subjective task value"* (Eccles 1994, p. 600).

However, there are more differences in choices within sexes than between sexes, yet this has been rarely examined.

4.2.1 Agents in the formation of Young People's Choices

There are a number of different agents (parents, family, peers, media, careers advisors and teachers) who have an impact on the occupational choices of young people. This can be through the provision of information, but may also be through direct and indirect influence in young people's choices.

A recent study by Semple et al (2002) found that young people's informal networks (e.g. parents and family members) had a greater impact on career decision-making than formal careers guidance. As well as providing information on careers and the labour market, the influence of parents and family members was apparent through their implicit assumptions. For instance, there were shared values, expectations and assumptions that were not clearly articulated and children often shared the same values about work as their parents.

Semple et al (2002) also found close friendship groups and boyfriends and girlfriends to have considerable influence, mainly in whether aspirations were shared or not, particularly in the case of continued education and training. Friends make supportive or negative comments about certain choices and there is considerable discussion of options within friendship groups.

The media has also been found to influence young people's career development without conscious intent (Semple et al 2002). In the early

stages of career thinking the media stimulated ideas about jobs, often provided from images on television. Francis (2002) found that television had an impact on 14-16 year olds' career choices. For instance, in their responses, most young people who said they wished to be a solicitor actually used the word 'lawyer' which is interpreted as reflecting the proliferation of American media based on legal practice. Other media, such as newspapers, may have a different impact by building a picture of the local opportunity structures, through for instance, vacancy columns.

The information that young people receive about possible careers will influence their decision-making. However, there is some evidence that the information young people receive is not necessarily up-to-date or realistic. A study by Francis (2002) of 14-16 year olds in London found both boys and girls had little knowledge about the adult workplace and the qualifications required for particular careers. She found careers guidance was often provided by teachers who did not have accurate knowledge of the employment market or information about particular careers. The major labour market changes of the past 20 years do not appear to have filtered down to young people.

Semple et al (2002) also found that the accuracy of the information provided by informal networks was sometimes questionable in a rapidly changing labour market. The informal network, usually parents, also had an impact on young people's choices in other ways. This is an important source of encouragement and motivation to young people and can sometimes raise expectations to make the most of opportunities. This network can also provide practical assistance in terms of information, help with forms, and contacts in the occupation being considered by the young person. These informal interventions were on the whole fairly positive for young people, but not all individuals had the same level of access to support and information provided may not always be accurate.

4.3 Labour Market Contexts

Local labour markets have an impact on the opportunities available to young people. Employment practices such as selection and promotion can serve to discriminate against women. Also, perceptions of workplaces may affect the choices that are made by young people.

4.3.1 Local Labour Markets

Local labour markets are different in the type and nature of employment available and therefore impact on the opportunities available to young people in different areas. This can have an impact on the relative participation rates of men and women in different occupations and sectors. A DfEE QIPD (1999) report found that female participation rates in modern apprenticeships in England varied depending on local labour markets and related to the size of sectors and the degree to which they are dominated by one sex in different areas.

Furlong and Biggart (1999) and Furlong, Biggart and Cartmel (1996) adopt a theory of 'opportunity structures' as a way of conceptualising the relationship between labour markets and aspirations. For instance, "*ambitions are a subjective interpretation of a person's position within objective structures*" (Furlong, Biggart and Cartmel 1996, p. 552). So opportunity structures point to the existence of constraints which shape the experiences of different social groups. Furlong, Biggart and Cartmel (1996) seek to examine these in the context of individual attributes. "*While an individual's location within the class structure, as well as gender or racial inequalities, affect the life chances of all young people, irrespective of their spatial location, it can be argued that contexts can potentially magnify or dilute the effects of individual attributes*" (p. 553).

Furlong and Biggart's (1999) examination of young people (aged 13-16 year old) in four different labour markets in Scotland found the local labour market contexts to have relatively little impact on young people's actual aspirations. In a depressed local labour market, young people would have to seek work outside the area, either by moving elsewhere or commuting longer distances if they are to benefit from their academic attainments. In the context of a depressed local labour market, raising young people's aspirations may result in increased frustration. It is therefore important that young people have information on the labour markets and opportunities in the immediate area.

Further research examining the Scottish Young people's Surveys (Furlong, Biggart and Cartmel 1996) found that it is not just local employment structures, but neighbourhood deprivation that affect young people's aspirations. This is because they surmise, "*norms and cultures which are transmitted in a neighbourhood context are likely to have a significant affect on the development of occupational aspirations and expectations*" (Furlong, Biggart and Cartmel 1996, p.555). Those living in the most affluent areas have significantly higher aspirations than those living in

the most deprived areas. Men seem to be more affected by local factors than women, particularly by deprivation and rurality.

4.3.2 Employment Recruitment, Selection & Promotion

Another way in which vertical and horizontal occupational sex segregation may be maintained is through employment recruitment, selection and promotion.

DfEE QPID's (1999) study of young people entering modern apprenticeships found that the way vacancies were advertised specified highly gendered skills and male dominated occupations were the most closed in terms of demanding highly specific qualifications and interests.

Scott and Crieghton (1998) examined the sources of bias in the selection process and suggest that these come from both the supply-side and the demand side. Bias exists through employers perceptions of women's abilities and how their employment relates to their lives outside work. The Sex Discrimination Act (SDA) 1975 forbids direct (explicit) and indirect (that is where a condition is laid down that is harder for one or other gender to meet) discrimination. However, in practice, many jobs continue to be 'gendered' and beliefs persist that women are, for example, fundamentally ill-equipped for senior positions or certain 'male' roles. Scott and Crieghton (1998) conclude that the SDA has had relatively little effect since legislation is only a partial solution to the problem of discrimination. It is difficult to bring cases against employers because recruiters are by law able to give emphasis to subjective factors such as personality, manner and appearance.

This sort of bias in recruitment is confirmed by Teigen's (1999) examination of recruitment cases brought to the Norwegian Gender Equality Ombud. As with the British system, the ability of employers to use 'subjective' criteria for choosing candidates makes it difficult to prove cases of discrimination "It is difficult to separate discriminating selection criteria based on gender stereotypes from what is considered legitimate and reasonable hiring preference" (Teigen 1999, p. 102). She argues that candidates are still generally judged by a 'male-standand', which will disadvantage women.

Women are still under-represented at senior levels. Only 24% of executives in the private sector in 2001 were women and 43% of FTSE

100 companies had no female directors - only one company had a female CEO (Dench et al 2002).

Women's under-representation at senior levels (vertical segregation) has been explained in a number of ways. Firstly, that women are discriminated against by organisational structures and processes (Liff and Ward 2001). Secondly, that women choose to be 'career-orientated' or 'family-orientated' and the majority of women are not orientated towards a career (Procter and Padfield 1999). Demonstrating commitment through long work hours, work-related travel and social networking are commonly expected from professions and senior roles and this does not easily fit with the family commitments of many women given the continuing gendered pattern of caring responsibilities (Liff and Ward 2001; Scottish Executive 2000).

Workplaces are still dominated by ideas of male orientations to work and the 'man as breadwinner, woman as homemaker' model. Notions of time and commitment at work have evolved to fit the male breadwinner model, where male workers are unfettered by the demands of family and home (because they have a wife at home to take care of such things) and therefore able to devote considerable time to work (e.g. Bailyn 1993).

Men are generally much less disadvantaged in this way and even in female-dominated occupations can benefit in terms of promotions, often being promoted quicker than their female counterparts, for instance in nursing (Lane 1999).

4.3.3 Perceptions of Workplaces

As Scott and Creighton (1998) mention, workplace factors also affect the supply-side. This is where women's perceptions of male-dominated jobs fields may lead them not to choose to go into these fields (this will be explored in more depth in women entering male professions later).

Women may fear potential disapproval, harassment and discrimination about entering a predominantly 'male' job (Eccles 1994). They also may have perceptions about organisational cultures and long-working hours in certain occupations and sectors, which lead them to be drawn to certain jobs and away from others (Anderson 1998).

Women may also, often correctly, perceive such jobs to be relatively 'un-family friendly', with few opportunities to effectively combine work and family roles. As other authors have noted (Marks and Houston 2002; Lightbody and Durndell 1996; Eccles 1994), women may be making rational decisions not to pursue these careers because they anticipate a future role for themselves as mothers. This may lead them to choose work that will more easily enable them to combine motherhood with work (and these jobs are generally those which are already female-dominated). Such authors point to the expansion of 'family-friendly' or 'work-life balance' policies in workplaces, as these would facilitate the opportunity for women to combine work with family roles. While such a strategy is being adopted by the Government through its Work-Life Balance Campaign, this has generally been to encourage organisations to voluntarily adopt such policies. Predominantly male industries still lag considerably behind, for instance, the public sector and the finance sector, which already have a predominantly female workforce.

Although they may be reluctant to enter female-dominated jobs, men do not usually face these same issues. More usually men are unwilling to do these jobs because they are low paid and insecure (Lloyd 1999) (this is discussed in more detail in 'men and traditional female careers'). However, as British men face new pressures or opportunities to become more involved fathers (Lewis 2001) 'work-life balance' may be an increasingly important issue for men.

4.4 Social Class, Ethnicity and Gender

Social class and ethnicity are also important identities that impact on career choice. Social class has been found to be significantly related to occupation aspirations among young people, mainly because academic attainment is closely linked to class, and those whose confidence in attainment is high have higher aspirations (Furlong and Biggart 1999). Anderson (1997) explains that the career choices of working class children are similar to those of their fathers, while middle class children are more likely to aspire to professional careers. This is partly because middle class children have more role models in this respect and the expectations of middle class children may steer them on to university.

Social class and ethnicity impact on men and women in different ways. For instance, Anderson (1997) suggests that a woman from a lower socio-economic class is unlikely to want to be a car mechanic because this

occupation has none of the attributes that she has to offer. She is also very unlikely to aspire to a professional career.

From the earlier analysis of employment by occupation (Figure 1), it is clear that there is more balance between men and women in the higher level occupations (such as Professions and Associate Professions and Technical) than there is in the lower level occupations of Administrative and secretarial, Skilled trades, Personal service, Sales and customer service and Process, plant and machine operatives. This may be related to increasing numbers of women with degrees, the higher 'degree premium' for women than for men, the limited opportunities for women with few qualifications (Biggart 2002), and to changing labour market patterns.

However, it would appear that class affects gendered career choices in different ways and this is an area where further research may be required to understand the full implications. Ethnicity also has an impact on career choices and interacts with gender and class, although it is not covered in any depth here.

5. BREAKING DOWN GENDER STEREOTYPING IN CAREER CHOICE

In this section, we examine issues around breaking down gender stereotyping in career choice. We consider the problems faced by women entering traditional male careers and men entering traditional female careers. We then examine the limited evidence available about work carried out in schools and careers services which is aimed at promoting equal opportunities in career choice.

5.1 Women and traditional male careers

There have been a number of initiatives aimed at encouraging women into traditional male occupations, usually Professional occupations, e.g. SET, WISE etc.. Many of these occupations offer high rewards, and women are seen to be losing out because they are not entering these professions in any large numbers. A further reason for this focus is that women's potential is not being maximised and these industries are often ones which are currently suffering skills shortages.

There have been a number of studies examining why women are not choosing male-dominated professions. Although there are persistent gender divisions in some industries such as science, technology and construction, women have made significant in-roads into previously male-dominated professions. For instance, women have made huge strides in law, medicine, dentistry and veterinary science [the Quarterly Labour Force Survey Sept-Nov 2002, shows that 41% of women are medical practitioners, 50% veterinarians, 45% dentists and 40% solicitors and lawyers] (Lightbody and Durndell 1998). Science, technology and construction, however, remain male-dominated.

Whittock (2002) and Greed (2000) both examined issues around women's participation in the construction industry. Women's minority status in this industry creates particular problems and is reflected in the relatively high job turnover among women in the industry (Greed 2000). As well as a reluctance on the part of employers to take on women after training (Whittock 2002), women in this industry faced isolation, polarisation and limited promotion prospects. However, Whittock's study is encouraging because she found relatively high levels of camaraderie between the women studied and their male co-workers, leading her to

suggest that change may be occurring in the industry and that perhaps the image of a hostile workplace for women is not as true as it once was.

Another industry that has faced problems in attracting female recruits is ICT. One problem here is the low numbers of women taking the subject in higher education, and thus a lack of women qualified to pursue such a career. The numbers of women taking ICT courses in the UK has actually gone down over the last 20 years to 17.5% in 2001, (UCCAS figures). A study carried out in Australia (Newmarch et al 2000) found that part of the problem lies in the image of the occupation being for 'nerds' and loners and is perceived to be boring. They point out that in reality the industry is very different, involving a lot of social interaction and varied work (factors which are more likely to attract women). Therefore, the image of the industry may be a major factor in recruiting females. There were other factors, such as the emphasis on prior knowledge of maths (where in fact linguistics would be equally useful), teaching and curriculum and access to computers.

5.2 Men and traditional female careers

The decline of traditional manufacturing jobs and the rise in service sector work has been well documented. However, many of the new jobs created in the expanding industries tend to be poorly paid and insecure (McDowell 2002; Lloyd 1999).

Frances' (2002) study of 14-16 year olds found boys unwilling to try traditional female jobs, and concluded that this inflexibility was harmful since a number of traditionally female jobs, e.g. caring work is set to increase across Europe.

Some research has tended to focus on the reluctance of a small number of long-term unemployed men with limited qualifications (particularly young men) to take these jobs. McDowell (2002) and Lloyd's (1999) studies of poorly qualified young men found that many young men still aspired to traditional male jobs. However, their reluctance to take up employment opportunities in 'female' jobs, stemmed strongly from the fact the work was perceived to be low paid and insecure. Many still aspired to securing a job that provided a 'breadwinner wage', and many 'female' jobs do not provide this opportunity. As McDowell points out, opportunities are structured by class as well as gender (and also race),

and by local labour markets. In the case of this group of young men, their expectations are often out of line with current labour markets.

Other research has focussed on getting women into male careers. Since many traditional female jobs are low paid, with limited training and development and career opportunities, it is hardly surprising men are reluctant to do them. There is less to be gained for men in doing 'women's' work terms of financial reward, status, and training and development.

5.3 Work in Schools and Careers Services

There is little published material on work carried out in schools and careers services, probably because much of this work takes the form of local initiatives. The EOC commissioned research examining gender equality in the careers service (Rolfe 1999) and there has been a recent survey of how secondary schools in Scotland promote equal opportunities (Fair Play/EOC Scotland 2003).

Rolfe's (1999) survey of careers services in England provides a valuable insight into the varied equal opportunities work of different local services. From this, she identified a number of activities to promote good practice. However, she is cautious about drawing strong conclusions between good practice and positive outcomes because the careers services is only one of a number of influences on the career choices of young people, and also because the service only deals with certain age groups, when in reality decisions about careers are made during the course of a lifetime. This is likely to be a problem for anyone attempting to measure the effectiveness of initiatives.

Rolfe (1999) identified good practice in terms of work with schools, gender equality in careers education, one-to-one guidance and publications for young people. Establishing formal partnerships, for instance in the form of partnership agreements which included equal opportunities statements, was identified as being important in work with schools. This included partnerships with the schools and also with local employers. Equal Opportunities could also be integrated into quality standards and Quality Assurance Awards made to schools. Adopting a 'pro-active' approach, where the service saw it as their role to promote gender equality in schools, could also be beneficial. This ensured that similar programmes on equal opportunities were taking place in all schools in the

area, although this approach was less likely to build on existing work in schools as effectively as a 'reactive' approach (i.e. responding to the requirements of particular schools). Careers services commonly developed materials for careers education lessons on gender equality. These included quizzes on awareness of gender segregation in employment and equal opportunities legislation, discussion based activities such as hypothetical situations and education packs on labour market information and gender equality. Group work was also carried out in schools using quizzes, role play and other interactive work, and some single sex workshops on career choices, although dedicated events were felt to have the greatest impact. One-to-one guidance provided by careers advisors could also have an impact, depending on the skills and training of the advisor. Careers Services also produced publications and other materials, e.g. videos, posters and leaflets for young people, also few had produced materials on gender equality issues.

Research examining work experience placements among 54 pupils (SCRE Centre 2002) found work experience continues to be based on 'traditional' gender biased areas.

Fair Play/EOC Scotland's Schools Survey 2002 outlines some examples of promoting equality in a practical way in schools in Scotland. These included an Equal Opportunities Day, a Positive Relationships Conference, 'Can You Do Anything?' Day and a Young Engineers Club. To coincide with International Womens Day in March 2003, EOC Scotland also produced a schools pack 'Educating for Sex Equality: Tackling Gaps, Traps and Stereotypes' which was distributed to all secondary schools in Scotland. The Women and Equality Unit also produced a pack for International Womens Day 'Does Sex Make a Difference' mainly aimed at teachers and personal advisors of young people in England, although there has been some interest in Scotland. Other initiatives include the Equal Citizen website covering all equality issues, the Race Equality toolkit for teachers, 'Through the Glass Ceiling' video produced by Leeds Animation Workshop, and 'Whose Job is it anyway?' video produced by Fife Careers Service. In addition, Careers Scotland are producing 'Enterprise in Education' packs for schools in June 2003.

These resources represent practical tools for working with children, but tend to be 'one-off', with little or no follow-up and limited evaluation. They also tend to be issued by either one or only a small number of agencies. There would appear to be relatively limited regional or national

level co-ordination, integration of such activities or sharing of good practice, except in the instance of WISE and SET. However, these initiatives are specifically targeted at getting women into traditionally 'male' professions. There is little aimed at broadening boys' choices of occupations or for those entering lower occupational levels other than the professions. The same is true of the work carried out by Careers Services as outlined by Rolfe (1999). Initiatives generally occur at the local level and there appears to be limited sharing of good practice. However, Careers Scotland was set up in 2002 to help overcome some of these problems and is well placed to develop national resources, co-ordinate with other agencies (e.g. EOC, Local authorities and schools etc.), and initiate longer term projects, follow-ups and evaluations.

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APPENDIX C2

GENDER STEREOTYPING
IN CAREER CHOICE

LITERATURE REVIEW
SUMMARY

SUMMARY

A literature review and secondary analysis of official data was carried out between February and June 2003 in order to examine existing sources of information on gender stereotyping in career choice. This review outlines the key findings from previous research and the secondary analysis.

1. BACKGROUND AND CONTEXT

- According to the Scottish Census 2001, women continue to be concentrated in different occupations and industries from men, although there is some convergence in areas.
- Women form over 70% of the employees in Administrative, Personal Service and Sales and Customer Service occupations, whilst men make up over 80% of Skilled Trades and Process, plant and machine operatives. However, the proportion of women to men is fairly balanced among Professional, Associate professional and technical and Elementary. At the level of Managers and Senior Officials, men still dominate with 64% in this group.
- Women form over 68% of the employees in the Education and Health and social work industries, while men make up over 69% of employees in Agriculture, hunting and forestry, Fishing, Mining and quarrying, Manufacturing, Electricity, Construction, Transport, storage and communications. There are a greater proportion of women also in Hotels and restaurants and Financial intermediaries (61% and 59%). There is a reasonable balance between men and women in Wholesale and retail trade, repair, Real estate, lending and business, Public administration, defence, social security and Other.
- Gender segregation in the labour market disadvantages women in terms of income (female employees working full-time earn on average 18.6% less than the average hourly earnings of male full time employees) and the ability to use their full potential in the labour market. The pay gap increases for women with dependent

children who earn 22% less than the average hourly earnings of men with dependent children.

- There may be differences between men and women in lower occupational classes in terms of occupational segregation and pay than in higher occupational classes, but further research is needed to verify this.
- Gender segregation in the labour market also has implications for the current skills shortages in Scotland and the UK.

2. LABOUR MARKETS

Local Labour Markets in Edinburgh and West Lothian

- Data from the Scottish Census 2001 show that Edinburgh has a significantly larger labour market than West Lothian and thus offers greater total number of employment opportunities across all industries and occupations (with the exception of Process, plant and machine operative occupations).
- There are differences in the relative proportions of industries within Edinburgh and West Lothian. Edinburgh has a greater proportion of Financial intermediation and Real estate lending industries while West Lothian has a greater proportion of Manufacturing industries.
- Occupational structures also vary between the two areas. Edinburgh has a higher proportion of Managers and Senior Officials, Professionals and Associate professionals and technical whereas West Lothian has a higher proportion of Process, plant and machine operatives.
- The extent of occupational segregation by gender varies between the two regions and from Scotland as a whole. In particular, a greater proportion of Managers and Senior Officials, Professionals, and Associate Professionals and Technical occupations are held by women in Edinburgh than in West Lothian.

Labour Market Demand

- Projections on the employment growth in Scotland predicts an increase in employment between 1999 and 2010, with the largest growth areas being in Personal Services and Professional Occupations.
- Part-time work, self-employment and employment among women is predicted to increase during this period, with decreases in employment in full-time work and among men.
- Current trends and forecasts suggest a decline in traditional male occupations and sectors and a growth in those traditionally dominated by female employees.

School Leavers Destinations

- CDEL School Leavers Destinations Reports show that participation in further and higher education in Scotland was nearly 50% in 2002. A greater proportion of young women (56%) went into further and higher education than young men (43%).
- Of secondary school leavers who go into training or employment, there are marked differences in destinations between young men and women. Only Hotel and catering has a roughly equal proportion of school leavers entering in 2002. Men dominated in a wider range of occupations than women. For instance: Engineering and maintenance (99%); Construction (99%); Agriculture and horticulture (93%); Technical and scientific (91%); transport and wholesale (85%); Craft and design (69%); and Processing and manufacturing (68%). Women dominated in Community and Health (88%), Administration and Clerical (65%) and Personal Service and Retail (60%). This might be partly accounted for because 10% fewer young women than young men went into employment and training after leaving secondary school. This pattern shows relative stability over the last 10 years.

Self-employment

- The proportion of self-employed workers is predicted to increase in the future, although Scotland lags behind the UK average having

a lower proportion of self-employment (6.6% of all working age adults in Scotland compared to 8.6% in the UK).

- Despite an increase in self-employment among women, only 26% of the self-employed in Scotland are women.
- Data from the Scottish School Leavers Survey 1997 show that many young people in Scotland expressed an attraction to self-employment, but they were wary of the difficulties and many knew little about how to become self-employed. Young men viewed self-employment more positively than young women.

3. EDUCATION AND ATTITUDES

Subject Choice

- Entrants to Higher examinations in Scotland show marked preferences by gender. There are a greater proportion of boys studying Physics, Computing Studies and PE. Girls dominate entrants in a number of subjects, but particularly in Biology, Art and Design and French.
- At degree level, this pattern continues with men particularly dominating in Computer Science, Engineering and Technology and Architecture, building and planning. The most predominantly female subjects include Education, Language and creative arts, Subjects applied to medicine and Biological Sciences.
- Gendered subject choices appear to become more polarised as men and women get older.

Attainment

- There has been an overall rise in the level of qualifications attained by school leavers in Scotland and fewer students leaving without any qualifications.
- Girls gain slightly better qualifications than boys overall with nearly 80% of girls and 73% of boys leaving school with five SCQF

Level F or better in 2000/2001, and fewer girls than boys leave school without any qualifications.

Attitudes

- Girls displayed greater liberal attitudes about who should perform various jobs than boys. However, they showed little interest themselves in pursuing employment in most 'masculine' occupations.

4. EXPLANATIONS OF THE PERSISTENCE OF GENDER STEREOTYPING IN CAREER CHOICE

- Career theory that incorporates structural explanations of career choice offer better explanations of gender stereotyping in career choice than those derived from differential or developmental psychology.
- Socialisation is an important process in the formation gendered career choice.
- Research has found that parents have a significant influence on the career choices of young people compared to careers advisors.
- There is evidence that the information young people receive about careers is not necessarily up-to-date or realistic, because other agents than careers advisors were involved in giving advise and these other agents had limited labour market knowledge themselves.
- Differences in the type and nature of employment available in local labour markets have an impact on the opportunities available to young people in different areas.
- Despite equal opportunity legislation in the form of the Sex Discrimination Act 1995, bias against women has been found to exist in employment recruitment, selection and promotion processes.

- Evidence suggests that some young females may make deliberate choices not to enter into male-dominated fields based on a fear of potential disapproval, harassment and discrimination. They may also perceive such jobs to be relatively 'un-family friendly' and not easily combined with family roles.
- Social class and ethnicity are factors that also impact on the career choices of boys and girls.

5. BREAKING DOWN GENDER STEREOTYPING IN CAREER CHOICE

- National level initiatives have tended to focus on encouraging women into traditional male occupations, while there are few aimed at getting men into traditional female occupations.
- Research on careers services in England and a survey of schools in Scotland has identified some points of good practice in equal opportunities. However, these tend to occur at the local level and there is limited sharing of good practice.
- Initiatives have tended to focus on the professions rather than on gendered career choice at the lower occupational levels.

Some thoughts on Recommendations

- Young people could to be given more information on self-employment, particularly targeting girls who are less positive about this. This is likely to only have an impact in the longer term, as self-employment is often related to age.
- Increased emphasis on encouraging young men into traditional 'female' jobs. For instance, by targeting initiatives on industrial sectors where they are most under-represented.
- Further research examining the dynamics of gender segregation in different occupation sectors and between boys and girls with different levels of educational attainment
- Encouraging students to choose a balance of subjects, so that future employment options remain open. However, there is a danger that this may limit some future choices (e.g. the need for Chemistry to enter Medicine; or Physics for Engineering), even though routes into the some areas may be becoming more flexible. Care needs to be taken with the implications of this.
- Relaxation of entry requirements for some subjects, e.g. having Maths for IT, or having foundation courses for those seeking to study subjects at university where the student did not take the necessary subject(s) at school.
- Involving parents in equal opportunities work with children.
- Accurate local labour market information.
- Involving employers in equal opportunities, in order to break down bias.
- Encouraging employers to offer work-life policies, particularly in 'male dominated' sectors.
- Support systems for clients who do training/employment in non-traditional employment.

- More co-ordination of initiatives at a regional level, e.g. an equal opportunities audit of schools. Running successful initiatives in many schools.
- Mechanisms for better sharing of good practice.
- Greater evaluation of initiatives to identify what works and why.

APPENDIX D

OTHER RESEARCH ACTIVITIES

Other Research Activities

As part of the research a number of other activities were also carried out, although these are not reported in any detail. These included:

A Focus Group with Careers Advisors

A focus group with careers advisors was carried out in November 2003 in order to obtain input and feedback on the draft summary findings.

Telephone Interviews with Employers

Five employers took part in short telephone interviews in November 2003. These were carried out in order to obtain information on employers perspectives to gender stereotyping issues. Employers were selected from those who had offered trainee placements to students through Careers Scotland. Since the data obtained from the interviews was limited, it was decided not to include this in the report.

Background Information from Schools

Background information and statistics were sought from the four schools who took part in the case studies. However, information was only obtained from one school.