

**GENDER AND PUPIL  
PERFORMANCE IN SCOTLAND'S  
SCHOOLS**

**THE SCOTTISH EXECUTIVE  
EDUCATION DEPARTMENT**

**by**

Teresa Tinklin, Linda Croxford,  
Alan Ducklin and Barbara Frame

September 2001



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# REPORT SUMMARY

This research on gender and pupil performance was commissioned by the Scottish Executive Education Department. Its aim was to provide information about the reasons for gender differences in attainment at school, and ways in which gender differences are being addressed in Scottish schools. Below we summarise each of the chapters in the report.

## Chapter 1: Context and Design

- Historical trends in attainment at age 16 show that levels of attainment of both females and males have risen substantially since 1965, but that the rise was greater for females than males. Lower average attainment by males compared with females has been evident since 1975.
- The focus of equal opportunities policies have changed over time, and most recently a policy of mainstreaming equal opportunities has been introduced.
- The policy of raising standards in Scottish schools has brought a new focus on underachievement by males.
- The research literature has identified gender differences in attitudes, confidence, behaviour and classroom interaction. Differences are explained in terms of peer pressure, different approaches to assessment and curricular tasks, teaching and learning processes and the influence of post-school opportunities. All explanations fall somewhere along the nature-nurture continuum, although purely biological explanations are not favoured.
- Studies of gender differences in other countries report similar trends and issues to the literature in Britain.
- We have emphasised the importance of not treating boys and girls as homogeneous groups, since there are clearly differences within groups by social background and ethnicity and similarities in attainment between boys and girls are far greater than differences.
- The research was mainly based on statistical analysis of official data and case studies of six secondary schools, which were in the early stages of implementing strategies to address gender differences.

## Chapter 2: Where does the problem lie?

- This chapter delved beneath the average gender gap in attainment at Standard Grade to ask where the problem really lay? It revealed a complex picture of gender differences and other inequalities in education, all of which need to be taken into account.
- There are clear gender differences in subject choice where there is room for choice. Reasons given for differences in subject choice include gendered attitudes and stereotypes, vocational relevance of subjects, intrinsic interest in subject areas and perceived difficulty of subjects.
- At Standard Grade, females were more likely than males to gain awards in almost all the subjects they studied.
- At Higher Grade, females were more likely than males to gain passes at A-C in almost all the subjects they took. Females were also more likely than males to gain awards at A. However, there were a few subjects in which male candidates were more likely than female candidates to gain an award at A; these included modern languages, mathematics, biology, chemistry, economics, accounting and finance.

- Gender differences are evident at all stages of schooling. Higher levels of attainment by girls compared to boys have been identified at pre-school and primary stages.
- There is conflicting evidence as to whether boys catch up with girls in the post-compulsory stages.
- More boys than girls are identified as needing learning and behaviour support.
- Differences in attainment between males and females are found at all levels of social-class background. The average effect of gender on attainment is smaller than the effect of social class on attainment.
- There are no systematic differences between schools in the extent of gender differences.
- Nine out of ten primary school teachers are female, and slightly over half of secondary teachers are female.
- Males are disproportionately represented in the promoted grades in both primary and secondary schools.
- The gender profile of subject-teaching staff reflects gender differences in uptake of subjects by pupils.

### **Chapter 3: Factors associated with gender differences: the views of staff and pupils**

- The views of teachers and pupils on factors associated with gender differences were broadly in accordance with the findings in the research literature.
- Teachers and pupils explained boys' underachievement in terms of peer group pressure, boys being less mature and less motivated than girls and teachers, but not pupils, said that prevalent teaching styles suited girls' learning styles better than boys'.
- Girls were seen as more likely to lack confidence in their own abilities, to worry about their performance in coursework and examinations and less likely to volunteer answers in class than boys.
- Boys were seen as more likely to contribute to classroom discussions and to attract the teacher's attention through misbehaviour.
- Teachers believed that they applied the same rules to all pupils, and that any differences in behaviour towards boys and girls were in response to the pupils' own behaviour.
- Pupil groups believed that boys got harsher punishments than girls for the same misdemeanours and that girls were expected to behave better than boys by teachers.
- Girls were generally seen as more co-operative, more organised and more likely to get on with a task, to do what they were asked to do and to produce neater work. They were also seen as more hesitant on practical tasks.
- Boys were seen as more competitive, more confident, more willing to have a go at something, as needing more help to break a task down into sub-goals and more likely to cram for an examination at the last minute, rather than working steadily through the year.
- Parents, home background, the local area and society were all seen as very important influences on young people's views about what it means to be male and female.
- The link between social disadvantage and low attainment was seen by staff as connected with parental attitudes towards education. This was contradicted by pupil groups who almost unanimously stated that their parents encouraged them to do well at school in order to increase their post-school opportunities.

## **Chapter 4: Strategies for addressing gender differences**

- About half the local authorities in Scotland reported that schools in their areas were trying out specific strategies aimed at addressing gender differences, while the remainder reported orientation and preparation activities only or no activity at all. This information was based on a survey of all education authorities in January 2000.
- Some of the initial steps taken by schools, that were getting started on strategies addressing gender differences in attainment, included raising awareness of the issues, INSET, development of whole-school policies, formation of working groups, forging cross-sector links, consultation with students and involving parents. We concluded that all of these approaches are potentially valuable aspects of good practice.
- Schools were attempting to change gender stereotypes, attitudes and aspirations from a number of different angles. These included teaching about equal opportunities, providing positive role models, addressing issues of subject choice, careers choice and aspirations, and providing motivation to pupils through praise and awards. All of these approaches were linked and apparently reinforced each other. There is evidence (reported in Chapter 5) that equal opportunities teaching in schools has affected young people's attitudes and aspirations and encouraged them to believe in the principle of equal opportunities.
- The main approaches adopted by schools in the area of learning, teaching and classroom management were specific teaching and learning strategies, teachers sharing experience with each other, literacy strategies, single-sex classes and boy-girl seating. The first three were viewed by teachers as good practice for all pupils. Single sex class and boy-girl seating had disadvantages as well as advantages.
- Some strategies aimed at addressing underachievement had implications for gender differences because more boys than girls were perceived to be under-achieving. Strategies perceived to be successful included study support, mentoring, and building confidence and self-esteem. Some schools were developing systems of target-setting for individual pupils, but it was too early to tell how successful these systems will be.

## **Chapter 5: Work, family and school: The views of pupils and parents**

- All of the young people believed in the importance of gaining good qualifications at school. Qualifications were seen as essential to securing a good job in the future.
- Almost all of the young people believed that it was equally important for both boys and girls to gain good qualifications.
- The young people generally held modern, rather than traditional views on the roles of men and women in work and the family. They agreed, in principle, with equal opportunities, however, their views were tempered by the inequalities they saw around them in their own families and the workplace.
- One-fifth of the boys still believed that the man should be the main breadwinner in the family.
- The vast majority of the young people agreed that it was important for men and women to have successful and worthwhile careers and that women and men could do any jobs they wanted to these days. They were aware, however, that men and women entering non-traditional occupations could face prejudice from employers and colleagues and that employers might favour men because of the risk of women leaving through pregnancy.

- Young people were almost unanimous that childcare should be a joint responsibility, although they were aware that this was most often done by women. Some boys said that it would be more likely to be the woman because the man would have the better job.
- The future aspirations of young males and females were broadly similar. Males and females held similar views of their own strengths. In this area, there were more differences by ability level within the genders than between the genders.
- Pupils believed that having a good relationship with the teacher improved their performance at school. They liked teachers who treated them with respect, could have a laugh and who put effort into making the work enjoyable.
- Over half the boys and almost one-quarter of the girls said that their friends would make fun of them if they worked too hard at school.
- Some boys still believed that it was not OK for boys to cry. Girls generally thought it was OK for both sexes to cry.
- Parents views were very similar to those of pupils. They strongly believed in the importance of gaining good qualifications at school for securing future prospects, and the majority hoped that their children would have good careers, a healthy lifestyle and good friends in the future. Parents aspirations did not vary for their sons and daughters.
- Parents views on equal opportunities were also very similar to those of pupils. They generally believed that it was equally important for men and women to have successful and worthwhile careers, that childcare should be a joint responsibility and that men and women could do any jobs they wanted to these days. They were aware that young people entering non-traditional jobs might encounter difficulties and a handful still saw it as the man's responsibility to be the main breadwinner.

## **Chapter 6: Primary school issues**

- Gender differences in performance emerge in the pre-school stages and are evident throughout primary education.
- There is a need for greater awareness in primary schools of gender differences in performance. This could be helped by the increased availability of statistical data broken down by gender. Some staff had used National Test results in literacy and numeracy to examine and compare the performance of boys and girls.
- At the pre-school stages and during Primary 1 girls were rated by teachers as having significantly higher levels of personal, social and emotional development.
- Girls tended to have more highly developed literacy skills than boys throughout primary education.
- Evidence about gender differences in mathematical ability was mixed.
- As in secondary schools, primary staff reported that boys were less mature than girls, more likely to misbehave, were subject to peer pressure not to achieve and that boys and girls tended to prefer different learning styles. These gender differences were seen to increase during the course of primary education.
- Parents, the local area and society were seen as important influences on young children's development of ideas about being male and female. Parents were seen as having a significant impact on children's attitudes towards and performance in school.
- The gender imbalance in the staff profile in primary schools was viewed with concern, because of the lack of male role models available to pupils.

- Views on whether girls and boys play together were mixed and varied by age group. Play was seen as an important arena where young children communicated to each other ideas about being male and female.
- Strategies aimed at addressing gender differences in primary schools had focused on improving boys' literacy, employing a broader range of teaching styles and on improving boys' organisation and presentation skills.

## **Chapter 7: Main conclusions and recommendations**

### ***Under-achievement: who is under-achieving?***

Girls, on average, are attaining more highly in school examinations than boys. Average figures, however, conceal many differences between groups of pupils. Some males achieve very high levels of attainment, and some females fail to achieve examination awards. Our research showed far greater differences in school experiences between high attainers and low attainers of both sexes than between boys and girls. We agree with the conclusions of other researchers (Collins *et al*, 2000) that it is more helpful to consider the "gender jigsaw" than the "gender gap" because males and females are not homogeneous groups. These authors also advocate consideration of which males are disadvantaged and which females are disadvantaged, what they have termed a "which boys? which girls?" approach.

### ***What do we mean by under-achieving?***

There is a need to revisit the question: "What do we mean by underachieving?" Most common perceptions of achievement/ underachievement are based on levels of attainment at Standard Grade and Higher Grade, which are academic examinations. A number of our respondents reflected on the view that the curriculum and examination structures within Scottish schools favoured pupils whose abilities were academic, and disadvantaged pupils whose abilities were of a practical or artistic nature. Some questioned whether existing curriculum and assessment favoured "girl-type" learners to a greater extent than "boy-type" learners. Others suggested that the content of the curriculum gives messages to young people about the sort of achievement which is valued.

### ***Focusing on the under-achievement of boys at the end of compulsory schooling is too simplistic***

A much more complex definition of the problem needs to be adopted which takes account of all of the following factors:

- there are continuing inequalities for females in education and beyond;
- there are persistent and marked differences in attainment for both sexes by social class background: gender is in fact a much smaller source of inequality and underachievement in education than social class.
- there are gender, and social class, differences in performance from pre-school onwards;
- there are gender differences in uptake and attainment in different subjects across the curriculum;
- the notion of boys' underachievement is based on an average: not all boys are underachieving and not all girls are doing well;
- there are gender differences in assignment to learning and behaviour support.

### ***Factors influencing gender differences are complex***

We conclude that there is a complex bundle of interacting factors which influence young peoples' attitudes, aspirations, expectations and confidence levels, thereby influencing their behaviour and performance at school. These include:

- teacher-pupil relationships and classroom interactions;
- the interaction of teaching and learning styles;
- curriculum content and assessment methods;
- the promotion of equal opportunities in schools;
- wider school ethos;
- the attitudes and behaviour of peers;
- parents' attitudes towards education, their views on gender roles and their own roles in the family and the workplace;
- opportunities available to young people post-school and in the future;
- cultural views of male and female roles represented in the media;
- existing inequalities by gender in the family and workplace, including within schools;
- individual biological make-up.

It is clear that there is no simple explanation for gender differences in performance. Furthermore, any explanation of gender differences needs to take account of changes over time and similarities and differences across cultures. This renders simple biological explanations inadequate. We do not want to deny that each person's individual biological make-up is influential, but rather to argue that this interacts with a whole host of social, environmental and cultural factors. Indeed the evidence suggests that the social, cultural and environmental factors are of great significance in the development of each young person's ideas, interests, aspirations and beliefs. The explanation chosen is important because it determines the course of action decided upon to address the problem. We would thus argue for the adoption of a complex explanation, which takes account of all of the factors listed above.

### ***Gender differences occur in classroom interactions and approaches to assessments***

The research review and interviews with case study respondents showed evidence of gender differences in interactions in a range of classroom situations and in approach to and attainment in different kinds of tasks and assessments.

### ***No single strategy will be sufficient to address the complex range of inequalities in education***

Given the complexity of gender (and other) inequalities in education and the range of factors that have been shown to influence these differences, we conclude that no single strategy will be sufficient to address these issues. Instead a range of strategies needs to be adopted to address different aspects of the problem and strategies need to be considered at all stages of school education.

### ***Gender differences: what can be done?***

Many of the strategies adopted to address gender differences in performance were seen as general good practice by the staff in the case study schools. These included raising awareness of gender differences among staff, development of whole-school policies, formation of cross-curricular working groups, forging cross-sector links, the involvement of pupils and parents, considering the relationship between teaching and learning styles, teachers sharing experience with each other and codes on language and behaviour that were reinforced across the curriculum. Strategies aimed at encouraging boys to read at both primary and secondary levels seemed to be having beneficial effects on boys. Other strategies, such as single sex grouping and boy-girl seating, seemed to have disadvantages as well as advantages. A number of strategies targeted at under-achieving pupils had implications for gender differences, because more boys than girls were perceived to be under-achieving. Strategies aimed at changing young people's attitudes and aspirations appear to have met with some success, in that young people believe in the principle of equal opportunities, however, they are still choosing fairly gender-typical subjects and occupations.

### ***It was too soon to tell which strategies are most effective***

In our research it was not possible to carry out a rigorous evaluation of strategies addressing gender differences. There were two reasons for this – the short timescale of the research and the lack of pupil-level data to analyse progress. Our research, therefore, offers an evaluation based on the perceptions and experiences of respondents in our case studies.

### ***More consultation with pupils is needed***

We believe that it is very important for schools to consult pupils about policies which affect them, such as strategies addressing gender differences. Pupils should have opportunities to contribute their views, and schools should be genuinely responsive. We anticipate that pupils' views may sometimes provide relatively critical feedback to school staff, but if schools are genuine in seeking pupils' views this can lead to policy improvement.

## **Recommendations**

- 1. We advocate the adoption of a “which boys, which girls” approach to addressing underachievement.**
- 2. A broader definition of achievement in schools needs to be re-emphasised.**
- 3. There is a need to raise awareness in local authorities and schools of the complex, interlocking range of inequalities in education, including differences by social class, ethnicity and gender.**
- 4. There should be a greater focus on inequalities by gender, social class and ethnicity at the pre-school and primary stages.**
- 5. Data should be collected on social class and ethnicity, and analysis of attainment at all stages should be broken down by both of these as well as gender.**
- 6. More data are needed at the primary stages on attainment and pupil characteristics.**
- 7. Schools seeking to address gender differences need to take account of the complex range of factors influencing young people.**

8. Where they are not already aware of this, teachers need to be made aware of gendered patterns of interaction in the classroom.
9. A variety of assessment modes should be used in order to provide pupils with the opportunity to produce their best performance.
10. A range of strategies should be adopted by primary and secondary schools to address different aspects of the problem of inequalities in attainment.
11. Where these are not already in place, schools should consider the adoption of strategies identified as good practice for all pupils. These include:
  - raising awareness of gender differences (and other inequalities) among staff,
  - development of whole-school policies,
  - providing opportunities for teachers to share experience across the curriculum,
  - forging cross-sector links,
  - the involvement of pupils and parents,
  - codes on language and behaviour that were reinforced across the curriculum.
12. Schools and teachers should consider how teaching and learning styles interact in the classroom and reflect on ways to improve teaching and learning for all pupils.
13. Strategies such as single sex grouping and boy-girl seating, should be adopted only where the pros and cons have been fully considered.
14. Schools should consider ways to improve boys' literacy skills from pre-school onwards.
15. Ways should be sought urgently to tackle the negative effects of peer pressure on pupils, particularly boys.
16. Schools need to be flexible in finding ways to target young people identified as underachieving, and considering the needs of the individual as well as the group.
17. Schools should continue to promote equal opportunities to pupils.
18. Schools and local authorities should continue to promote equal opportunities among school staff and consider ways to redress the gender imbalance in the staff and management profile.
19. Evaluation of strategies should be built in from the start. Criteria for the measurement of their success should be identified and measured before and after implementation.
20. In order to really evaluate the effectiveness of strategies, further research is needed which looks at changes over a longer time period.
21. There is a need for more genuine consultation with pupils over issues that concern them.
22. Teachers should note pupils' comments on the importance of a good teacher-pupil relationship in improving pupils' performance at school.

# CHAPTER 1

## CONTEXT AND DESIGN

### Introduction

Differences between girls and boys in the experiences and outcomes of school education have been issues of concern in Scottish education for nearly thirty years. Since the 1970s there has been awareness that some aspects of school education may contribute to the disadvantaged position of women in society and employment. More recently, there has been concern that the levels of attainment of boys in school examinations has been lower than those of girls. Important issues of equality of opportunity for females and males need to be addressed by school education.

Gender differences in attainment have become an increasing focus of policy over the past few years because of their implications for strategies to raise standards of performance in Scottish schools. If national targets for raising attainment are to be met it is important that pupils of both genders should achieve all they can.

The research described in this report was commissioned by the Scottish Executive to provide information about these issues. The research was carried out over one year, in 2000, and was based on statistical analysis of official data and case studies of six secondary schools in different parts of Scotland, together with their associate primary schools. The aims of the research were to:

- identify factors which influence the relative attainment of males and females;
- provide advice on how good performance by both genders can be achieved.

### Structure of the Report

In this chapter (Chapter 1) we describe the context of the research:

- the historical and policy contexts;
- themes from the research on gender and education;
- research design.

In Chapter 2 we address the question *Where does the problem lie?* We use both statistical information and interview data to identify gender differences at all school stages from pre-school, through primary and secondary stages. We look at differences in participation and attainment between curricular areas, and in referral to learning and behavioural support. Finally, we look at issues concerning the gender profile of teaching staff.

In Chapter 3 we address the question *What are the factors associated with attainment?* We look at the ways in which gender differences are conceptualised by our interviewees in Scottish schools.

In Chapter 4 we ask *What strategies are being used by schools to address gender differences?* Information for this chapter came partly from our survey of Scottish local authorities, and partly from case study schools. We found that a very wide range of strategies were being used to address issues of gender and underachievement. We give a brief description of each, together with an outline of advantages and disadvantages described by

our respondents. In the short time-scale of this research project it was not possible for us to gather quantitative evidence on the effectiveness of any of the strategies.

In Chapters 4 and 5 (to follow) we examine specific issues in primary schools, and additional information provided by parents and pupils.

In Chapter 6 we discuss the key issues that have emerged from the research and provide our conclusions and suggestions for practitioners and policy-makers.

## **Historical context**

From the earliest provision of schooling to very recent times girls have had less opportunities for educational advancement than boys due to a combination of economic, social and institutional constraints. There is a widely-held myth that Scottish education embodies the principles of social unity, democracy and equality (Bryce and Humes, 1999). A feature of the myth is the “lad o’pairts”, the boy of modest social origins from a rural or small-town background, climbing the educational ladder to obtain positions in such professions as the ministry, school teaching or civil service (Anderson 1999). However, gender equality is not a feature of this myth, and there is no equivalent “lass o’pairts” (Paterson and Fewell, 1990). Early evidence of gender inequality in education is the difference in levels of formal literacy in 1851: 89 percent of men compared with 77 percent of women could sign the marriage register rather than putting a mark (Anderson, 1999). The first move towards gender equality was brought about in 1872 by the introduction of a state system of compulsory education for the 5-13 ages, and by 1900 almost all males and females were formally literate (*op cit* p219.) In 1947 the introduction of compulsory education to the age of 15 removed a further barrier to equality of opportunity in education.

### ***Comprehensive reorganisation in 1965***

Comprehensive reorganisation in 1965 was another major reform which had implications for gender differences, but did not have an overt aim to address gender inequality. Prior to 1965, there was a selective system of secondary schooling in Scotland. A “qualifying examination” at the age of twelve identified pupils of exceptional talent who might go to the senior secondary school, while the majority of pupils attended junior secondary schools. In some areas there were omnibus schools which had both junior and senior secondary streams. There is evidence from elsewhere in the United Kingdom of the pass rate for the eleven- plus examination being set at a lower level for boys than girls in order to ensure that sufficient numbers of boys entered Grammar schools (Gipps and Murphy, 1994), however we have not found any evidence of gender differentiation in the Scottish “qualifying examination”. Senior secondary pupils took courses for the School Leaving Certificate (later the Scottish Certificate of Education) which was considered suitable only for the top 30 percent of the ability range. Junior secondary pupils left school at age 15 without sitting examinations.

Comprehensive reorganisation from 1965 removed a major barrier to equality of opportunity in education, and had profound consequences for raising levels of attainment. From 1965 state-funded secondary schools were reorganised to provide all-through comprehensive schools for the S1 to S6 stages (12-18 age-group). As a consequence of comprehensive reorganisation, and subsequent raising of the school-leaving age (ROSLA) to 16 in 1973, there was a dramatic increase in overall levels of attainment in public examinations, with significant gains among pupils of lower socio-economic status (McPherson and Willms,

1987). Attainment of both males and females increased, but the attainment of females rose more rapidly than that of males.

### ***The Sex Discrimination Act 1975***

The Sex Discrimination Act 1975 was the first move towards providing equal access to the curriculum for females and males, by making it “unlawful to refuse to allow girls in a co-educational school to join a course or class to which boys are admitted and vice versa” (Scottish Education Department (SED) 1976). Before the Sex Discrimination Act there had been a report by HMI showing some overt discrimination in the provision of courses for girls and boys (SED, 1975). However, just by outlawing overt discrimination, the Sex Discrimination Act could not address the deep-rooted gender-stereotypes which caused pupils, parents and teachers to believe that some subjects were appropriate for males and others for females.

### ***The Technical and Vocational Education Initiative (TVEI)***

The Technical and Vocational Education Initiative (TVEI) from 1984 was the first major national initiative to have the explicit objective of promoting gender equality (Turner *et al*, 1995). Its main focus was to improve the technological and vocational relevance of the school curriculum, and it also set out to reduce gender stereotypes with regard to subject choice and career aspirations. As part of TVEI equal opportunities co-ordinators were appointed in all regional authorities and this led to the creation of a network of support for work on equal opportunities in schools, which has a lasting impact. By 1994, Turner *et al* found only one local authority lacked a policy on equal opportunities (*op. cit*)

### ***The Curriculum Framework and Standard Grade Reforms***

A major set of reforms, initiated by the Munn and Dunning Committees in 1977, established a basic entitlement to curriculum and examinations for pupils in the last two years of compulsory schooling in the form of the Scottish Curriculum Framework from 1983. and Standard Grade Examinations from 1986 (SED, 1977a; 1977b). Although these reforms did not have any explicit focus on gender, by providing a core entitlement, they have reduced gender (and social class) inequality in access to the curriculum and attainment (Croxford, 1996; Gamoran, 1996). For example, among school leavers in 1977 only 48 percent of females had studied any science, compared with 71 percent of males but, by 1991 after the introduction of the Curriculum Framework, the gender gap had disappeared and almost all school leavers had studied a science subject (Croxford, 1994).

### ***Equal Opportunities***

According to the Equal Opportunities Commission report “Gender Equality and Lifelong Learning in Scotland” (Powney *et al*, 2000, pp.iii-iv) “The case for equality in relation to lifelong learning and gender arises from two issues of principle:

- Gender equality in lifelong learning is a matter of social justice;
- Enhancing gender equality in lifelong learning will enhance Scottish society and the Scottish economy.”

This clearly applies to school as much as to post-school educational opportunities. Salisbury and Riddell (2000, p.308) note that "...gender continues to exert an influence upon, but not determine lives, within a changing political context shaped by the market and by an equality agenda reflecting both individualised and collective concerns". While the focus in educational arenas has shifted in recent years from the underachievement of girls to the underachievement of boys, gender differences in education are clearly still an important focus for concern (Powney, 1996).

Since the 1960s there have been different phases in the approach taken to equal opportunities. Arnot *et al* characterised these as *the equal opportunities phase*, which was marked by concern mainly about girls' experiences within male-dominated structures, followed by the phase of concern for *equity and social justice*, in which more complicated interactions between gender, race and poverty were explored. (Arnot *et al*, 1998).

The latest phase is the move to *mainstream equal opportunities*, a policy advocated by the Equal Opportunities Commission. The *Equality Strategy* sets out to mainstream equal opportunities into the work of government.

*"Mainstreaming equality is the systematic integration of an equality perspective into the everyday work of government, involving policy makers across all government departments, as well as equality specialists and external partners."*

**(Scottish Executive, 2000)**

The first areas in which the equality strategy is to be developed are housing and education. Performance indicators for school self-evaluation have been developed (Scottish Executive, 1999).

### ***Related historical changes***

These policy developments have not occurred in isolation, but are a reflection of major social and economic changes that have taken place since the second world war, including changes in attitudes towards gender roles (Arnot *et al*, 1999). Paterson (2000) notes that broad social change is not usually greatly influenced by politicians or social institutions, but that institutions, such as comprehensive schools, shape the impact that social change has.

Prior to 1965 the majority of boys and girls could expect to leave school at the age of 15 and find employment, whereas today three-quarters stay on at school beyond the minimum age (Howieson *et al*, 2000). The changing nature of the Scottish economy, with decline in manufacturing jobs and growth of service-oriented occupations, has removed the traditional opportunities for low-attaining young people to find work, and increased the incentive for them to stay on at school and gain qualifications. A recent review of the Scottish economy stated:

*"Developments in the labour market will continue to have implications for gender working patterns and, for some people, family life. The growth in service-oriented occupations and portfolio employment will benefit those looking for part-time work; the decline in manufacturing jobs will affect in particular male workers in full-time employment...those in lower skilled occupations will need to adjust their expectations and learn the skills that are appropriate for jobs very different from those held by their parents' generation."*

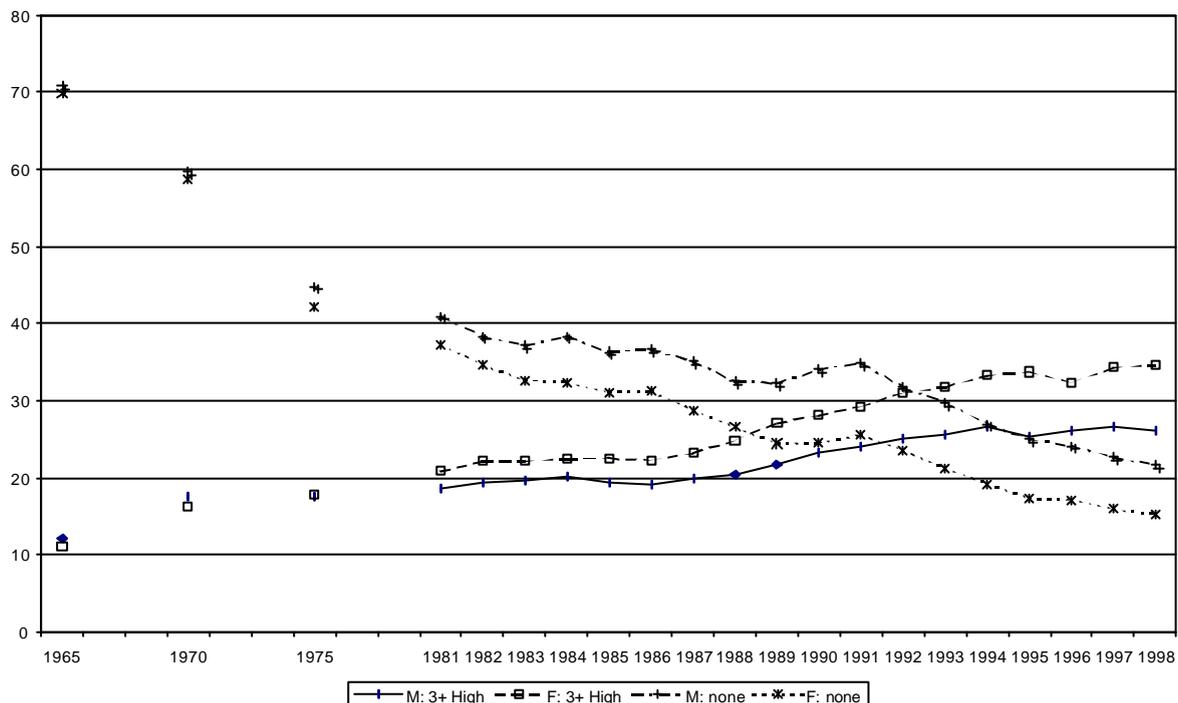
**(Scottish Office, 1999)**

### Historical Trends in Attainment

There has been a cumulative effect of reforms and social and economic changes on rising levels of attainment from 1965 to the present. These are illustrated by Figure 1.1 which shows trends in Scottish Certificate of Education (SCE) qualifications held by male and female school leavers since 1965. Trends are shown for two levels of attainment:

- those who had no awards at O-grade A-C or Standard Grade 1-3;
- those who had three or more Highers passes at A-C.

These are based on *Statistical Bulletins* published by the Scottish Executive (formerly known as the Scottish Office). Data for 1965, 1970 and 1975 are shown as isolated points in Figure 1.1 because we have not found continuous data for the period prior to 1981.



Source: Scottish Executive (1999); Scottish Office (1992)

**Figure 1.1:** Trends in highest level of attainment of Scottish school leavers by gender, 1965-98: % with no awards at O-grade/Standard Grade (A-C/1-3), and % gained 3+ Highers passes

At the top left hand corner of Figure 1.1 it can be seen that in 1965, prior to comprehensive reorganisation, 70 percent of both male and female school leavers left school with no SCE qualifications. This proportion declined very steeply to 1975, and thereafter more steadily, so that by 1998 only 12 percent of school leavers had no qualifications at Standard Grade 1-3. The proportion of females leaving school with no qualifications declined more rapidly than the proportion of males, so that a small female advantage first became apparent in 1975, and subsequently increased up to 1991. Since 1991, the difference between males and females in the percentage with no SCE qualifications has remained fairly constant, and although the proportion of both genders with no awards has declined the difference between them has not.

At the bottom left hand corner of Figure 1.1 it can be seen that in 1965 only 12 percent of school leavers had three or more Highers passes. This proportion has increased gradually, and by 1998 thirty percent of school leavers had three or more Highers passes. In 1965 and 1970

the percentage of males with 3+ Highers was slightly higher than the percentage of females, but this position had been reversed by 1981. Thereafter, the proportion of female school leavers with three or more Highers has increased more rapidly than the proportion of males, so that by 1998 35 percent of female school leavers had this level of award compared with only 26 percent of males.

To summarise: the statistical trends show that levels of attainment by both males and females have risen very substantially over the past thirty years. Average levels of attainment by males have increased, although the increase has not been as great as that of females. Gender differences in overall attainment are not a recent phenomena but have been evident since 1975. Explanations of gender differences in attainment therefore need to take account of factors that are not of recent origin.

### ***Policy context***

Gender differences in attainment have been an important focus of the policy statements and supporting documentation related to *Raising Standards-Setting Targets* (Scottish Office, 1998a) and *Targeting Excellence - Modernising Scotland's Schools* (Scottish Office, 1999a). Differences in the performance of males and females at Standard Grade and Higher Grade are identified, and it is stated:

*“Although the performance of boys and girls is improving, that of girls continues to surpass that of boys. We must ensure that this differential is narrowed. If standards are to be improved and schools are to reach their targets, the attainment of boys must be brought more into line with that of girls.”*

**(Scottish Office, 1999a: Chapter 2, para 22)**

As part of the supporting documentation for the policy of target-setting, issued by HMI Audit Unit, each school was provided with statistics of its own attainment broken down by gender, together with recommendations as to how gender differences might be addressed. The recommendations were as follows:

#### **All teachers**

- Investigate how they respond to boys and girls in their teaching; this can involve peer observation or the use of video.
- Investigate who and what is praised; pupils like to feel they can do well and that their teacher cares.
- Encourage all pupils to take a more active part in lessons.
- Encourage all pupils to take more responsibility for their own learning and celebrate successes.
- Exploit pupils' competitiveness constructively as part of teaching and learning (to provide contexts, analogies to help effort, types of activity) and/or as part of a system of rewards and incentives to complete work well.
- Involve pupils in observation and discussion of their own behaviour to alert them to gender-related issues.

#### **Subject departments**

- Provide early and frequent feedback to pupils on their attainment.

- Consider the composition of groups; how often do boys and girls work in mixed pairs or groups? Are seating arrangements conducive to learning?
- Review teachers' expectations of pupils' organisation and presentation of notes, jotters, folders and of the prompt submission of homework.
- Review the extent to which assessment and feedback to pupils encourage them to identify and set themselves realistic personal targets for improvement.
- Consider the extent to which the strengths of under-achieving pupils are recognised and built upon.
- Build on some pupils' preference for using computers for organising and presenting work; provide supervised access to computers for study purposes at particular times within and outwith the school day.
- Ensure that pupils' experiences in early stages, and early S1-S2, do not demotivate either boys or girls in particular subjects.

### **Support for Pupils**

- Establish a peer "study buddy" system, using more senior pupils as partners/role models.
- Work with pupils to set and review short-term personal targets regularly.
- Ensure equity by gender in rewards and sanctions.
- Ensure that careers guidance and work experience is offered equitably to all pupils regardless of gender.
- Discuss and address stereotypes and myths with pupils at an early stage, especially by the end of S2.
- Review the gender balance and roles of visiting speakers who have contact with pupils about their future plans.
- Identify and target under-achievers.

### **Actions for all: school ethos and partnership with parents**

- Build a culture of achievement: celebrate success.
- Ensure that the School Board/Parent Teacher Association has the opportunity to discuss any initiative to address under-achievement of boys and/or girls and how the school plans to go about it.
- Provide information to employers who have links with the school about approaches to gender issues and encourage them to support a culture of achievement in any contacts with pupils.
- Ensure agenda for action for individual pupils are shared with parents/carers in a positive and constructive way and at an early stage, so that they feel that their child can succeed.

**Scottish Office (1998a)**

The policy documents relating to setting targets mark a complete change in the treatment of gender issues in government policy documents, and appears to be the main reason for the current high profile of gender issues in Scottish secondary schools. One Headteacher explained to us that although gender differences had been "staring them in the face" for many years, it was only when the gender breakdown of attainment per school was issued that schools perceived it was a problem. Prior to the *Setting Targets* initiative, the documents for school self-evaluation and school improvement, such as *How good is our school?* (Scottish Office, 1996), the *Standard Tables* (which give relative ratings, national comparison factors

and value added), and other performance indicators provided to schools, did not include gender differences. Subsequently, a new guide to school self-evaluation has been provided, entitled *A Route to Equality and Fairness* (Scottish Office, 1999b), which suggests ways of evaluating equality and inclusiveness in relation to gender, race and disability (but does not mention social class).

## **Review of the research literature**

While the focus in educational arenas has shifted in recent years from the underachievement of girls to the underachievement of boys, gender differences in education are still an important focus for concern (Powney, 1996). This is evidenced by the increasing number and range of studies of gender differences in teaching, learning and assessment (Arnot *et al*, 1999). The authors also note the development of new levels of awareness in the literature of gender differences in learning styles; responses to different teaching and assessment styles, content and feedback; and gender bias in teaching, examining materials and marking.

Our review of the research literature on gender and education begins with a discussion of the relative merits of biological or environmental explanations, visits the main themes discussed in the literature and finishes with a brief look at issues arising out of the international literature, which are remarkably similar to the issues and trends apparent in Scotland and the rest of Britain.

### ***Reasons for gender differences: biological or environmental?***

All of the causes for gender differences found in the literature can be seen to lie somewhere along the nature-nurture spectrum. Researchers, however, have tended to steer away from simple biological explanations because of the risk that they will be used to justify discrimination against one or other group or will mean that effort is not invested into changing the social circumstances of education (Powney, 1996; Pickering, 1997). Biological theorists argue that differences between men and women can be explained by differences in chromosomes, hormones and brain structure. However, there is little evidence to support these theories and they are generally seen as insufficient to explain all observed gender differences (Twynam-Perkins and Walsh, 1999). Furthermore, Gallagher (1997) points out that simple biological explanations cannot explain changes over time in male and female attainment and Arnot *et al* (1998) point out that patterns of sex differences are often unstable across cultures making biological explanations difficult to justify.

At the other end of the spectrum, lie environmental explanations. These cite the influence of parents, peers, school and society in the development of young peoples' ideas about being male and female, and on their attitudes, aspirations and interests. For example, Murphy and Elwood (1998) argue that parents respond in different ways to boys and girls, encouraging them to interact differently with the world and develop different interests. These gender preferences align girls and boys in different ways to schooling and learning, leading them to pursue different interests, which provide them with different learning opportunities. According to Murphy and Elwood, this, combined with teachers' and parents' treatment of those preferences, leads to differences in performance.

Somewhere in between lie theories about learning styles. These suggest that children have preferred learning styles, which are established at a young age. If they then experience

teaching styles which do not match their preferred learning styles, their learning is affected and they may become demotivated. There is uncertainty about whether there are gender differences in preferred learning styles. Some authors claim that girls are more holistic and impulsive, while boys are more analytical and reflective in their learning styles, although others that have looked specifically for gender differences have found none (Adey *et al*, 2000). Adey *et al*, in a review of research on learning styles, highlight the imprudence of predicting children's learning styles from their sex, pointing out the overlap in the distribution of styles amongst females and males. The concept does not, therefore, offer a simple explanation of gender differences in performance, but it does highlight the need for teachers to take account of different learning styles in their teaching. A more detailed review of the literature on learning styles can be found below.

Given the range of theories, explanations and evidence on gender differences, it is difficult to establish for certain the exact causes. Some authors now recognise the need to consider explanations which take account of biological and environmental factors (Gipps and Murphy, 1994). For example, Govier (1998) argues that each individual is placed somewhere along a male-female continuum and that we arrive at this point through a complex interplay of genetic, biochemical and social factors. Furthermore, he demonstrates a relationship between this point and the life choices that individuals make. Whichever reason is chosen to explain gender differences, the important point to bear in mind is that the chosen cause will determine the course of action taken to tackle the problem. Thus, for example, if you decide that the reasons for gender differences are biological, you may decide that there is nothing you can do to influence them, whereas if you decide that they are environmental, there will be a range of strategies that can be adopted which seek to tackle inequalities.

### ***Attitudes, confidence and behaviour***

There is evidence in the research literature that boys and girls tend to display different attitudes and behaviour in school. Girls are seen as better prepared, more conscientious, co-operative, organised and respectful. They tend to underestimate their own abilities and their work is better presented. Boys, on the other hand, are seen as ill-prepared, competitive, disruptive, overconfident and less attentive. Boys generally have lower standards of behaviour and are involved in more disciplinary problems (Clark and Trafford, 1996; Sukhnandan, 1999; Arnot *et al*, 1998; Warrington *et al*, 2000). Some work suggests that boys and girls have different attributional styles and that this affects their confidence. For example, Burgner and Hewstone (1993) demonstrated that 5-6 year old boys tended to attribute success on tasks to their own abilities and knowledge and failure to the difficulty of the task, whereas girls talked about their own abilities and knowledge whether they succeeded or failed. Whitehead (1994) demonstrated a link between attitudes and achievement. She showed that girls with more traditional gender stereotyped attitudes tended not to do as well at school, regardless of ability levels.

For those trying to influence the attitudes of male under-achievers, young men themselves report that, while they would not listen to teachers, parents or other adults, they would take advice from brothers or others who had had similar experiences to themselves (Lloyd, 1999).

The evidence that boys' behaviour is generally more disruptive links in with the statistics on learning and behaviour support, which show that boys are more likely than girls to be

assigned to additional support, whether within mainstream schools or in special schools. This issue and current statistics are explored in Chapter 2.

### ***Classroom interaction***

In a review of the literature on classroom interaction, Christine Howe (1997) reports that gender differences are evident in a range of classroom situations. Input from boys predominated in whole class settings, with boys contributing more to discussions and attracting more attention through misbehaviour. Boys tended to dominate in physical settings by volunteering for practical demonstrations and controlling the mouse on computers. There was evidence that girls felt resentful about this, but also that they complied with it and helped to create the situation. Girls were more likely to ask for help than boys and did not seem to suffer academically because of differences in interaction. Arnot *et al* (1998) argue that, while classroom interaction does not seem to affect performance, it is of indirect relevance because it impacts on young people's attitudes and learning strategies.

### ***The influence of peers***

Some writers postulate that, for young men, the development of masculinity involves distancing from anything perceived as feminine or homosexual, such as the expression of emotions or showing signs of weakness or vulnerability. This process also involves the devaluing of the feminine and females (Mac an Ghail, 1994; Salisbury and Jackson, 1996; Arnot, 1984). In an all-boys school a group of boys are designated the weak group and assigned the role of the girls in a mixed school (Arnot, 1984). This process of achieving manhood is reinforced by peer pressure and the risk of peer rejection. For young men it is important to appear physically tough at school, to rebel against authority and not to be seen to be trying too hard (Mac an Ghail, 1994).

Different peer pressures for boys and girls can play an important role in levels of achievement (Arnot *et al*, 1998). In a study of pre-adolescent children, Adler *et al* (1992) found that, for boys, athletic ability, "coolness", defiance of authority, social skills and success with girls provided routes to popularity. Boys who were academically successful were seen as "nerds" or "brainy" and could suffer for it among their peer group. This process creates an "achievement ceiling" for boys, beyond which they risk becoming unpopular with other boys, while conversely academic success is valued by girls. Hey *et al*, (1999) argue that, for boys there is a tension between the pressure to develop a masculine identity, which values competition and independence and the requirements of learning, which emphasise collaboration and co-operation. This leads to attention seeking and disruptive behaviour by boys and a tendency towards defensiveness as learners. They demonstrate that helping boys to develop more collaborative learning strategies can have beneficial effects on their learning.

Arnot *et al* (1998) suggests that schools may be involved in the creation of peer group cultures more than they realise through setting, banding and streaming, which impact on how pupils see themselves as "successes" or "failures", and which may reinforce anti-school attitudes.

### ***Assessment and tasks***

There is some evidence of gender differences in approach to and attainment in different kinds of tasks and assessments. Girls tend to communicate in extended, reflective composition and do better on sustained tasks that are open-ended and process-based. Boys, on the other hand, tend to communicate in episodic, factual, commentative detail and their learning improves when they are convinced of the value of the task (Sukhnandan, 1999; Arnot *et al*, 1998). It has been argued that boys' and girls' different tastes in reading influence their learning and response styles, with girls preferring fiction and boys preferring non-fiction (Sukhnandan, 1999). These differences in approach could go some way to explaining boys' and girls' preferences for different subjects in the curriculum (see Chapter 2 for an analysis of gender differences across the curriculum). Either way, it has been shown that both boys and girls do better on tasks involving content which is familiar to them from home or school (Arnot *et al*, 1998).

Some writers have argued that the increased emphasis on coursework, brought in with the introduction of Standard Grade, has favoured girls' approaches to assessment and that this explains the gender gap in performance. Indeed there is evidence that girls do slightly better than boys on coursework elements and that boys do better on multiple-choice tests. However, this does not explain the gender gap, because in fact girls do better overall on coursework and examinations (Sukhnandan, 1999) and girls' advantage in coursework only has a marginal effect on the overall results (Arnot *et al*, 1998).

The evidence on whether there was gender bias in marking or in the questions asked in examinations is reassuring. Powney (1996) found that there was no evidence of gender bias in the questions asked at Standard Grade and Arnot *et al* (1998) report that there was no evidence of bias in favour of girls or boys in marking examinations.

Given that boys and girls tend to approach assessments and tasks differently, Arnot *et al* (1998) argue that a variety of assessment modes should be used in order to provide all pupils with the opportunity to produce their best performance. This is reinforced by the conclusion of Gipps and Murphy (1994), in their review of assessment and achievement. They state:

*“By now it should be clear that there is no such thing as a fair test, nor could there be: the situation is too complex and the notion too simplistic.”*

### ***Teaching and learning styles***

As noted above there is some contention about whether there are gender differences in preferred learning styles. However, it may be that males and females display overlapping tendencies towards different learning styles and that this could explain some gender differences in performance. The concept of learning styles seems worthy of further exploration because of its implications for teaching and learning. In spite of the level of disagreement in the literature, the following two points seem to be generally accepted.

1. Learning styles only represent preferences and learners can make use of other styles when necessary. Whereas learning styles may not be amenable to teaching of one kind or another it seems that metacognitive awareness of preferred learning styles encourages learners to optimise their learning experiences (Adey *et al*, 2000).

2. Teachers may best cope with a variety of learning styles by employing a range of teaching styles rather than attempting to match teaching to individual learning styles. The variety must include opportunities for active participation by learners because the more involved learners are, the more they are able to make use of their preferred learning styles (Adey *et al*, 2000).

The key distinction between learning styles and learning strategies is that the latter can be taught successfully to all ages and abilities and that when it is done successfully it enhances learning (Adey *et al*, 2000). Successful acquisition, however, of learning strategies is not easy as it is dependent upon a number of factors including: the context, teaching methods, the nature of the subject, learner self-esteem, motivation and meta-cognitive awareness and the habits of good and poor learners (Adey *et al*, 2000).

Concerning the last of these factors, there is evidence to suggest that boys do not display good learning habits in their interaction skills in the classroom which in turn affect their acquisition of learning strategies (Younger *et al*, 1999). Younger *et al* argue that if the underachievement of boys is to be addressed, boys need to learn to emulate the good learning habits that girls appear to employ in their interactions. Here then is one example of how gender factors may well affect boys' abilities to acquire what are considered to be teachable learning strategies.

### ***Aspirations and post-school opportunities***

Women's position in the labour market has undoubtedly changed over the past three decades and this has affected both their educational experiences and their post-school expectations and aspirations. Prior to the 1970s it was widely assumed that in Scotland (as in the UK at large) boys and girls were being educated for very different occupational and domestic roles (Riddell, 2000). During the 1970s, Gaskell (1983) reports that women expected to work, but that they saw this as secondary to their domestic responsibilities. Nowadays work is a much more central feature of women's lives and the Equal Opportunities Commission (EOC, 2000) reports that women made up almost half the workforce in the year 2000.

In spite of these changes, inequalities remain. For example, in the late 1990s, women earned 81% of the average annual earnings of men in most broad occupational groups and women and men still tended to enter fairly gender-typical occupations (EOC, 2000). Lloyd (1999) reports that this is not necessarily because jobs are seen as male or female, but because young men tended to rule certain jobs out because they were poorly paid or required few skills. There is evidence, however, that the reasons do also lie with men and women aspiring to different kinds of occupations (Furlong and Biggart, 1999) and that this is related to differences in subject preferences at school (Tinklin, 2000). Although females are now on average doing better in education than males, for young women who leave school with few or no qualifications the longer-term consequences can be more severe than for young men in the same position. They are much less likely to get a job in the three years after leaving school and a significant proportion have children at an early age (Biggart, 2000).

What young men can expect post-school has also changed over the past three decades. Boys were affected more than girls by the collapse of employment opportunities for 16 year olds in the late 1980s. Whereas in the past, boys would typically have left school early and entered the labour market, increasing numbers are now staying on at school and entering youth

training. Arnot *et al* (1998) argue that post-school opportunities for young people affect their attitudes towards education and gaining qualifications and that young men and women are still receiving different signals from the labour market about male and female work opportunities.

### ***Social class, parental education and ethnicity***

The relationship between social disadvantage and low attainment has been well-documented and has persisted over time (Paterson, 1991; Burnhill *et al*, 1990; Biggart, 1999; Sammons, 1995). Those with fathers in manual occupations and those with less well educated parents tend not to do as well at school as their more advantaged peers. Of most concern is the evidence of a “snowball” effect of disadvantage. Differences in attainment by social background emerge as early as Primary 1 (Croxford, 1999). By S4, children from less advantaged backgrounds are doing significantly less well than their peers. They are then less likely to stay on at school, less likely to convert their Standard Grades into Highers, less likely to apply to higher education and once they have applied, less likely to start courses than others with equivalent qualifications (Tinklin, 2000). Differences by social background do not explain gender differences: middle class girls do better than middle class boys and working class girls do better than working class boys (Tinklin, 2000). However differences by social background are clearly important when considering gender differences, because they demonstrate the inadequacy of considering gender in isolation from other social background factors.

Similarly for ethnicity, Arnot *et al* (1998) and Sammons (1995) demonstrate differences within each gender by ethnic background. It is important to note that young people from minority ethnic backgrounds may have different assumptions about gender roles and expectations, which affect their educational attainment. For example, Riley (1985) points out that Caribbean girls assumed that girls should aim to be independent and that an education will help them transcend the low expectations of them as black women.

There is clearly a need for research which looks at the interaction of gender, class and ethnicity (Powney, 1996). Furthermore, the points made in this section indicate that analysing differences in performance by gender only is clearly inadequate, since this does not take account of differences within each gender by social background and ethnicity.

### ***The international literature***

It is interesting to note that studies of gender differences in other countries report similar trends and issues to the literature in Britain. In many countries other than Scotland, girls are surpassing boys in secondary education (from Sutherland, 1999).

- In France since the 1970s, more girls than boys have been achieving the baccalaureate.
- In Germany, girls have been obtaining better school marks than boys; they repeat classes less often and gain school certificates more successfully.
- In Japan, girls have become slightly more likely than boys to proceed to upper secondary.
- In Australia, recent statistics have shown an advantage for girls.
- In Jamaica, for the last 20 years there has been concern for the “low academic achievement of boys”.

Around the world books, articles, research and policies are being written on gender equity, which give more prominence to the needs of boys. In many of the countries concerned three important points are highlighted.

1. The emerging gender gap obscures significantly rising levels of performance by boys as well as girls (Younger *et al*, 1999; Yates, 1997).
2. Differences in achievement are not always very great and vary from subject to subject (Sutherland, 1999).
3. Concern about the lack of success of boys' schoolwork should not obscure the relative disadvantage of girls in school education. Researchers from various countries argue that gender reform is not a simple story where the "disadvantage" of girls was discovered, attended to, partially fixed up and then replaced by some of the same processes in relation to boys. They argue that it is not just about examination results – it must continue to be concerned with the inequalities in the curriculum, processes of schooling, and how schooling contributes to different futures for girls and boys (Harker, 2000; Younger *et al*, 1999; Yates, 1997; Dolle-Willemsen, 1998; Sutherland, 1999).

Margaret Sutherland (1999) suggests that when the causes of girls' and boys' disadvantages in schools in different parts of the world are discussed four common factors emerge.

- The relationship between employment and levels of education. For example, in the Netherlands, research is looking at the effects of the informal curriculum, both in the early and later years, on students' subject choices and career paths, because girls do not tend to choose the subjects that act as critical "filters" for market-oriented studies. It is suggested that unemployment among young women will be twice as high as among young men in the year 2000, unless girls change their subject choices (Dolle-Willemsen, 1998).
- The composition and attitudes of the teaching staff. For example, studies in England and the Netherlands have shown that although teachers believe that they give equal treatment to boys and girls, this is rarely achieved (Dolle-Willemsen, 1998; Younger *et al*, 1999).
- The attitudes of parents and society. Recent research in Germany (Tiedemann, 2000) has demonstrated that parental stereotyping has an effect on children's self-perceptions of their mathematical ability, with boys tending to have a higher self-concept than girls.
- The attitudes of peer groups. Research in the USA (Adler *et al*, 1992) and in England (Arnot *et al*, 1998) has identified the influence of peer pressure on achievement.

## **Research design**

The aims of the research were to find out more about gender differences in achievement, including explanations for such differences, and strategies which schools were using to address them. The main focus of the research was a qualitative study of six secondary schools and their associate primary schools. The secondary schools selected for case study were in the process of implementing different strategies to address gender differences in attainment, but all were at very early stages of implementation. Since the research project was of one-year duration it was not feasible to carry out in-depth evaluation of any particular strategies, but we summarise the views of those involved as to their perceived advantages and disadvantages. Other aspects of the research were reviews of literature and statistics and a review of current practice in Scotland, based on a survey of local authorities.

### ***Literature review***

A review of recent literature on the factors affecting gender differences in attainment and the policies and approaches used by schools to combat the problem was undertaken and the findings are reported earlier in this chapter (historical, policy and research contexts). The review builds on recent reviews of gender differences in performance commissioned by the SOEID, Office for Standards in Education (OFSTED) and Equal Opportunities Commission (EOC), focusing on issues relevant to Scottish schools. The review included policy documents prepared by the Scottish Consultative Council on the Curriculum (SCCC) and the SOEID Audit Unit. The literature review provided the basis for questions included in interview schedules and other research instruments used in the case studies.

### ***Quantitative analysis***

We carried out a number of analyses of the extent of gender differences using quantitative data from the Scottish Qualifications Authority (SQA), the Scottish School Leavers' Survey (SSLS), and published statistical bulletins. School-level analyses of data from SQA and SSLS were used to ensure that the case study schools included a wide range of attainment and socio-economic characteristics.

### ***Review of current practice in Scotland***

The purpose of the review was to identify which school-based approaches to overcoming gender differences were currently being attempted by schools in Scotland. It was based on a questionnaire survey of all local authorities in Scotland. In addition we interviewed personnel in a number of local-authorities in which there were authority-wide approaches to identifying and addressing gender differences. This review provided information about schools which was subsequently used in the selection of case studies.

### ***Case studies***

The main focus of the research was a series of in-depth case studies of six secondary schools, together with more limited study of their associate primary schools. The aim of the case studies was to investigate which aspects of learning and teaching are effective in raising attainment and reducing gender differences, while taking account of the ethos of the school, the attitudes of staff and pupils, as well as economic, social and cultural factors in the local area. Schools were selected which were undertaking interventions specifically aimed at raising attainment, addressing gender differences, and which represented a range of different catchment areas. The case studies included interviews with staff, review of printed materials and statistical information, focus groups with students including the use of a short questionnaire and telephone interviews with parents.

### **Case studies selected**

The information provided by local authorities enabled us to select six secondary schools that were employing a range of different strategies. However, we also wanted to select schools of different sizes, in local areas with different characteristics and with different average attainment levels. To this end, SQA data on Standard Grade attainment in 1999, data on free meal entitlement and data on the socio-economic circumstances of parents from the Scottish School Leavers Survey (aggregated at school level) were used to identify a range of schools

fitting these criteria. Originally we considered selecting schools in which boys and girls were doing equally well. However, a concurrent HMI task on gender had already tried this strategy and found that such schools were not particularly focusing on gender and could not explain their equal attainment levels. We therefore decided that it would be more fruitful to select schools that were focusing on gender differences, in order to assess the range of strategies being tried. Table 1.1 provides brief profiles of the six secondary schools that took part in the research.

The second column in Table 1.1 shows the percentage of pupils receiving free school meals. Columns 5-8 show different measures of the socio-economic characteristics of the school catchments derived from the Scottish School Leavers' Survey 1998<sup>1</sup>; these are respectively average social class of fathers' occupation, mothers' occupation, level of parental employment, and parental education. The final column shows the percentage of S4 pupils who gained at least five Standard Grades at grades 1-6 in 1999.

**Table 1.1:** Profile of case study secondary schools

School	Area	No of pupils	% FME	School average intake characteristics				% 5 SG @ 1-6 (1999)
				Fathers occupation	Mother's occupation	Parents in work	Parent educational level	
A	Suburb of city	1360	9	high	high	average	average	97
B	Major town, heavy industry	944	14	average	average	average	high	99
C	Small rural town	650	5	average	high	average	high	96
D	Inner city deprived area	1115	48	low	average	low	low	85
E	Ex-coal town	1187	18.5	low	low	average	average	90
F	New town	990	12.6	average	average	average	high	100

Table 1.1 shows that the case study schools represented a range of differently sized schools in a variety of locations around Scotland, and that the schools were situated in different types of catchment area, from advantaged to disadvantaged, and inner city to rural. The schools were also employing a wide range of different strategies. These are listed in Chapter 4, which discusses the strategies adopted. In addition, schools A, D and F were Catholic schools.

### The respondents

In the six secondary schools, we spoke to a total of 62 members of staff. The Headteacher or a member of the senior management team was interviewed in each school as well as an average of nine other staff including guidance teachers and learning and behaviour support staff. We interviewed a total of 14 members of staff in nine primary schools, these included members of the senior management team, as well as teachers. Because of the clustering of initiatives, a nursery Headteacher was interviewed in one area. Significant initiatives were taking place at the local authority level in three of the areas and a total of six relevant personnel were interviewed in these authorities. In each of the six secondary schools we spoke to four groups of pupils: two of girls and two of boys. For each gender, we spoke to a higher ability and a lower ability group. In one school, all pupil groups were in the middle ability range, because this was more relevant to the gender-related initiative that they had

<sup>1</sup> The measures of socio-economic characteristics of school intake were derived from the SSLS by taking average per school of four principal components of measures of pupils' family background.

implemented. In addition, at the suggestion of the Headteacher we spoke to a mixed group of S6 pupils in one school, making a total of 25 pupil groups. Three quarters of the groups were made up of S3 pupils, the rest of S4 pupils. Each group had approximately eight participants, and in total we spoke to 198 young people. Table 1.2 provides a summary and further details of the respondents.

**Table 1.2:** Numbers of interviewees and pupil groups

<b>Secondary schools (6)</b>		<b>Subjects taught by secondary teachers, including guidance teachers</b>	
Senior management team	7	English	12
Subject specialists (including PTs)	35	Maths	11
Guidance teachers (including PTs)	15	Sciences	5
Learning/behaviour support staff	5	Foreign languages	5
<b>Pupil groups:</b>		Social subjects	2
higher ability boys	5	Technological	4
lower ability boys	5	Physical education	4
middle ability boys	2	Religious education	1
higher ability girls	5		
lower ability girls	5		
middle ability girls	2		
mixed sex S6	1		
<b>Primary schools (9)</b>			
Senior management team	11		
Teachers	3		
Nursery Headteacher	1		
<b>Local authority personnel</b>	6		

### **Pupils' questionnaires**

In order to facilitate the discussion, we asked pupils to fill in a short questionnaire first, before discussing their ideas in the larger group. The questionnaire asked for information about the student's background such as their parents' occupations and levels of education. It also asked about the student's own aspirations, how important educational attainment is to them, their views of gender roles, what helps them to do well at school and what stops them from doing well. The purpose of the questionnaires was to enable each pupil to begin to think about the issues before the discussion, but also to gather information on his/her individual views and experience. The questionnaires supplemented the findings of the group discussions and provided background information about the pupils involved.

### **Telephone interviews with parents**

In order to understand the influence of home/family factors on performance, we carried out telephone interviews with parents about issues concerning gender equality in attainment. In order to identify parents who might be willing to participate in interviews, we asked the pupils who were taking part in the focus groups to take home a letter to their parents asking if they would be willing to be interviewed.

### **Qualitative Analysis**

All interviews and focus groups were transcribed, except for a small number where there had been technical problems with recording equipment, and the data were analysed using the *Nudist* computer software package.

## **Summary**

- This research on gender and pupil performance has been commissioned by the Scottish Executive. Its aim is to provide information about the reasons for gender differences in attainment at school, and ways in which gender differences are being addressed in Scottish schools.
- Historical trends in attainment at age 16 show that levels of attainment of both females and males have risen substantially since 1965, but that the rise was greater for females than males. Lower average attainment by males compared with females has been evident since 1975.
- The focus of equal opportunities policies have changed over time, and most recently a policy of mainstreaming equal opportunities has been introduced.
- The policy of raising standards in Scottish schools has brought a new focus on underachievement by males.
- The research literature has identified gender differences in attitudes, confidence, behaviour and classroom interaction. Differences are explained in terms of peer pressure, different approaches to assessment and curricular tasks, teaching and learning processes and the influence of post-school opportunities. All explanations fall somewhere along the nature-nurture continuum, although purely biological explanations are not favoured.
- Studies of gender differences in other countries report similar trends and issues to the literature in Britain.
- We have emphasised the importance of not treating boys and girls as homogeneous groups, since there are clearly differences within groups by social background and ethnicity and similarities in attainment between boys and girls are far greater than differences.
- The research was mainly based on statistical analysis of official data and case studies of six secondary schools, which were in the early stages of implementing strategies to address gender differences.

## CHAPTER 2

### WHERE DOES THE PROBLEM LIE?

In this chapter we draw on the data from our case studies together with statistical information and other publications to look beneath the average picture of gender differences in attainment, and ask:

- Which subjects do boys and girls choose to study and why? Are there gender differences in attainment within subject areas?
- Are gender differences found only at secondary school or do boys and girls have different levels of attainment in primary schools?
- Do boys catch up in S5 and S6?
- Are there differences between boys and girls in the number of referrals to learning and behaviour support?
- Are there gender differences in attainment by social background?
- Do gender differences vary by school?
- What are the implications of the gender profile of school staff?

#### **Which subjects do boys and girls choose to study and why? Are there gender differences in attainment within subject areas?**

Differences in subject choice by males and females have been identified by many studies over a number of years, in the UK and elsewhere (for example: Ryrie *et al*, 1979; Pratt *et al*, 1984; Riddell, 1992; Teese *et al*, 1995; Sutherland, 1999; Croxford, 2000). In particular, there have been a large number of studies which have focused on the low level of participation by women in mathematics, science and engineering courses, and the tendency for girls to choose to study biology rather than physics (Kelly, 1987; Croxford, 1997). Other studies have looked at low levels of participation by girls in craft and technology (Riddell, 1992), and general low levels of uptake and performance in modern foreign languages by males (Barton, 2000). Explanations put forward for gendered subject choice include the influences of home and society, teachers' attitudes and behaviour, the pupil's intrinsic interest in the subject or belief that s/he is good at the subject, and perception that the subject will be useful in a future career (Croxford, 2000).

In Scotland, as elsewhere in the UK, the earliest opportunity to choose between subjects is at the age of 13-14, when pupils choose which subjects to take at Standard Grade. Their choices are important in determining their future opportunities in further/higher education and careers. The benefit of providing opportunities for choice at this stage is that it allows pupils to have more "ownership" over their curriculum and reduces the likelihood that they will be alienated by an over-prescriptive curriculum. However, the exercise of "choice" may be a problem if the individuals responsible for "choosing" subjects are overly influenced by the traditional attitudes and unequal opportunity structures in society. The question: "Choosing or Channelling?" (Kelly, 1981) reflected the double-edged process of subject choice which led many girls to "choose" traditional girls' subjects, and thereby limit their choice of careers.

### **Reports by Her Majesty's Inspectorate (HMI)**

HMI has produced a series of reports on *Effective Learning and Teaching in Scottish Secondary Schools*. Many of the subject-specific reports, such as the reports on Modern Languages and English, do not mention gender issues, in spite of the known gender differences in uptake and attainment in curricular areas (Scottish Office, 2000a; 1999b).

However, in some subject-specific reports there is more consideration; for example the report on sciences which notes:

*“Despite the fact that new science courses were designed to be equally relevant to boys and girls, the long-standing tradition of biology proving more attractive to girls and physics to boys has not been radically shaken.”*

**(Scottish Executive, 2000c)**

The report on mathematics describes gender differences in entry to Highers and CSYS, and recommends:

*“Schools should make every effort to ensure that their mathematics courses are equally interesting to girls and boys and present the study of mathematics in the later stages of the school as a viable option for both sexes.”*

**(Scottish Executive, 2000d)**

The reports on computing studies (Scottish Executive, 2000f) and business education and economics (Scottish Executive, 2000g) provide some discussion of the possible reasons for gender imbalance in these subjects. An explanation for gender differences is provided by the report on technological education:

*“A particular feature of technical education departments is the very small percentage (3% in 1994) of female teachers. The shortage of female teachers to act as role models for girls adds to the difficulties in addressing the gender imbalance among pupils taking technical education courses. In the context of equality of opportunity, schools and education authorities should consider how they can encourage a more balanced uptake of the subject and ensure positive perceptions of the subject by both boys and girls.”*

**(Scottish Executive, 2000e)**

### **Subjects chosen for Standard Grade**

Pupils in Scottish secondary schools do not have a great deal of choice concerning the subjects they take for Standard Grade examinations at the end of S4. In order to ensure that pupils experience a broad and balanced curriculum the National Guidelines advise that all pupils study subject courses within each of the eight modes of the Curriculum Framework:

- Language and Communication;
- Mathematical Studies and Applications;
- Scientific Studies and Applications;
- Social and Environmental Studies;
- Technological Activities and Applications;
- Creative and Aesthetic Activities;
- Physical Education;
- Religious and Moral Education.

**(Scottish Consultative Council on the Curriculum (SCCC), 1999)**

Within the language and communication mode, all pupils are required to take English and another language. Within the mathematical studies mode all pupils take mathematics. Pupils have a choice of subjects within scientific studies, social and environmental studies, technological applications and creative and aesthetic activities modes. Physical education and religious and moral education can be studied through school programmes rather than Standard Grade courses.

The curriculum guidelines are set out by the SCCC (now part of Learning and Teaching Scotland). These guidelines perform the role that is played by the statutory National Curricula elsewhere in the United Kingdom. They are therefore key documents for establishing the curriculum that pupils in Scottish schools are required to study. Guidelines for the secondary stages explain the rationale for the curriculum framework, the philosophy and principles, as well as subject courses and time allocations (SCCC, 1999). However, it is interesting to note that the guidelines do not make any mention of gender issues. To some extent the guidelines set out an entitlement curriculum in terms of the modes of study which all pupils should experience, and as such may be considered to enhance equality of access to the curriculum. However, there are continuing gender differences in uptake of subjects within the modes at Standard Grade, as shown by Table 2.1.

The first column of Table 2.1 shows the percentage of candidates in each subject who were female. For example, around half of students entered for Standard Grade English, French and German were female, and this demonstrates that gender equality has been achieved with respect to entry to subjects in the Language and Communication mode at Standard Grade. We find greater differences in uptake of subjects within the Scientific studies mode: 70 percent of biology candidates were female compared with only 31 percent of physics candidates. There are large gender differences in participation in Standard Grade in the technological activities mode, physical education and religious studies, and slightly smaller differences in social and environmental studies and creative and aesthetic activities.

A useful way of comparing levels of inequality is to calculate the relative odds ratio of females:males entering each subject.<sup>2</sup> Odds ratios take account of the relative proportions of each gender who do *not* enter, as well as the relative proportions who do enter the subject. They provide a measure of inequality which attempts to be neutral in respect of the overall proportion entering each subject, and thus provide a means of comparing levels of inequality between subjects. The relative odds of females:males taking each subject at Standard Grade are shown in column 2 of Table 2.1. The subjects in which there was greatest bias towards females are indicated by the largest odds ratios, including Office and Information Studies (6.6), Biology (4.1), Home Economics (3.9) and Religious Studies (2.6). Subjects taken predominantly by males are shown by relative odds ratios less than one, especially Technological Studies (0.08), Craft and Design (0.2), Physical Education (0.32), Physics (0.33) and Graphic Communication (0.36).

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<sup>2</sup> If the numbers of female students entering and not entering are  $a$  and  $b$  respectively, and the corresponding numbers of male students are  $c$  and  $d$  respectively, the odds ratio is the ratio between the two odds,  $(a/b)/(c/d) = ad/bc$ .

**Table 2.1:** Gender differences in entry to subjects at Standard Grade and Higher Grade 1999

Mode and subject	Standard Grade		Higher Grade	
	% female	Odds ratio female:male	% female	Odds ratio female:male
<b>Language and communication</b>				
• English	49	1.66	57	1.26
• French	52	1.32	74	2.51
• German	50	1.07	75	2.58
<b>Mathematical studies and applications</b>				
• Mathematics	49	1.31	47	0.64
<b>Scientific studies and applications</b>				
• Biology	70	4.13	68	1.99
• Human Biology	na	na	75	2.67
• Chemistry	51	1.14	50	0.78
• Physics	31	0.33	29	0.28
• Science	43	0.70	na	na
<b>Social and environmental studies</b>				
• Geography	42	0.61	47	0.70
• History	54	1.32	60	1.28
• Modern Studies	57	1.53	63	1.47
• Social and Vocational Skills	51	1.10	na	na
<b>Creative and aesthetic activities</b>				
• Art and Design	58	1.68	65	1.64
• Drama	65	2.05	77	2.89
• Music	63	1.94	62	1.39
<b>Technological activities and applications</b>				
• Office/management and Information Studies	80	6.59	64	1.53
• Accounting and Finance	54	1.24	57	1.11
• Economics	41	0.71	46	0.71
• Computing Studies	36	0.46	27	0.27
• Craft and Design	21	0.20	27	0.28
• Graphic Communication	28	0.36	22	0.23
• Technological Studies	8	0.08	5	0.05
• Home Economics	76	3.93	92	9.34
<b>Physical education</b>				
• Physical Education	30	0.32	27	0.29
<b>Religious and moral education</b>				
• Religious Studies	71	2.62	77	2.76

**Notes:** The female:male odds ratio of entry to each subject is calculated as  $(FE/FO)/(ME/MO)$ , where FE and ME are respectively number of female and male entrants, and FO and MO are the numbers of female and male Standard Grade candidates who did not enter the subject.

**Source:** SQA 1999: Tables HG5a, HG5b and HG5c.

### *Subjects chosen for Higher Grade*

At Higher Grade, taken in S5 or S6, students had a greater degree of choice of the subjects they studied. The relative odds ratios for Higher Grade in the final column of Table 2.1 show much greater gender differences than for Standard Grade. For example, language and communication was studied to a greater extent by females than by males; the chances of females taking English Higher were a quarter greater than the chances of males (1.26), and the chances of females taking French or German were two and a half times as great as the chances of males taking these subjects at Higher Grade (2.51 and 2.58). Similarly, the chances of females studying each of the subjects in the creative and aesthetic mode, and religious and moral education mode, were greater than the chances of males.

On the other hand, in mathematical studies, the chances of females studying Higher mathematics were one third lower than the chances of males (0.64), and the chances of females studying Higher PE were two thirds lower than the chances of males (0.29).

In some modes, females and males were likely to study different subjects within the mode. For example, in scientific studies, the chances of females studying biology were twice as great as males (1.99) but the chances of females studying chemistry were lower than males (0.78), and the chances of studying physics were less than one third of that of males (0.28). The most extreme differences were in the technological activities mode, where the chances of females taking home economics were nine times as great as the chances of males taking the subject and the relative chances of a female taking technological studies were tiny (0.05).

The gender differences in participation in each subject identified using 1999 attainment data are very similar to those identified by previous research. Gender differences in subject choice are evidently very deeply rooted in the education system, and resistant to change. We explored the reasons for subject choice as part of our case studies.

### ***What are the reasons for differences in subject choice?***

We asked our respondents about gender differences in subject choice. Pupils said they chose the subjects they liked, those they were good at and those which they thought would be useful for entering the careers they had in mind.

*"I just chose what I thought I enjoyed - what I thought was good and you know I should get a job in it if I enjoyed it rather than choose something that I didn't like and then have to get a job in it and not enjoy it."*

**(Boys group, higher ability)**

*"Cos I enjoyed them - friends were going to take them- your future - aye like Physics that would be good if you're going for a job - good qualifications."*

**(Boys group, lower ability)**

In many cases the pupils had no idea what they wanted to do in a future career, but wanted to keep their options open.

*"Well I don't know what I want to do when I leave school - I don't have a career. I really don't know what I want to do, so I picked a whole variety of subjects. ... I didn't base it around a career because I thought, well, if I change my mind and I don't want to do that career, maybe stuck with subjects that I can't use."*

**(Girls group, higher ability)**

Many pupils expressed the view that they did not have enough choice between subjects. In some cases this was either because of the way the option choice system worked or because of time-tabling restrictions. The majority of pupils expressed objections to the requirements that they take classes in Religious and moral education and modern foreign languages. Most pupils believed that there should be a core curriculum of English and mathematics, but that other subjects should be optional. They asserted that they would study subjects more enthusiastically if the subjects were not compulsory.

*"Any subject within reason - I mean you cannae hae them daein' everything being artistic - art and graphics - and then CDT - ken a' the practical stuff whereas you've got to have some kind of mental like Maths and English - something that tests you a bit - a bit of a challenge. They should keep like Maths and English compulsory but they should gie you a bit of freedom about what you want to pick ... "*

**(Boys group, higher ability)**

*"I think I'd have chose different subjects if there was the option."*

*"Yes" (several boys).*

*"If you're gonna enjoy yourself then you're gonna work more and be more enthusiastic."*

*"Yeh I was forced to take Languages - I'm rubbish at languages so I don't like languages at all but I was forced to take it so in place of that I would have picked something else."*

**(Boys group, lower ability)**

Some of the boys groups also expressed the view that their parents had an important influence on their subject choice, and advised them on the subjects to take. Girls groups were more likely to say that their parents had left it to them to choose.

*"In your option papers, you have to get them signed by a parent to make sure your parents are happy with what you choose but at the end of the day it's not your parents decision cos it is your decision, it is your life not theirs."*

*"If there's a subject you've picked then the parents said well you're not doing that then that's that, you're not allowed to do it you have to change it cos if your parents haven't signed it then you're not allowed to."*

*"My mum says it's up to you, my dad says that fine."*

*"My mum really didn't want me to pick PE cos she didn't think that it would take me on a good career but she says it was my choice."*

**(Girls group, lower ability)**

Although the majority of pupils felt that boys and girls should be able to study any subject they wanted to, they believed that peer pressure was a stronger barrier for boys than for girls.

*Boy: "If a boy wants to take a girl's subject on he's considered or picked on as a pure ponsy nancy guy, right, but if a girl was to pick a boy's subject, techy or something like that, you don't think oh it's a pure man - it's just a case of "so what"."*

*Interviewer: "So it's actually easier for girls – they have more choices?"*

*Boy: "They don't get as much pressure - girls can play football but if a boy tried to do ballet ..."*

**(Boys group, lower ability)**

In one school, we met a boy who ignored the peer pressure to study music.

*Interviewer: "Would any of you give a boy a hard time for picking a subject that you didn't think was really a boys subject?"*

*Boys: "Probably - yeh!!"*

*Interviewer: "Why would you do that?"*

*Boy: "Cos it's just no' right - it doesnae sound right."*

*Boy: "I do get stick cos I've picked Music but it doesnae bother me."*

*Interviewer: "So it didn't bother you when you chose Music."*

*Boy: "No - I picked it cos I wanted to do it."*

**(Boys group, higher ability)**

In some schools the gender stereotypes seem to have been broken down to a greater extent. For example, one high-attaining boy who was taking Home Economics explained that he had not been slagged off at all for taking the subject.

*“Well the sort of jobs that I'm interested in like to do with fitness and health, you had to take Home Economics cos you have to tie in with all the leisure and stuff- so that's why I chose it.”*

**(Boys group, higher ability)**

Another view expressed by pupils was that boys were more likely to choose the same subjects as their friends, because they valued the enjoyment of larking around.

*“Boys tend to follow their friends more.”*

*“Aye.”*

*“Girls can be more independent whereas they (boys) follow everybody else and what they are doing.”*

**(Girls group, lower ability)**

The explanations provided by teachers for gender differences in participation in subjects were more complex. They included:

- attitudes and stereotypes, including the perceptions of parents;
- vocational relevance, including usefulness for entry to Higher Education;
- intrinsic interest in subject areas;
- perceived difficulty of subjects.

### **Attitudes and Stereotypes**

Many teachers expressed the view that choices were influenced by traditional gender stereotypes:

*“It's still there to a certain extent that the girls do NOT take the man-type subjects and the boys don't take the girlie-type subjects.”*

**(Guidance teacher)**

Within the sciences the gender imbalance of physics and biology was viewed with concern in most schools:

*“Physics is very much seen as a boys subject. And when it comes to the option choice time in 2nd year there might be a tendency on the part of some of the more able girls to opt for the Biology/ Chemistry side than to get into the Physics/ Engineering side...I think there must be a number of girls out there who are not achieving their potential, particularly in the Physics side, as a result of stereotyped thinking in terms of their own careers and what's for them”.*

**(Physics teacher)**

Often the gender stereotypes seemed to be reinforced by parental perceptions of subjects, especially those in the technological activities mode:

*“I was just going through the options exercise with the parents of 2nd year who're just going into 3rd year.... and the father sat there and the wee boy says “well I want to do Home Economics” and the father says “don't be so daft - your Mum'll teach you how to cook” - straight away you see - what can I now say to him?”*

**(Guidance teacher)**

A number of teachers expressed the view that attitudes were gradually changing, and gender stereotypes were being chipped away:

*“And I think because the children know that they get a good deal - they have to work hard, but they achieve in Home Economics. And that filters through, and the guidance teachers know that. And gradually the parents' perception of Home Economics is changing.”*

**(Home Economics teacher)**

One of the pupil groups confirmed that education on equal opportunities was having an effect in reducing gendered subject choices.

*"I think girls are actually more - they're taking more subjects like chemistry and physics because they've actually been encouraged that chemistry and physics is for both sexes."*

**(Girls group, higher ability)**

However, there was a residual problem in some subjects, such as physical education and languages, in which girls or boys were put-off by the overwhelming numbers of the opposite sex taking the subject:

*"I know that in our subject it has been an issue that girls don't like take it because there's so many boys taking it..... I know that some of the teachers in our department would say that the girls are intimidated by the boys."*

**(PE teacher)**

*"The females think it's a male dominated environment."*

**(Craft and Design Teacher)**

*"The class I've just come from there are 5 girls - it's a really male dominated atmosphere - that's the computing class. ... There's just a lot of boys there so I think at one point things like hairbrushes fell out of my bag and I got the mick taken out by the boys but they do that to each other all the time as well - and if you're seen as one of them - they talk about sports and wrestling and things - if you start talking about that with them, they're totally relaxed towards you."*

**(Girls group, higher ability)**

### **Vocational relevance, careers and entry to higher education**

Most of the teachers believed that vocational relevance was an important consideration in subject choice, and often that gender stereotypes regarding subjects were linked to attitudes to careers. Some thought that these attitudes had changed more with respect to careers for females than careers for males:

*"I think that the girls realise that there's a huge world out there and there's lots of opportunity for them. It's good to see that."*

**(Guidance teacher)**

*"Boys I would say are less willing to go into occupations that they think are female orientated unless they think there's a good promotion structure".*

**(Guidance teacher)**

Teachers of subjects in the technological activities mode were anxious to achieve more gender-balanced participation. Several commented on the favourable effect of changing the name and content of a course which was formerly "secretarial studies" to "office and information studies", and "office administration", although some believed the change could go further:

*"I think Administration still smacks of clerical activity and I would have been happier to see an Information Technology for Business type role with the same course, and I think that would have been far more attractive to both genders because I think they would see a relevance."*

**(Business Studies teacher)**

A number of teachers expressed the view that the subject choices of boys tended to be influenced by their relevance to careers to a greater extent than the choices of girls whereas girls were more likely to be influenced by intrinsic interest in the subject:

*“Boys tend to be very practical in things they buy into. They like the idea of getting a job at the end of it... girls are more likely to study English because they enjoy it, because it reflects their own life experience. It's an end in itself really rather than a means to a job.”*

**(English teacher)**

*“I'm not sure that boys are as ready to study something just purely for the love of a subject as well. They tend to maybe want a practical application of it. And although languages are a very practical thing to have it's really only put to test obviously if you go abroad. So I think maybe girls are happier studying something just because they really enjoy it. Boys, if they aren't using it there and then it's useless to them.”*

**(Modern Languages teacher)**

The value of different subjects for entry to further and higher education was considered to be important, especially among higher-ability groups.

### **Intrinsic nature of the subject**

A number of respondents commented that there was a tendency for boys and girls to have different levels of interest in each subject. For example, one student in S6 said:

*“The more kind of creative subjects are taken more by girls... Maybe it is equal numbers in the classes but there's more of an interest from the girls on those kind of subjects. And in Maths there's maybe more of an interest from the boys.”*

**(Girl in S6 group)**

Several teachers of English spoke of the nature of the subject being appreciated more by girls than boys:

*“I think it's very tied up with emotions. I think from that point of view, the sciences probably suit the boys because so often I'm thinking my higher class just now with the boys, it's seen to be embarrassing for them to talk about English and I very definitely feel with boys it's the idea of relationships, identifying emotion, sharing, expressing emotion. Boys feel very uncomfortable with it. You think it's quite fundamental - I'm sure there's other aspects but I think it goes back very fundamentally to emotion.”*

**(English teacher)**

On the other hand, the practical nature of some subjects was considered to be appreciated particularly by boys:

*“I think the practical nature of boys they will see PE and they will very much jump at the chance to take it.”*

**(PE teacher)**

*“This year ... the boys are choosing Office Administration. It's practically the same subject but some new content in it, because technology has advanced so there's more things of internet and databasing - but I've really been quite surprised at the amount of boys that are taking Administration this year when so few took Office and Information Studies.”*

**(Guidance/Physics teacher)**

A number of boys groups confirmed that they enjoyed subjects with a practical element, such as craft and design and physical education. In one school even English was cited as a subject which was more interesting because it included some practical work.

*Boys: “Maybe it's like the old fashioned thing-you know. They (girls) don't do as much practical stuff. Like Graphic isn't practical but it's to do with practical things like mechanics or engineering or things like that. So maybe it comes back to that old way of thinking”.*

*Interviewer: “So you're saying that boys like more practical things?”*

*Boys: “Aye.” (Agreement)*

*"They don't mind getting their hands dirty."*

**(Boys group, lower ability)**

*"I think the boys like the mair hands-on jobs like the CDT an' that where girls dinnae like that so much. It's the same in practicals like in Physics like the boys they just take all their wires and that and set it up themselves and then the girls seem to need more help in setting things up ... It seems to be a difference of minds, though, because girls seem to think more logically - they work through problems whereas boys can just look at something and they can either see the answer or they can't."*

**(Boys group, higher ability)**

### **Relative Difficulty**

Teachers of modern languages, mathematics and physics referred to perceptions of the relative difficulty of their subjects as reason for boys and girls choosing not to study them:

*"Traditionally trying to get an A in a higher Modern Language has been hard, it's been difficult."*

**(Language teacher)**

*"They perceive that 'I'm no use at this, this will be too hard for me'. And it's a shame. A lot of them opt out of it because they think they're not able to do it, and really they are."*

**(Maths teacher)**

*"I think it just seems to be a traditional boys' subject and also it's traditionally thought of as being hard. And boys are more likely to take on a hard subject than girls are, I think."*

**(Guidance/Physics teacher)**

Some pupils expressed their objections to studying modern foreign languages in terms of lack of interest, and others in terms of relative difficulty. However, one group considered the relationship between interest and perceived difficulty:

*Boy: "It's quite a difficult subject."*

*Boy: "Or maybe it's just like you're not interested in it for whatever reason. Cos if you're interested in a subject, and it's difficult, you learn because you're interested in it and you're willing to listen and learn. But if you're not willing to learn it just gets more difficult and more difficult."*

**(Boys group, lower ability)**

### ***Are there gender differences in attainment within subject areas?***

To examine gender differences in attainment at Standard Grade we use data from the SQA on candidates who entered each subject to derive the relative odds ratios of females:males gaining awards at 1-2 (credit level), 1-4 (general/ credit level) and 1-6 (foundation/ general/ credit level). These are shown in Table 2.2.

Looking at the relative odds ratios for attainment at 1-2 and 1-4 we find that in all but three subjects they are greater than 1.0, and this shows that of the candidates who entered for each subject, females were more likely than males to gain awards at credit level or credit/general. The three subjects in which males were more likely than females to gain awards at credit level were physical education (0.84), economics (0.80) and science (0.77). In all other subjects the chances of females gaining credit level or credit/general were higher than the chances of males, and these include a number of subjects which are taken predominantly by males, such as physics and craft and design. In other words, girls were likely to do better than boys at Standard Grade in almost every subject which they took.

**Table 22:** Gender differences in attainment within subject areas at Standard Grade and Higher Grade 1999 (relative odds ratio of female:male candidates gaining level of award)

SUBJECT	Standard Grade award at			Higher Grade award at	
	1-2	1-4	1-6	A	A-C
<b>Language and communication</b>					
• English	1.97	2.37	1.58	1.36	1.34
• French	2.19	2.08	1.57	0.97	1.05
• German	2.40	2.27	1.73	0.96	1.18
<b>Mathematical studies and applications</b>					
• Mathematics	1.18	1.16	1.11	0.93	1.21
<b>Scientific studies and applications</b>					
• Biology	1.12	1.25	1.36	0.96	1.00
• Human Biology	na	na	na	0.65	0.90
• Chemistry	1.19	1.20	1.19	0.85	1.05
• Physics	1.62	1.51	1.35	1.45	1.70
• Science	0.77	0.87	0.92	na	na
<b>Social and environmental studies</b>					
• Geography	1.39	1.23	1.28	1.68	1.63
• History	1.55	1.64	1.85	1.14	1.20
• Modern Studies	1.56	1.76	2.08	1.41	1.25
• Social and Vocational Skills	2.62	2.32	1.08		
<b>Creative and aesthetic activities</b>					
• Art and Design	2.35	2.14	1.66	2.09	1.99
• Drama	2.10	2.29	1.64	2.17	1.61
• Music	1.49	1.82	1.56	1.07	1.12
<b>Technological activities and applications</b>					
• Office/Management and Information Studies	2.11	1.99	1.97	1.63	1.25
• Accounting and Finance	1.00	1.04	0.68	0.92	0.98
• Economics	0.80	0.52	0.80	0.69	1.00
• Computing Studies	1.19	1.32	1.19	1.07	1.03
• Craft and Design	1.68	1.22	0.81	2.20	2.04
• Graphic Communication	1.35	1.54	0.99	1.21	1.35
• Technological Studies	1.26	1.42	1.69	1.54	1.06
• Home Economics	4.03	3.23	2.02	5.98	1.39
<b>Physical education</b>					
• Physical Education	0.84	0.83	1.15	1.61	1.11
<b>Religious and moral education</b>					
• Religious Studies	1.65	2.02	2.24	1.54	1.24

**Note:** Relative odds ratios for each subject are based on those candidates who entered for each subject.

**Source:** SQA 1999: Tables HG5a, HG5b and HG5c.

At Higher Grade, different patterns of attainment emerge. Looking first at the chances of achieving a pass at AC we find that females are more likely to gain a pass than males in all but two subjects. The two subjects in which males were more likely than females to gain a pass are human biology (0.90) and accounting and finance (0.98).

However, when we look at awards at A, we find that females are less likely to gain an award at A in eight subjects, and that five of these are subjects with greater proportions of female entry: French (0.97), German (0.96), biology (0.96), human biology (0.65), and accounting and finance (0.92). Females also had less chances than males of achieving an A award in male-dominated subjects including mathematics (0.93), chemistry (0.85) and economics (0.85).

It is interesting to note that females were more likely to gain an award at A in a number of male-dominated subjects: physics (1.45), geography (1.68), computing studies (1.07), craft and design (2.20), graphic communication (1.21), technological studies (1.54) and physical education (1.61).

On the other hand, among subjects which tend to be female-dominated, we find that females have more chance than males of gaining an award at A in English (1.36), history (1.14), modern studies (1.41), art and design (2.09), drama (2.10), music (1.49), management and information studies (1.63), home economics (5.98) and religious studies (1.54).

These results suggest that females are more likely than males to gain an award at A-C in almost all of their subjects, that they are more likely than males to gain awards at A in many of the female dominated subjects, and those who enter some male dominated subjects are more successful than males in achieving awards at A. However, those few males who study languages, biology or accounting and finance are slightly more likely than females to gain awards at A in these subjects.

## **Are gender differences found only at secondary school? or do boys and girls have different levels of attainment in primary schools?**

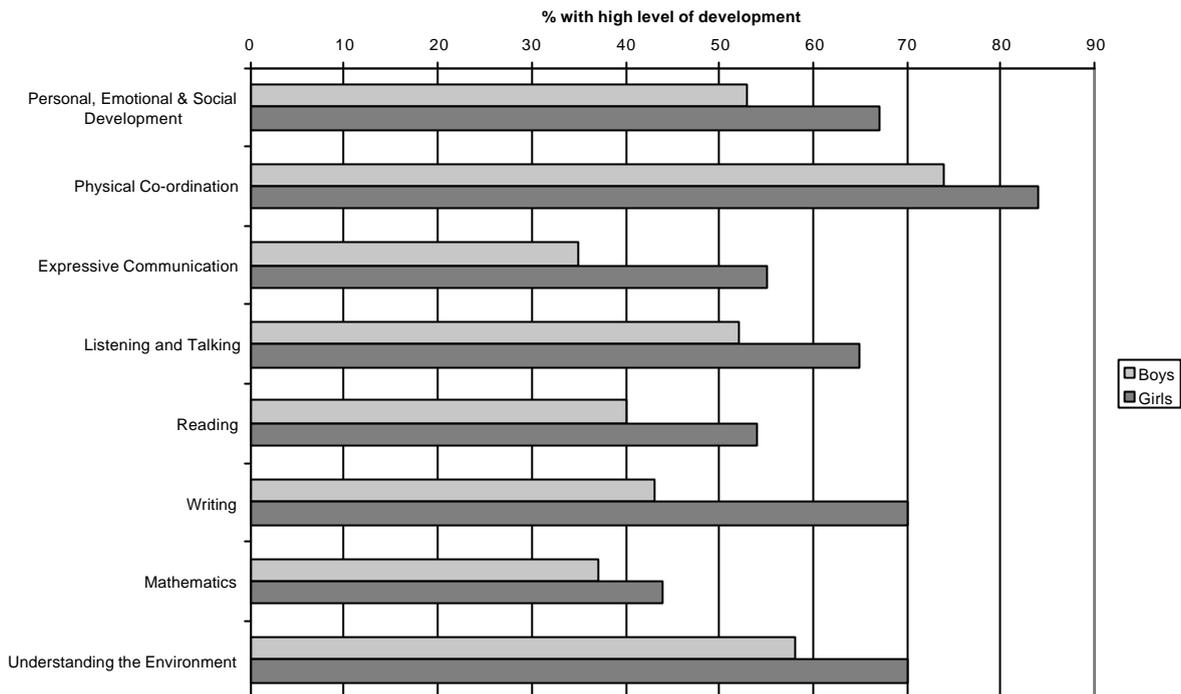
Until now the main focus of concern about gender differences in performance in Scotland has been on the secondary stages. There has been very little interest in gender issues in the primary stages, and this may be partly due to the relative lack of information about attainment in the stages prior to public examinations at the end of compulsory schooling. However, as we demonstrate below recent research evidence shows that the tendency for females to attain more highly than males emerges during the pre-school stages, and is found at all stages of primary and secondary schooling.

### ***Pre-school to Primary 1***

Until very recently there was no information available about differences in attainment of boys and girls at the early stages of schooling, because systematic assessments were not carried out with very young children. Since the late 1990s information about differences in the early literacy and numeracy skills of children aged 4-5 began to emerge following the introduction of baseline assessment by a number of local authorities (Tymms, 1996; Wilkinson and Napuk, 1997). In Scotland, baseline assessment of children aged 4-5 at pre-school and Primary 1 has been introduced as a national pilot (Wilkinson *et al*, 2001), while other approaches have been introduced in a number of local authorities as part of the Early Intervention Programme (Cowie and Croxford, 1999). However, there is no single system of baseline assessment in use. Some local authorities use standardised assessments, others introduced systems which use the professional judgements of teachers in nursery or primary school. While gender differences have not been the major focus of baseline assessment, a number of interesting gender differences have been identified.

The national pilot sample included 46 pre-school centres and 27 primary schools throughout Scotland. Teachers were asked to rate each child on a four-point scale for each of eight aspects of learning. At the pre-school stage, girls were more likely than boys to have been highly rated on every aspect of development and attainment (Figure 2.1). At the Primary 1

stage girls had significantly higher ratings in personal, emotional and social development and writing (Wilkinson *et al.*, 2001: Table 4.4).



Source: Wilkinson *et al.* (2001) Table 4.10

**Figure 2.1:** Pre-school development of boys and girls aged 4-5  
(Results from National Pilot of Baseline Assessment: N=628)

Other evidence that girls had more highly developed literacy skills at the point of entry to Primary 1 are available from standardised baseline assessments in two local authorities. The data show that at this very early stage girls had significantly higher reading attainment on average than boys, after taking account of a number of pupil characteristics including age, free meal entitlement (FME), first language, pre-school experience and local area characteristics (Croxford, 1999; Croxford and Sharp, 2000). The girls had retained their higher levels of reading skills by the end of Primary 1.

Attainment and progress in numeracy was also measured in one local authority. Although there was no evidence of gender differences in numeracy on entry to Primary 1, boys subsequently made more progress than girls, and had higher numeracy scores by the end of the year stage (Croxford, 1999).

These findings were confirmed by our case studies; analysis of National Test results in P3, P5 and P7 by one local authority showed gender difference in reading and spelling, but no apparent gender difference in Maths. However, in one primary school the staff had found that boys developed numeracy skills more rapidly than girls.

Interviewees in our case studies were asked about gender differences at each stage of schooling. A number of primary staff suggested that the statutory age of starting school is more suited to girls than boys. Some pupils, especially boys, are not ready for school at the age of five, and it would be better for them if they could start school at the age of six. In addition to levels of maturity, there are differences in fine motor movement. Boys' writing is much poorer than girls' writing at the age of five, and this can be explained because boys

have less well developed fine motor movements. (The links between age, stage and maturity were identified also by secondary school staff who found that many boys were too immature to leave school at the end of S4, and were not emotionally ready to leave school and find work.)

One Primary Headteacher noted a change in attitude and behaviour between P1 and P4. In P1 boys were as keen to please as girls, but at later primary stages they lost interest and their behaviour became more difficult. Another noted that, by P6, girls are "more sensible than boys".

### **Primary 3 to Secondary 2**

At a national level, there is evidence that females had higher attainment in reading at the end of Primary 3 at age 6-7 (Fraser *et al*, 1999). In addition, the Assessment of Achievement Programme shows that girls are performing consistently better than boys in reading and writing at P4, P7 and S2 (Scottish Executive, 1999). Similar gender differences in reading at various age-stages have been found in inner-London junior schools (Strand, 1998; Sammons, 1995).

The pattern of gender differences is less clear for numeracy and mathematics. The Assessment of Achievement programme found no significant differences between the performances of girls and boys in the 1997 mathematics survey, which covered P4, P7 and S2 (SOEID 1998). However, in inner London junior schools it was found that girls made more progress in mathematics than boys, and they achieved higher attainment in mathematics by the end of junior school at age 10 (Sammons, 1995).

From our case studies we learned that the gender gap widened when pupils entered secondary school, and one Headteacher noted that among pupils who achieved the same grades at primary school, girls overtake boys during the first two years in secondary. Most respondents explained gender differences in the early stages of secondary school in terms of differences in maturity, which were linked to attitudes to school work, behaviour and peer group pressure. Members of a girls' group explained:

*"I think probably boys don't mature as quickly as girls do, and therefore girls are more studious....The boys are still living in primary school basically...Because its such a big difference coming from primary to high school that I don't think they quite realise what the work's involved."*

**(High attaining girls group)**

The differences in maturity were particularly significant in the S3 and S4 stages as pupils started to prepare for their Standard Grade examinations. A number of teachers contrasted the maturity of attitudes of girls and boys to their Standard Grade subjects, for example:

*"A lot of the boys who come into the subject in 3<sup>rd</sup> year they're still wee boys. The girls come in at 3<sup>rd</sup> year and they're young women, and they've got a young woman's attitude to the subject."*

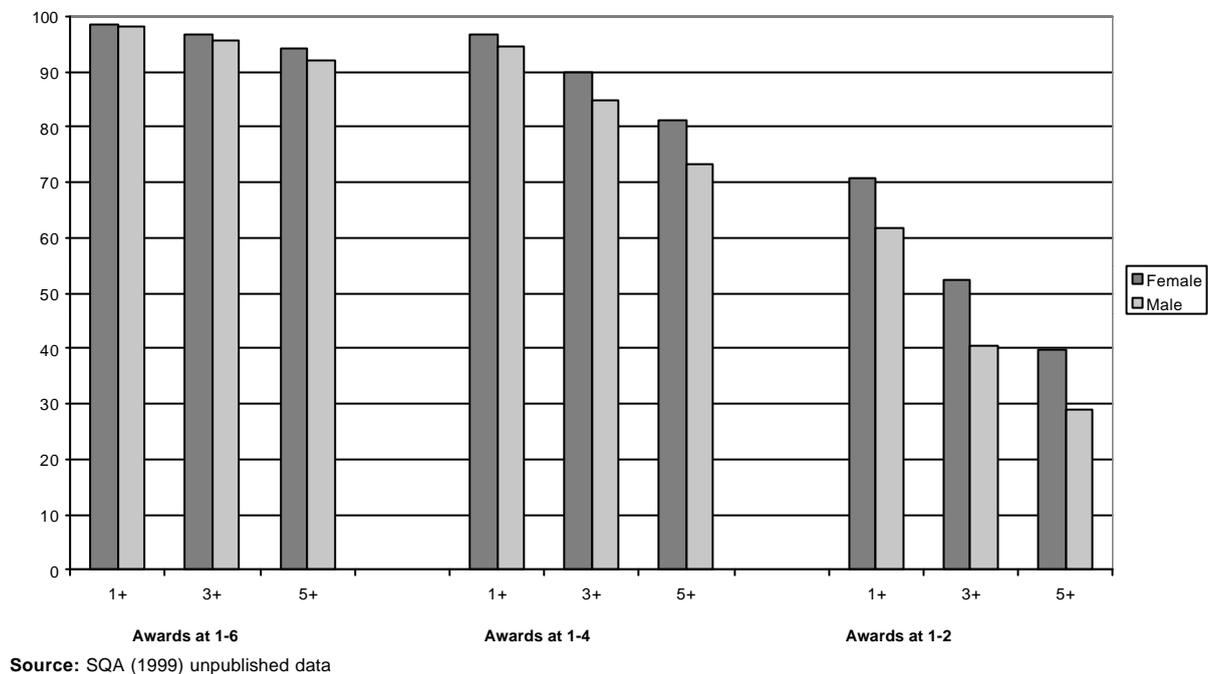
**(English teacher)**

The difference in maturity was noted also by the pupils, for example one group of girls commented: Girls mature at a younger age than boys so when it's time for their Standard Grade they realise they've got to work hard and boys are still going "we dinnae need to dae it and that". A group of S3 boys described the link between developing levels of maturity and reduced intensity of anti-work peer pressure between S2 and S3; one suggested "You're

accepting that you're going to have to work hard or otherwise you're not going to get anywhere", but another group member countered "You're accepting that, but others are just the same as they were in 1<sup>st</sup> and 2<sup>nd</sup> year".

#### **Secondary 4: The end of compulsory schooling**

Gender differences in attainment at the end of compulsory schooling, assessed by the examinations for Standard Grade and the General Certificate of Secondary Education (GCSE), have been well documented (Powney, 1996). Data are available from the Scottish Qualifications Authority (SQA) on Standard Grade attainment. On average, females gain more Standard Grade and GCSE awards than males. Figure 2.2 shows the proportions of males and females achieving different levels and numbers of Standard Grade awards in 1999.



**Figure 2.2:** Gender differences in attainment of Standard Grade awards in 1999

Concern about the perceived under-achievement of males is often expressed in terms of very low levels of attainment, and is linked to issues of disaffection and social exclusion. However, recent research has refuted this (Biggart, 2000; Gorard *et al*, 1999). The results in Figure 2.2 indicate that the main gender differences in performance are at the highest levels of attainment of Standard Grade, with more females than males gaining five or more awards at 1-2 (Credit level) and 1-4 (General and Credit Level). Gender differences are much smaller at 1-6 (Foundation, General and Credit Levels.)

We use odds ratios to measure the level of inequality between females and males at each level of attainment. In Table 2.3, the odds ratios for females: males achieving different numbers of Standard Grade awards are shown. It can be seen that all of the odds ratios are greater than 1.0 and that they increase with the number of awards. This confirms that the female advantage in attainment is greatest at the highest levels of attainment, such as 5+

Credit level awards (1.39) and least at the lower levels, such as 1+ award at General or Credit level (1.03).

The relationship between developing maturity, age, stage and Standard Grade examinations may be problematic for boys, as one teacher explained:

*“The boys start to grow up at 4<sup>th</sup> year but sometimes it can almost be too late... before they really start to realise the importance of Standard Grade, the importance of school in general. Whereas the girls have already sussed it out, got a head start and the boys have to catch up. But in 4<sup>th</sup> year suddenly the boys seem to grow up and that’s when they start to show signs of getting their heads and putting in a wee bit more work.”*

**(Mathematics teacher)**

**Table 2.3:** Number of Standard Grade awards per S4 candidate by sex, 1999 (cumulative percentages and relative odds ratios)

Number of awards	Awards at 1-2			Awards at 1-4		
	males	females	odds ratio	males	females	odds ratio
9+	0.3	0.5	1.62	0.7	0.9	1.30
8	8.7	14.7	1.69	33.6	41.6	1.24
7	17.0	25.9	1.53	55.9	65.5	1.17
6	22.7	32.7	1.44	65.3	74.0	1.13
5	28.2	39.0	1.39	71.9	80.1	1.11
4	33.5	45.1	1.35	77.7	84.6	1.09
3	39.5	51.5	1.30	83.2	88.5	1.07
2	47.4	58.9	1.25	88.0	91.9	1.04
1	60.3	69.6	1.16	92.6	95.2	1.03
0	100.0	100.0	1.00	100.0	100.0	1.00
<i>N (=100% )</i>	30,602	29,557		30,602	29,557	

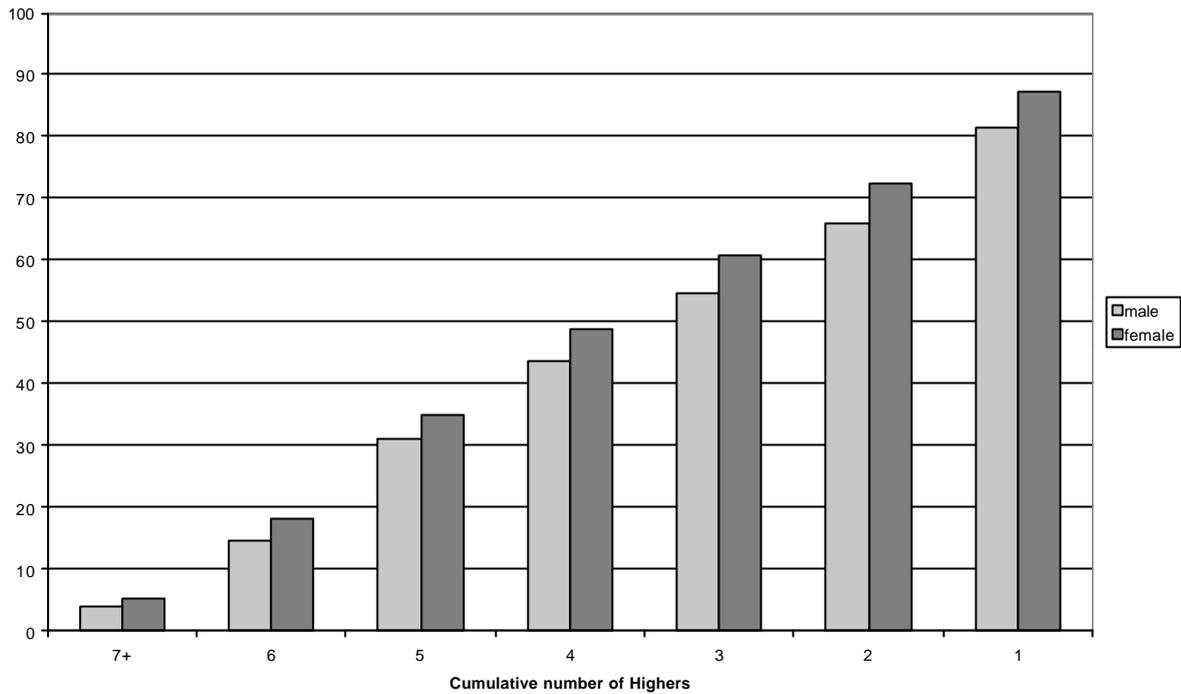
Source: SQA 1999, Table SG8

### **Secondary 5 and 6: Post-compulsory schooling**

Fewer males than females stay on at school for post-compulsory schooling, and therefore fewer males have the opportunity to present for Higher Grade examinations (Howieson *et al*, forthcoming). The SQA provides data on the Higher Grade entries and awards in S5 (1998) and S6 (1999) based on a stage-cohort of young people who completed S4 in 1997; these data show that 49 percent of all males in the cohort attempted at least one Higher Grade examination compared with 59 percent of all females (SQA, 1999: Table HG8a).

Looking at the young people who attempted any Higher Grade examinations in S5 or S6, Figure 2.3 shows the cumulative number of Higher Grade passes (awards at A-C) achieved by male and female candidates. It shows that more female candidates than males achieved passes, and more female candidates achieved larger numbers of passes.

In Table 2.4, the odds ratios for females: males achieving different numbers of Higher Grade awards are shown. All of the odds ratios are greater than 1.0, indicating that females are more likely than males to achieve Higher Grade passes, and, in particular, females are more likely to achieve awards at the highest grade. The pattern of odds ratios differs between awards at A grade and awards at A-C. The female advantage is greatest at the highest level of awards, 7+ awards at A grade (1.76), but least at 4+ awards at A (1.12).



Source: SQA (1999) Table 8

Figure 2.3: Number of Highers achieved by males and females in 1999

Table 2.4: Number Higher Grade awards in S5 (1998) and S6 (1999) by sex (cumulative percentages and relative odds ratios)

Number of subjects passed	Awards at A			Awards at A-C		
	males	females	odds ratio	males	females	odds ratio
7+	0.22	0.38	1.76	4.0	5.3	1.33
6+	1.32	1.90	1.45	14.5	18.1	1.31
5+	3.67	4.57	1.26	31.0	34.8	1.19
4+	6.71	7.44	1.12	43.8	48.7	1.22
3+	10.26	11.90	1.18	54.6	60.7	1.29
2+	15.94	19.41	1.27	66.0	72.4	1.35
1+	29.72	35.40	1.30	81.5	87.3	1.56
0	100.00	100.00	1.00	100.0	100.0	1.00
<i>N</i> (=100%)	16,014	18,778		16,014	18,778	

Source: Source: SQA 1999, Tables HG8C and HG8D

### Do boys catch up in S5 and S6?

Several respondents in the case studies believed that the differences between males and females were reduced in S5 and S6, and that males became more mature and caught up with girls in terms of attainment. One teacher explained:

*“I notice a difference between boys attainment between 4<sup>th</sup> year and 5<sup>th</sup> year. They’re just so much different. You know they have matured and if you like the daftness has gone a wee bit and they’re more focused on their studies.”*

**(Business Studies teacher)**

A group of S6 students noted a change in the attitude of males by S6, with a greater focus on getting qualifications for university. Many teachers believed the attainment of males and females equalised in S5 and S6, and some believed that their highest-attaining students were males.

One respondent from a local authority emphasised the importance of being aware of the changes in maturity and attainment of males between Standard Grade and Higher when making decisions about their suitability for post-16 courses. For girls the relationship between Standard Grade and Higher is strong, but boys who did not achieve so well in Standard Grade can pull themselves up in S5 and S6:

*“You’ve got to inform the guidance staff in schools not to write boys off too early, that they mature later; they might have a poorer set of Standard Grade results, but they’ll get their five Highers.”*

**(Local Authority personnel)**

Statistical evidence concerning whether boys catch up later is, however, conflicting. This issue was examined by one of the authors using Scottish School Leavers Survey (SSLS) data for a project which focused on high-attaining females (Tinklin, 2000). The dataset used represented a 10% sample of all young people in Scotland who left school in 1994 (aged between 16-18 years), giving a total of 3107 young people. To assess whether boys and girls progressed at different rates in S5 and S6 (ie beyond the age of 16), a multilevel model was used to look at the relationships between attainment in S4 (age 16), gender, social background and attainment in S5 and S6. Specifically, the model predicted *high attainment* post-16 since that was the focus of the study for which the work was carried out. High attainment was defined as 4 or more Higher Grades at A-C. The results showed that, not surprisingly, attainment in S4 was strongly related to attainment in the upper secondary stages. Moreover males and females with equivalent Standard Grades, who came from similar social circumstances were equally likely to become high attainers later on. This evidence suggests that boys do not catch up later. It is important to note the significant effect of social advantage on later attainment. Those from advantaged social backgrounds (ie those at independent schools, those with fathers in non-manual occupations, those with more educated parents who owned their own homes) were more likely to do well at Higher Grade than others with equivalent S4 attainment.

Other evidence from England, however, does suggest differential progression rates for males and females between the ages of 16 and 18. Yang and Woodhouse (2000) used data on four complete cohorts of students who took A/AS level qualifications (at ages 17-18) in the years 1994, 1995, 1996 and 1997. They examined the relationship between attainment at GCSE level (at age 16) and A/AS level attainment using multilevel modelling. Their findings suggest that males did attain more highly at A/AS level than females with equivalent GCSE attainment. Their model differs from the one described above in that no information was included on individuals' social background. However, their work does provide evidence of differential progression rates between males and females between the ages of 16 and 18.

## **Are there differences between boys and girls in referral to learning and behaviour support?**

Another area where there are clear gender differences is the area of special educational needs. Riddell (1996) argues that gender is invisible in the field of special educational needs, which is surprising because there is a preponderance of boys in all categories of learning difficulty. She states that, in 1992, boys outnumbered girls in special schools by 2:1. More up-to-date statistics show that this ratio remained unchanged in 1998 (Scottish Executive, 1999). She goes on to demonstrate that the most marked gender difference was in the area of emotional

and behavioural difficulties, which comprised 81% boys. These findings were confirmed by staff in the case study schools for the Gender and Pupil Performance Project, who said that learning and behaviour support staff in mainstream schools tend to work with more boys than girls. These staff and Riddell noted, however, the element of subjectivity in assigning young people to learning and behaviour support units and special schools, which does allow for a possible gender bias in assignment of young people.

Staff in the case-study schools estimated that the ratio of boys to girls receiving additional support ranged from 2:1 to 5:1. Where possible, staff would work with children within the classroom, although children were removed if necessary. Strategies used included the use of praise, breaking tasks down, one-to-one support and setting behaviour targets. There was some suggestion that when boys were having difficulties they were more conspicuous and disruptive than girls and that this partly explained their greater representation in learning and behaviour support.

*“Because to get to that level ... you have to be dramatically, openly and consistently in conflict with the system as you see it. And you have to be able to demonstrate that conflict in social situations ... I’m not making a judgement but it seems to me, observing the practice, that the boys are up for it. Their difficulties manifest vocally in refusal, far more I think perhaps than the girls.”*

**(PT Behaviour Support)**

A similar reason was given for the predominance of boys needing learning support.

*“I just feel that if girls have difficulties ... on the whole they tend to work harder and keep their heads down and try and do the best that they can do. Whereas boys, I think, if they can’t cope, there’s other distractions or they draw attention to themselves in some other way. Maybe by bad behaviour or being silly or playing the fool.”*

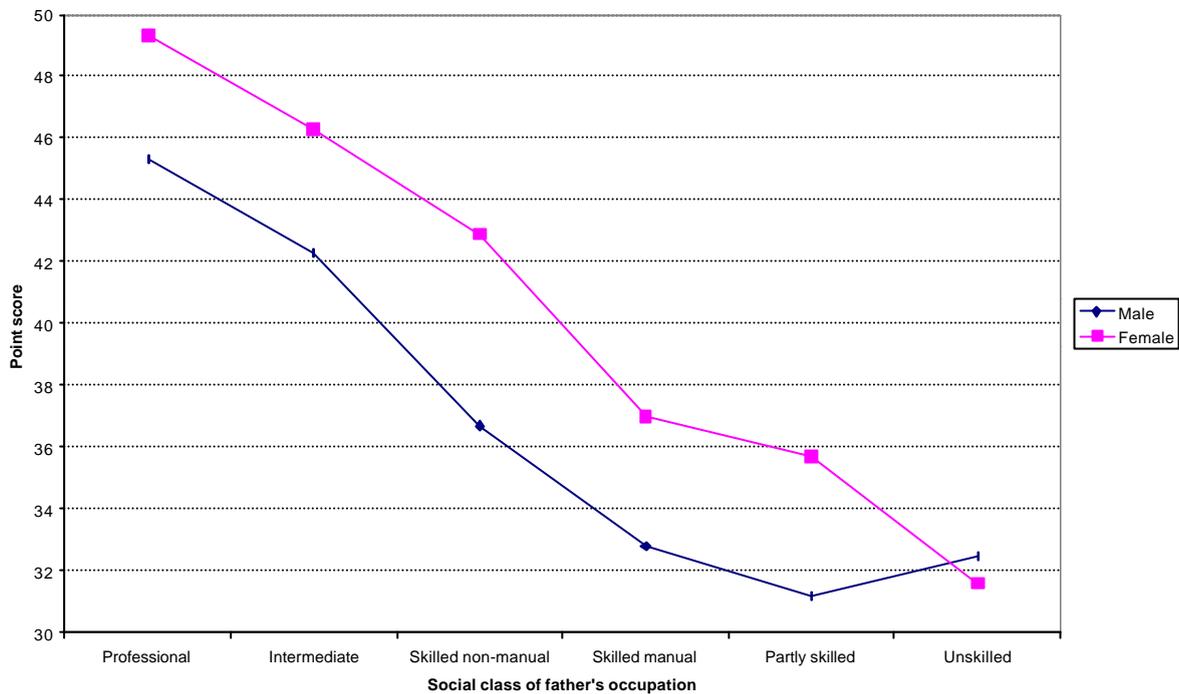
**(PT Learning Support)**

## **Are there gender differences in attainment by social background?**

Social class is still a major source of social inequality in Scotland. The early influence of socio-economic status (SES) on attainment has been identified among pupils starting their first year of primary school: pupils with free-meal entitlement have lower baseline attainment in reading, and make less progress in the course of Primary 1 than other pupils (Croxford, 1999). Pupils with low SES were also found to have lower attainment in reading in Primary 4 and Primary 6 (SOEID, 1998). The influence of social class on attainment in secondary schools has been identified by a number of studies (eg Paterson, 1992; Tinklin, 2000; Croxford, 2000).

In order to assess whether there were social class differences in attainment by gender, we carried out an analysis of data from the Scottish School Leavers’ Survey (SSLS) cohort of pupils who were in Secondary 4 in session 1997-98, and who sat Standard Grade in summer 1998. We calculated a Standard Grade point score, which took account of both numbers of awards and level of awards (by counting an award at 1 = 7 points, 2=6 points, 3=5 points etc). We compared the point score achieved by pupils of different gender and social class as measured by the social class of their fathers’ occupations (Registrar General’s classification). We found that the effects of social class were strong; pupils with fathers in professional occupations attained an average 47 points, compared with skilled manual occupations 35 and unskilled 32.

The average attainment gap between males and females was smaller than the attainment gap between pupils of different social class. Males attained 35 points on average, compared with females 39. Differences in attainment between males and females are found at all levels of social class except among pupils with fathers in unskilled occupations (Figure 2.4).



Source: Scottish School Leavers' Survey (1998) unpublished data

**Figure 2.4:** Mean point score at Standard Grade in 1998 by gender and father's social class (data from Scottish School Leavers' Survey)

## Do gender differences vary by school?

Recent studies based on the SSLS have examined gender differences in attainment, and have modelled the extent to which attainment varies between pupils and between schools. The research found no evidence that the female advantage varied between schools (Tinklin, 2000). In other words, the attainment of females is higher on average than the attainment of males in all Scottish secondary schools.

Using school-level data from the SQA we examined the extent to which the relative odds of females: males attaining Standard Grade awards varied between schools. In the majority of schools the odds of females achieving an award were much greater than the odds of males achieving an award. We found that there were a few schools in which the odds of males achieving awards were equal to or greater than the odds of females achieving awards. However, these schools did not have consistent patterns of equality or male advantage across all levels of awards.

Looking at attainment of 5 + Standard Grade awards at 1-6, the odds of males achieving this level were greater than or equal to the odds of females achieving this level in 40 percent of schools. However, when we look at attainment of awards at 1-4 and 1-2 the percentage of schools with low or equal odds ratios was 19 percent and 15 percent respectively. It appears that equal odds (or male advantage) are less prevalent at general/credit or credit-level than at levels of attainment which include foundation.

We examined the extent to which the odds ratios were associated with known characteristics of schools, including whether the school was independent or state-funded, Roman Catholic or non-denominational, the socio-economic characteristics of the school including percentage free-meal entitlement. We also derived a number of measures of socio-economic characteristics from the Scottish School Leavers' Survey (SSLS), including average parental education, occupation and (un)employment. There was no evidence that any of the measures of school characteristics was in any way associated with the size of the odds ratios. Differences in odds ratios between schools appeared to be entirely random.

## What are the implications of the gender profile of school staff?

Information from the Scottish Executive's 1998 school census provides data on the gender profile of teaching staff in publicly funded schools in Scotland (Table 2.5). The vast majority of teachers in primary school were female (93 percent in 1998). Although males comprised just 7 percent of all primary teachers in 1998, they were more disproportionately represented in the promoted grades. For example, 23 per cent of all primary school Headteachers were males.

**Table 2.5:** Percentage of teachers at different grades who were female, in publicly funded primary and secondary schools, September 1998

	Primary		Secondary	
	% Female	Total Teachers	% Female	Total Teachers
All Grades	93	22508	53	24091
Headteacher	77	2261	10	389
Depute Headteacher	91	972	21	389
Assistant Headteacher	91	600	32	1044
Principal Teacher	na	na	40	7044
Assistant Principal Teacher	na	na	57	3024
Senior Teacher	93	3175	60	1721
Unpromoted Teacher	95	15500	65	10480

Source: <http://www.scotland.gov.uk/library2/doc12/tissb-00.asp>

Just over half of all teachers in secondary schools were female (53 percent in 1998). However, there were relatively few female secondary teachers in promoted grades; just ten percent of secondary Headteachers were female in 1998.

### Senior management

There was considerable variation between the case study schools in the proportion of female members in the senior management team; all of the schools had male Headteachers, in two schools all the members of the senior management team were male, while in two schools an overall gender-balance had been achieved.

The explanations given by the senior staff of the schools in which half the SMT were female were in terms of applications and promotions:

*"Previously you got very few applications from women – that's changing now."*

**(Headteacher: Male)**

*"The school opened 5 years ago. It just came about through a series of promotions. I notice a different atmosphere if the women are not there. We positively benefit from the gender mix in the management team."*

**(Assistant Headteacher: Male)**

However, it appears that some schools have difficulty in recruiting female members to the SMT. The Headteacher of one school with an all-male SMT explained:

*“Emphasis was put on ensuring that a higher proportion [of females were interviewed] than had applied on the leet but at the end of the day - for totally justifiable reasons in my view - it was a man that got the job each time because he was undoubtedly the best candidate.”*

**(Headteacher: Male)**

The Headteacher of a school in which there was just one female member in a five-member SMT provided a similar explanation:

*“I don't really care if the person's male, female, black, white, Roman Catholic, Church of Scotland, Hindu - I mean frankly it doesn't matter. The best person for the job will get the job.”*

**(Headteacher: Male)**

A somewhat different view of the selection procedure was provided by a female teacher who had been unsuccessful in her application for the post of AHT:

*“I was interviewed and kind of lost at interview and I don't know whether we should expect positive discrimination to get women in or what. But I feel it's a really hard area for women to get into, senior management in schools. More are getting in now because I think schools have taken a positive decision to have them.... Men are fairly insensitive to issues like this I think. And I think generally if you haven't experienced something then you, it's difficult for you to understand it properly. For instance at my interviews, I was interviewed by (a large panel of) men... I actually felt this 'oh God bloody woman' sort of attitude when I said I shouldn't be interviewed by (so many) men. ... They couldn't see that I was making a point that had nothing to do with whether they appointed me or not. It's almost like... I was making the argument I ought to be appointed because I was a woman.”*

**(Female teacher)**

The problem of gender imbalance in the SMT was considered by a number of teachers to be a continuing example to the pupils of gender inequality in society, which influences pupils' attitudes and aspirations:

*“Generally speaking, the gender issue I've only got a certain sympathy with the whole business, because when we do look at the world of employment, I think the boys are still coming off far better. I think that's one reason why boys are under achieving. I think subconsciously. But they're looking about the world and the men in general are still at the top. They're still in positions of power. Just need to look at this school management team - it's all male. They're getting messages in school. So I have to say I've only got certain sympathy for the gender issue.”*

**(Female English teacher)**

### **Primary Schools**

Many of our informants were concerned about the relative absence of male staff in primary schools:

*“I think it doesn't give role models for the boys .... the interests that a lot of teachers have are much more in line with what the girls are interested in and the way that their learning styles are being put over ... much more for the girls .... I'd very much like to have males on my staff - I think it makes such a big difference in the school.”*

**(Female Primary school teacher)**

Several teachers mentioned the need to provide male role models in primary schools, especially for the increasing number of boys in lone-parent families without fathers as role models. Some mentioned the changes in the attitudes and behaviours of boys in their classes when given the opportunity to interact with adult males; in one example this was achieved by

the use of the teacher's adult male family members on a school trip, other examples were given of the effect of visiting male teachers of music or physical education:

*"...it was the boys that were all there and they were standing there and not a sound, doing exactly as they were told to do. The other interesting thing, it was a male instructor. Now I don't know how important that is. We haven't had too many male teachers in the school in the last 10 years. we had a supply teacher in for the whole of the summer term last year who really struggled with a difficult group of boys that he had".*

*"... it's not any man, but it's somebody that is on their level, that speaks their language that, they need to respect them."*

**(Primary Headteacher)**

### ***Pay and conditions***

A number of teachers commented on the problems of recruiting male teachers, in terms of pay and conditions.

*"I think that's possibly due to - the teaching profession is not well paid from a male point of view. I've a friend who works for BP and he's making a lot more than me, unfortunately. So I think that's possibly one cause."*

**(Male Technological Education teacher)**

*"Teaching's a great job and it's thoroughly enjoyable but at the end of the day you cannae persuade people in on buttons. I've already expressed these views to Mr McCrone! I don't know why females will come in at that level but increasingly it's becoming difficult to get anyone. We have been so lucky this year with staffing - you try getting a Maths teacher - it's absolutely incredible out there - try getting a Computing teacher and you'll have real fun."*

**(Male AHT)**

### ***Gender differences in subject areas***

Among teachers in secondary schools, the gender profile varied by subject (Figure 2.5). Male teachers were represented in technological education, physics, chemistry, modern studies and economics to a greater extent than females. The proportion of female teachers was higher than average in home economics, business studies, modern languages, speech and drama, English and music.

Many respondents believed that the concentration of male and female teachers in particular subject areas reinforced gender-stereotypes in subject choice.

*"Science is taught mainly by male teachers,...All the Heads of Department are male, the 3 Physics teachers are all male ... So what the pupils are seeing are male scientists."*

**(Female Science and Guidance teacher)**

*"I feel as a woman amongst a crowd of men that the atmosphere could be very male dominated and I have to work at balancing that."*

**(Female Chemistry teacher)**

*"It's like graphics, in my class there's only five girls and the rest is boys. And then there's another class next door and it's a whole entire boy class and all the technical department is male teachers."*

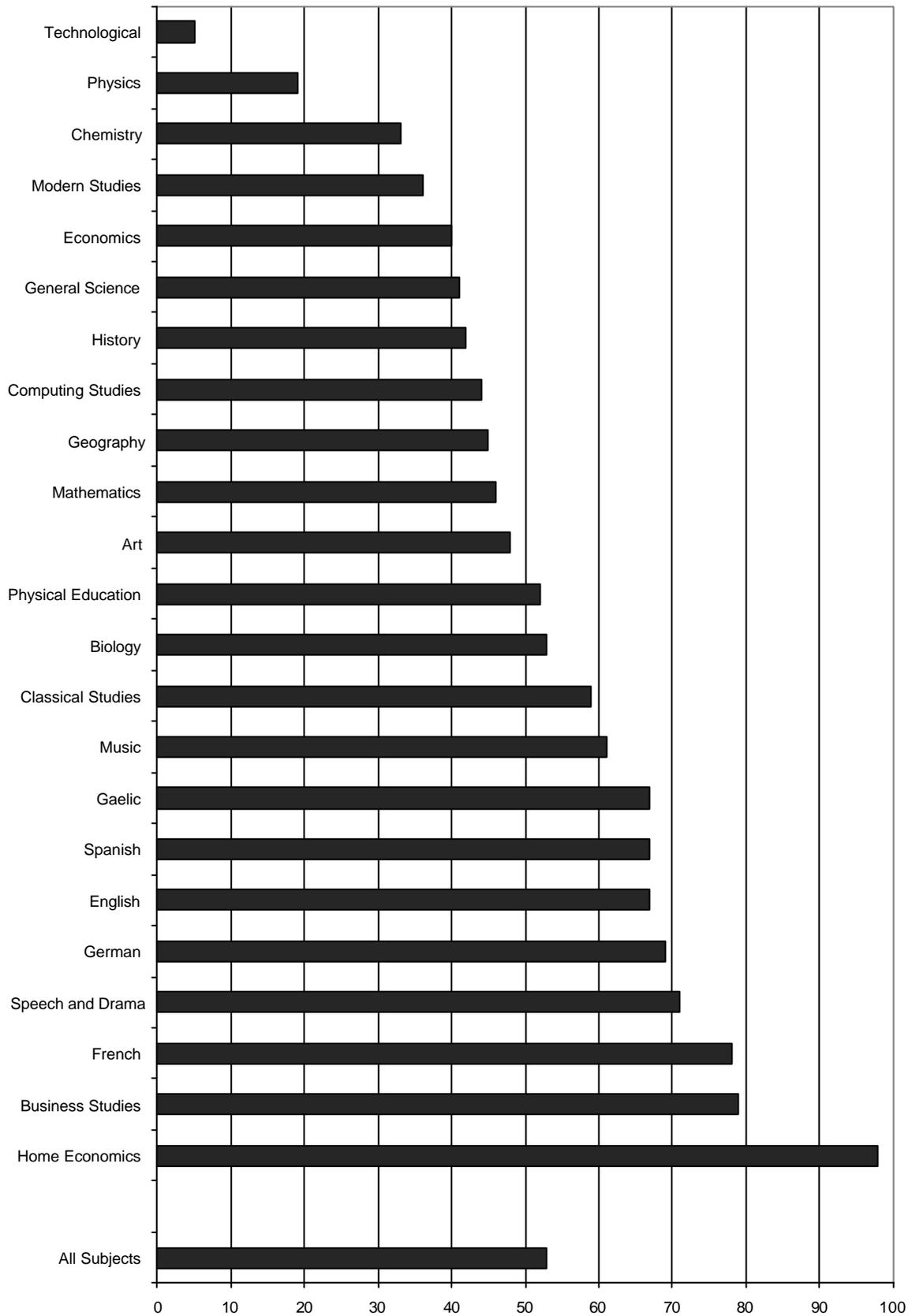
**(Girls group, higher ability)**

*"It would be nice if we could have a female Technical teacher in the school. That might encourage more girls to take a subject."*

**(Male Technical Education teacher)**

*“More boys would take Home Economics if there was a male Home Economics teacher, and more girls would take technical if there was a female technical teacher.”*

**(Girls group, lower ability)**



Source: Scottish Executive (1998)

**Figure 2.5:** Teachers in 1998 who were female (%)

## ***Gendered interactions between teachers and pupils***

The majority of respondents believed that the sex of the teacher did not make a difference to the learning experiences of boys and girls:

*“I believe that our kids don't care whether they're taught with a man or a woman: I'll qualify that - bar the odd one.”*

**(Male Headteacher)**

However, there were a few cases where teachers reported some differences in the response of different-sex pupils:

*“In terms of my personal success with the classes I've had a lot more success with the boys than with girls... The atmosphere in the classes was not that I would have wanted it in terms of their trusting me, them coming to see me if they were worried about things. The boys from day 1 in 3rd year I thought the atmosphere in that class has been great.”*

**(Male Maths teacher)**

*“I think boys get to know you very quickly. I've got all-boys groups as well and they try it on very quickly but they also get to realise how fair you are or how not fair. They suss you out quicker than girls.”*

**(Female PE teacher)**

*“It's difficult though cos as a female teacher the prospect of a class of all boys in 4th year is daunting, regardless of the ability range, it's just more difficult to relate to them.”*

**(Female Modern Language teacher)**

A few female teachers mentioned that they felt they were fulfilling the stereotypical nurturing role of women:

*“Maybe it's the fact that I'm a woman and it's a group of girls. I don't know whether that really comes into it at all. I think that could be a factor. But the girls that I've got are less able than the 3rd year group I have and they see me, as I think, sometimes nurturing them rather than driving them on. But that's the way I perceive it at the moment.”*

**(Female English teacher)**

*“He is relying on me to help him cope and that is very important. I've known him since 1st year, it's very important that they can trust us and I think in a way we're kind of like their mothers. I think women Guidance teachers nurture less able boys.”*

**(Female Guidance teacher)**

## ***Discipline***

Most of our respondents, whether teachers or pupils, did not find the sex of the teacher made any difference to disciplinary issues. In our discussions with pupil groups, the few examples given of male or female teachers who were considered to be strict disciplinarians were immediately countered with examples to the contrary. In most cases the conclusion was “it depends on the teacher”. However, teachers cited some cases of boys who created additional problems for female teachers:

*“In fact we've got one wee lad just a 1st year boy, his problem is he will not accept authority from women. He thinks that the man is the dominant one and no female is to try tell him what to do.”*

**(Female Behaviour Support teacher)**

*“Just from the – boys mainly I would say, attitude to taking advice or discipline from women sometimes is “you're just a woman, what would you know about it?”.”*

**(Female Maths teacher)**

In most cases these problems were linked to low achievement, low socio-economic status and problems in the family background:

*“We’ve had some pupils where there’s only one parent at home and the situation at home has definitely affected the way they view female and male teachers. ...For example, pupils who would get on fine with a class taught by a male teacher. you wouldn’t really step out of line too much, get on with their work. With a female teacher, they could be really quite disruptive. Don’t respect her authority, they maybe speak to you sometimes just shows that they think you’re not worth anything. I’ve had that on one or two occasions. I think, as a generalisation, the pupils are more likely to respect a male teacher. They think he has more authority.”*

**(Female Languages teacher )**

On the other hand, some girls created additional problems for male teachers:

*“If it was a discipline thing sometimes if they want to get out of it, the girls can use a sort of burst into tears approach when they’re not really [upset]. ... And I’ve seen them walk away and sort of thumbs up to their mates. ... whereas maybe if it was a female teacher with a girl they might find that easier or more straight forward, you know.”*

**(Male Maths teacher)**

## Summary

- At Standard Grade the scope for subject choice is limited by the National Guidelines on the Curriculum. However, at Higher Grade there are clear gender differences in subject choice similar to those identified by previous studies.
- Reasons given for differences in subject choice include gendered attitudes and stereotypes, vocational relevance of subjects, intrinsic interest in subject areas and perceived difficulty of subjects.
- At Standard Grade, females were more likely than males to gain awards in almost all the subjects they studied. The main exceptions to this were in economics and physical education, in which male candidates attained more highly than female candidates.
- At Higher Grade, females were more likely than males to gain passes at A-C in almost all the subjects they took. Females were also more likely than males to gain awards at A. However, there were a few subjects in which male candidates were more likely than female candidates to gain an award at A; these included modern languages, mathematics, biology, chemistry, economics, accounting and finance.
- Gender differences are evident at all stages of schooling. Higher levels of attainment by girls compared to boys have been identified at pre-school and primary stages. During the secondary stages girls are perceived to be more mature than boys and to be more conscientious in their work.
- There is conflicting evidence as to whether boys catch up with girls in the post-compulsory stages.
- More boys than girls are identified as needing learning and behaviour support.
- Differences in attainment between males and females are found at all levels of social-class background. The average effect of gender on attainment is smaller than the effect of social class on attainment.
- There are no systematic differences between schools in the extent of gender differences.
- Nine out of ten primary school teachers are female, and slightly over half of secondary teachers are female.
- Males are disproportionately represented in the promoted grades in both primary and secondary schools.

- The gender profile of subject-teaching staff reflects gender differences in uptake of subjects by pupils.



## **CHAPTER 3**

### **FACTORS ASSOCIATED WITH GENDER DIFFERENCES: THE VIEWS OF STAFF AND PUPILS**

So far we have summarised the literature available on gender differences and demonstrated that differences are evident at all school stages and in uptake and attainment in different subject areas. In addition we have demonstrated that differences in attainment by social class are greater than differences by gender and that there are in fact greater similarities between the sexes than differences. In this chapter, we look at the views of staff and pupils on factors associated with gender differences in schools and test out some of the conclusions from the research literature against their actual experiences. The review of research in Chapter 1 identified gender differences in attitudes, confidence and behaviour and classroom interactions. Differences were explained in terms of peer pressure, different approaches to assessment and curricular tasks, teaching and learning processes and the influence of post-school opportunities. This chapter looks at the explanations given by school staff and pupils for boys' underachievement and goes on to look at ways in which teachers and pupils believe that girls are under-achieving at school. Their views on gender differences in classroom interactions and responses to curricular tasks and materials are explored. The chapter concludes with their views on the influence of out-of-school factors, such as parents, the local area and the wider social context.

Of course, teachers do not operate in a vacuum: they will be informed about current ideas on gender differences and contributing to debates on the subject. The findings of research on gender will, to some extent, be based on their experiences. We were therefore interested to find out the extent to which the teachers' views were based on direct experience in the classroom only and the extent to which they had been influenced by current ideas on gender differences. We therefore asked them who or what had affected their thinking on gender issues. Only a small number said that their answers were based on direct experience only, or that their only external input had been during initial teacher education. Most said that their thinking had been influenced by discussions with other staff (either at departmental meetings or during in-service), reading research reports or participation in external training courses. It will be no surprise therefore, that their views were broadly in accordance with the current ideas about gender differences in the literature. Teachers, however, will only pick up ideas that accord with their day-to-day experiences and this chapter therefore tests the validity of the findings of the review of research.

#### **Teachers' and pupils' explanations for boys' underachievement**

Staff and pupils in the case study schools were asked the question: If you examine Standard Grade attainment, boys don't do as well as girls on average. Why is that do you think?

A variety of responses were given, but significant numbers of respondents talked about peer group pressure, boys being less mature and less motivated than girls and about prevalent teaching styles suiting girls' learning styles better than boys'. The views of teachers and pupils were broadly similar, although pupils did not talk about teaching and learning styles.

## ***Teachers' explanations***

### **The influence of peer pressure**

Peer pressure was mentioned by about one-third of respondents. Essentially, this refers to pressure on boys not to be seen to be achieving academically or trying too hard at school.

*"I think with them ... there's this idea of peer approval, if they're in a section that don't buy in to embracing the work ethic then they'll underachieve."*

**(English teacher)**

One teacher described how boys' behaviour demonstrably changes when isolated from peer influence. Another cited cultural explanations:

*"I think it's something that was referred to in the Glasgow Herald as being part of the laddish culture ... it's uncool to be academically clever and it's not cool to study ... there's a sub-culture which would dictate that if you work then you are not one of the lads."*

**(PT Guidance)**

In addition, several teachers suggested that boys in mixed gender classes were behaving in particular ways in order to impress girls rather than their male peers.

Some teachers considered that peer influence became significant about second year of secondary school, although primary staff also talked about it in upper Primary. The most able boys would work anyway, but many of the rest chose not to do homework (or did it badly). One Headteacher considered it important for schools to turn around the peer influence and to reconstruct the image of study from *"cool to be poor"* to *"cool to be good, cool to do well, cool to achieve."* He suggested, that often the biggest influences in the class were the boys who are turned off, disinterested and disruptive. Another Headteacher reinforced this idea, adding that care is needed when offering praise to boys as they can so easily be mocked by their peers. Others noted that boys did not want to be praised or criticised in front of their peers, preferring one-to-one feedback. One teacher saw peer pressure as a form of bullying, and thought that bullying initiatives should be applied to address it. Many of the respondents did indeed consider that peer pressure was a powerful mediating influence within schools, both inside and outside the classroom.

Teachers noted that there was an apparent lack of stigma attached to girls who were doing well. An APT English saw fewer sub-groups and fewer peer influences amongst the girls and stated that such groups were more likely to enhance rather than detract from study. It was noted, however, that there were a few girls who were:

*"... far more belligerent, far more anti-social, far more negative than any of the boys ... and that little could be done with them from a Guidance or a subject perspective."*

**(PT Guidance and Mathematics teacher)**

For a Primary Headteacher, the influence of peers was more pervasive than that of parents, especially in upper Primary. The key issue here, as with the Secondary Headteacher above, is how to develop approaches which utilise peer influence/pressure to positive educational purposes. A P6/7 teacher, in contrasting boys' and girls' study approaches, saw girls as more competitive in classwork and more willing to take work home. An effective teacher was seen as one who encourages friendly competitiveness as an aid to enhanced learning. Another Primary Headteacher recognised that, while it was most likely to occur amongst boys, girls exerted subtle pressure also, but noted that there may be ways to address some of the most negative consequences of it:

*"I think that peer pressure ... if you're a boy, you have to play football, and if you're a girl, you have to sit quietly and to enjoy reading books ... is still evident ... but we also have to look at learning styles ... and try to offer more relevance to individual learners."*

**(Primary Headteacher)**

The pervasive impact of peers is summed up by one secondary teacher, referring to a particular male pupil who is:

*"... more than capable of going to university, a very, very bright boy ... but he wants to be part of the group in Third Year. They're causing trouble in classes, winding teachers up. I find it quite strange as even boys who are excluded are looked up to - kind of heroes, you know, battling against authority."*

**(English teacher)**

### **Maturity, motivation and aspirations**

About one-third of respondents mentioned boys immaturity in comparison with girls. The general view was that boys mature more slowly than girls. This manifests itself in more messing around, poorer concentration and a less serious attitude towards studying. However, several respondents stated the belief that by S4 or S5, boys have realised the importance of qualifications and that they then settle down and start to catch up.

*"I just feel it's a maturation problem. At standard grade in particular early standard grade we can see that the boys are just wee boys, that girls are certainly maturing into young ladies. And that's very noticeable. My feeling is that by higher that's not quite as noticeable but in early years of standard, 2nd year, 3rd year, particularly, I feel that that's a real factor."*

**(Physics teacher)**

In Chapter 2 we looked at whether boys do in fact catch up at Higher Grade level, after Standard Grades. The evidence available presented an inconclusive picture, however and this issue clearly needs further examination.

About one-quarter of respondents said that girls were more motivated to study and learn than boys. They had a more conscientious attitude and required less pushing than boys. The more able boys were motivated, but the less able did not take school seriously and were more focused on outside interests. Connected with this was the view that boys were more focused on the present, whereas girls were more concerned about the future.

*"I think girls are much more highly motivated than boys. I'm quite certain that's the reason for it. The girls seem to have a better understanding of where they want to go by the time they've finished standard grades and what the future holds. The boys seem to mature much more slowly than the girls do. They don't seem to recognise that there is a progression there. They just seem to be locked in this moment in time and the end of standard grades doesn't really take them into higher, into further education. And I think that's really the reason that they're not, in 4th year they're still very immature in comparison to the girls."*

**(APT English)**

### **Teaching and learning styles**

About one-quarter of interviewees mentioned reasons to do with teaching and learning styles. It was felt that boys and girls tended to have different learning styles and that the current educational system favoured the girls more diligent approach. It was felt that boys tended to prefer shorter tasks, were more competitive and more confident in giving answers in class. They were more engaged by direct teaching, were less focused and generally had poorer study skills than girls. The girls, on the other hand, preferred less pressure, were more organised and worked more steadily through the year, which meant they were more suited to

the demands of continuous assessment than boys. In addition, a small number of respondents mentioned that boys seemed to have poorer literacy skills than girls, that they gave briefer answers and that their written work was generally not as well presented as the girls'.

*"Well some people think it's the nature of the exam and the nature of the courses now with a lot of work as continuous assessment whereas I know myself boys are very competitive and they like to go for the big one - the big exam but to maintain it all the way through I think girls seem to score - they seem to relish that. Girls are better at organising themselves, they're better at keeping their work very neat and keeping it all together and not losing it and they're better at settling to their work, I think - working steadily at each lesson ... I feel that boys respond much more to attention. Girls don't feel it so necessary to have attention."*

**(Guidance and History teacher)**

### ***Pupils' explanations***

When asked why they believed that boys were under-achieving at school, boys groups confirmed the teachers' view that it was because of peer pressure and lower motivation. Unlike teachers, they did not mention teaching and learning styles. Boys groups stated that boys carried on more at school, were under more pressure from friends not to do too well and didn't take school as seriously as girls.

*Boy: "Boys are more - got more energy. They just want to have a carry on."*

*Interviewer: "So do you mean they don't settle down?"*

*Boy: "Aye."*

*Boy: "Don't take their education as seriously. They're more likely to think it's just another day at school..."*

*Boy: "... you're more likely to show off to the girls."*

**(Boys group, higher ability)**

*"I think it's because some boys have friends that if they do very good at school they just laugh at you."*

**(Boys group, lower ability)**

The main explanations given by the girls groups were that girls were more mature than boys and that boys were more interested in showing off to their friends than in doing well at school. They stated that girls took school more seriously, paid more attention in class, that boys liked to carry on more, that they had more outside interests, particularly sports, and that girls were more concerned about getting qualifications for the future than boys.

*Girl: "I think probably because boys don't mature as quickly as girls do, and therefore girls are more studious, because they've matured a bit more..."*

*Girl: "Yes. The boys are ... still living in primary school basically..."*

**(Girls group, higher ability)**

*"Like boys think that they're cool by acting stupid and immature but girls don't."*

**(Girls group, lower ability)**

### **Girls' underachievement**

Although some girls are now doing better at school than some boys, we were aware at the outset of the project that this did not mean equality of the sexes in other areas of life and that, beyond school, inequalities remain, which are largely in favour of males. For example, there is still a wage gap in favour of males and women are still under-represented in senior

positions in some professions. The risk, in focusing on boys' underachievement at school, is that other inequalities are obscured. For this reason, we asked all respondents to identify any ways in which they felt that girls were under-achieving at school.

The main response given here was that girls tended to lack confidence in their own abilities. They were quieter in the classroom and less likely to volunteer answers or opinions, preferring not to draw attention to themselves. They found solo talks in English particularly difficult and tended to under-estimate their abilities in mathematics. Girls were seen as more likely to worry about their performance in exams and coursework.

*"I think certainly unless they are particularly confident girls ... I think that at times they don't come forward in class, they don't speak out and they have to be encouraged to give personal opinions and so on, more actively than many of the boys. There are boys in that category too. But if we're looking at it in a general way, girls are inclined to be a little quieter."*

**(Chemistry teacher)**

A few respondents mentioned girls' under-achievement in particular subjects, such as PE and technical subjects. Girls' concern with image made them self-conscious in situations where they were required to perform in front of others, such as PE and solo talks. Girls seemed to be as involved in extra-curricular activities as boys, although they tended to favour music and drama over sports. About one in ten respondents could not think of any ways in which girls were under-achieving.

The boys groups seemed to find it difficult to think of ways in which girls were under-achieving, although they did mention that girls were not as interested in technical subjects, that they tried to get out of sports, that they seemed less confident in solo talks and that they were prone to being distracted by boys being disruptive or trying to chat them up.

The girls tended to say that they were not doing as well as the boys in sports, because they received less encouragement, felt shy, were put off by the boys showing off or were scared that the boys would make fun of them. They also said that they found it difficult to speak up in classes where they felt the boys were likely to "slag them off".

## **Classroom interactions**

Research has shown that gender differences are evident in a range of classroom situations (Howe, 1997), with boys contributing more to discussions and attracting more attention through misbehaviour. We were therefore interested to find out from teachers and pupils the extent to which this accorded with their own experiences.

In terms of classroom discussions, teachers and pupils largely confirmed the findings of the research literature, stating that boys were more likely to volunteer answers in class, or to shout out answers rather than putting their hands up. They were also seen by teachers as more likely to take a risk and give wrong answers than girls.

*"You'll try and do more interactive teaching and the boys like that. They like being involved, they like answering questions, they like telling everyone else how to do it, they like coming out and writing on the board ... girls don't, they tend to sit back a wee bit and not volunteer things."*

**(PT Mathematics)**

Girls, on the other hand, were seen as more likely to get on with their work quietly, asking for help individually if they needed it. They were less likely to volunteer answers in class even

when they knew the right answer, were generally more chatty with their friends and more talkative than boys in pairs work.

*"Some girls don't say anything, they just look at the ground, or laugh or talk to their friends ... they just don't answer as many questions as some of the boys in my classes."*

**(S3 boys, higher ability)**

One teacher related girls' quieter behaviour in class to the behaviour of the boys:

*"... certain girls feel over powered by boys because they're much more a loud presence in class, they demand more attention generally and I think in that sense they probably get less individual support because boys will take up more of the teacher's time."*

**(English teacher)**

This was confirmed by one girls group, although it was not true for all of them.

*Girl: "But boys just tend to say answers and if it's wrong, it's wrong, they just laugh at it. If I said an answer I'd feel dead embarrassed if it was wrong."*

*Girl: "Especially if it was something everybody else was finding easy."*

*Girl: "And the boys, if you say a wrong answer the boys would just turn around and laugh at you, like that's no the answer."*

*Girl: "I don't really care, if it's wrong, it's wrong. I'll put my hand up and say something."*

**(S3 Girls, middle ability)**

Teachers, of course, were quick to point out that these were generalisations and that not all boys and girls behaved in these ways. In addition, there could be variations from one year group to the next, with some year groups having more confident girls than others.

In accordance with the research literature, boys were generally seen as displaying more disruptive behaviour in the classroom. They were seen as being slower to settle to a task and their misbehaviour tended to be louder and more disruptive. Girls tended to talk more, but would do this quietly to their friends and were less likely to draw attention to themselves.

When asked the question "Do you treat boys and girls differently or teach them differently?", most teachers answered no. A few said that they were tougher with the boys, when there were discipline problems. A small number said that they needed to push or cajole boys more to keep them on task and several male teachers said that they could be more jokey with the boys, whereas the girls were more sensitive and might take things the wrong way. On the whole, however, the teachers said that they tried to treat pupils as individuals and to apply the same rules to everyone, any differences were generally in response to the pupils own behaviour.

*"Yes. I think you must treat them differently, without planning to, you must. I think, often you kind of take your cue from how they respond to you, or how they greet you as you enter, or whatever, and I'm sure you must react differently to the way they act."*

**(PT Mathematics)**

*"So I try to treat them as fairly... I mean physical tasks. For example, I possibly go out of my way to get girls to do physical jobs, lift big heavy things. So I would say yes... I think I try very, very hard to treat them the same, but I don't always do so. I can't, because boys behave in a certain way and I have to treat them differently in response to it."*

**(English teacher)**

Some of the pupil groups, both male and female, believed that boys got harsher punishments than girls for the same misdemeanours. So a boy might get a detention or a punishment exercise for forgetting his homework, being late or talking, whereas a girl would just be told not to do it again. Several of the groups, however, said that they did not think that boys and girls were treated differently or that it depended on the teacher. Both boys and girls believed that teachers expected girls to behave better than boys.

*"You're expected to be well behaved whether or not you will be. You are expected to be more so than the boys."*

**(S3 girls group, lower ability)**

*"... girls get away with a lot more. Because they are more concentrated on a boy doing something rather than a girl."*

**(S4 boys, middle ability)**

The teacher's own gender was not seen as having a significant influence on classroom interactions, except for a small number of teachers and pupils. For example, some teachers said that they felt it was easier for them to relate to pupils of the same sex as themselves, particularly when they were teaching single-sex classes. Three of the female teachers said they found getting respect from boys could be difficult, particularly initially, and they put this down to the norms and expectations that these boys were exposed to outside of school.

Some of the pupils thought that the sex of the teacher affected their behaviour towards girls and boys, but mostly they said that it did not make a difference. The teacher displaying an attitude of respect towards pupils was seen as more important than whether they were male or female. This was confirmed by some classroom observations carried out by School C. These showed that a boy's behaviour could significantly improve in a class where the boy related to the teacher and felt that the teacher related to him.

## **Responses to tasks and curriculum content**

The review of the research literature suggested that boys and girls tend to respond differently to different kinds of tasks and assessments. There is evidence that girls are more likely to communicate in extended, reflective composition and to do better on sustained, open-ended, process-based tasks. Whereas boys tend to communicate in episodic, factual commentative detail and their learning improves when they are convinced of the value of the task. In assessments, girls did better than boys on coursework, while boys did better on multi-choice tests. However, girls also did better than boys in examinations and their advantage in coursework only had a marginal effect on overall results. Differential performance in different kinds of assessments does not, therefore, explain the gender gap in attainment.

We were interested to find out the views of school staff on whether, in their experience, boys and girls responded differently to different kinds of tasks, curriculum content or assessments. Teachers found it difficult to generalise, stating that it varied from class to class. However, they did express some general tendencies that they saw among boys and girls. Girls were generally seen as more co-operative, more organised, more likely to get on with a task, more likely to do what they were asked to and to produce neater work. On practical tasks, they were more hesitant and liked to understand what they were to do before doing it. Boys, on the other hand, were seen as more competitive, more confident, more willing to have a go at something, needing more help to break a task down into sub-goals and more likely to cram for an examination at the last minute, rather than working steadily through the year. Teachers

believed that they enjoyed practical work and that they liked to see the point of what they were doing.

*"I haven't really thought about the assessments too much. The type of tasks, yes. What we're doing just now is revision of course, well you could say to a group of girls 'revise this bit, ask me anything you don't understand'. Boys can't do that. You have to say 'do these questions, this is what we're doing' and it has to be much, much more structured for them, you really have to break it down into smaller chunks."*

**(PT Guidance and Science teacher)**

Teachers' responses to a question about whether boys and girls responded differently to different kinds of content in lessons varied by subject area. The main subject in which this was seen as an issue was English. English Teachers tended to say that they believed it was important to use a range of texts, in order to engage the interest of as many young people in the class as possible. The content of mathematics was not seen as inherently of more or less interest to either gender.

*"I can't say that I've noticed any sort of marked difference between ... Everybody hates algebra, and trigonometry isn't too well liked either ... money is the one they'll say, here we go, better start listening to this. The more in context that you can make things then I suppose the more relevance, the greater the interest. But I wouldn't say it's a gender division."*

**(PT Guidance and Mathematics teacher)**

Science Teachers were aware that different pupils were more or less interested in different topic areas, but did not see this as particularly a gender issue either.

*"I haven't noticed any particular difference that would make me think it was a gender thing. Just more what their own personal interests are. I certainly find that in the physics course, some folk really like doing the transport part, others really like doing the space part, others like the health part. But I haven't actually found - I certainly haven't been aware that it's been a gender thing. It's much more personal choice."*

**(PT Guidance and Physics teacher)**

Likewise, teachers of Modern Languages had noticed greater levels of interest in some topic areas, such as food and parties, however they believed that the topics they covered were very general, usually appealing equally to boys and girls. One History teacher felt that the way a topic was presented was more important than the actual content of the topic, and that it was not possible to predict whether boys or girls would be more or less interested in certain topics.

*"No I wouldn't say so. With my Higher class for example, they have to do an extended essay and one of the boys did an essay on Suffragettes and they're quite interested and actually are very good at discussing women's rights ... I think they're as interested in subjects you'd think would be girls subjects ... I think girls as well when we're doing the Battle of Britain, or the first year of the Jacobites, they enjoy it just as much as the boys. I think it's more the way it's presented. I think that's the key. It's finding a way that will interest them."*

**(Guidance and History teacher)**

Teachers did, therefore, see some general differences in the way that boys and girls responded to different kinds of tasks and assessments in the classroom and their views broadly accorded with the research literature on the subject. When considering gender differences in response to different kinds of content, teachers agreed that pupils varied in their levels of interest in different topics, but did not generally see this as a gender issue. It was only in English that teachers were conscious of gender differences in response to different kinds of texts.

## The influence of parents, the local area and society

We have already noted in Chapters 1 and 2 the strong and enduring connection between social disadvantage and low attainment. Differences in attainment emerge as early as Primary 1 and “snowball” throughout education, with young people from less advantaged backgrounds attaining fewer Standard Grades and being less likely to stay on at school beyond S4. Thereafter those who have attained good Standard Grades are less likely to convert them into Highers and less likely to apply to and enter higher education than others with similar qualifications. Gender differences are evident at all levels of social background, with girls doing better than boys in all circumstances, except for those with fathers in unskilled occupations (see Figure 2.4). Given the significance of social background, we asked interviewees for their views on the influence of parents, the local area and wider society on gender differences in attainment.

The six case study secondary schools were based in a range of different catchment areas, from inner city to rural, and advantaged to disadvantaged. Parents’ attitudes towards education and the opportunities available to young people in the local area were both seen as having a strong influence on the behaviour and attitudes of young people towards schooling. In some cases, they were noted as having different effects on the attitudes of boys and girls. Below, we briefly describe the catchment areas of each of the secondary schools, with comments from teachers on how the particular characteristics of each area affect the attitudes and behaviour of pupils in each school. We then go on to discuss in more detail comments made on the influence of parents and of society at large.

The catchment area of School A was described as mixed, with an emphasis on “upper working class or middle class parents”. A minority of children came from more disadvantaged homes. It was felt that these young people could be positively influenced by others in the school and “... could see what is possible (in school) if they apply themselves” (PT Guidance). It was a high-attaining school, with a strong Catholic ethos, which fostered an atmosphere of mutual respect between teachers and pupils.

Area B had undergone profound changes in its industrial and employment character over the previous 10 years and the school’s catchment area was very mixed. It was noted that this is a high performing school and that this masks the fact that a high percentage of the youngsters come from disadvantaged backgrounds. One teacher noted that there was a particular type of boy in the area, who was prone to being very uncommunicative and this was associated with not doing school work and truanting.

School C is in a rural area, with some very affluent parents. The catchment area was noted as one:

*“...where we have middle class values which really hold attainment in very high esteem .. with around 80% of pupils staying on.”*

**(Senior Management Team)**

Some boys, however, from farming and fishing backgrounds, did not see school as of particular relevance, as they expected to work in their father’s businesses. This view appeared to be handed down to them from their parents.

School D was located in a disadvantaged inner city area. Improving attendance was seen as a priority and staff were aware that in order to tackle this they must work with some of the

parents who had negative attitudes towards education and were condoning truancy. One teacher described the profound effect of some of the pupils' life circumstances:

*"... the degradation, the deprivation, they don't see a lot of success in their lives, and they don't realise that the kids from the leafy suburbs are not any more intelligent or any better than them, so that's quite a tough nut to crack."*

**(Mathematics teacher)**

The effects of the local area were seen as impacting on pupils' aspirations:

*"... in the town we have got a lot of girls who if they wanted to be hairdressers when they were 12, if they ended up with five Highers, they'd still want to be a hairdresser."*

**(Local Authority personnel)**

School E is situated in an area of high unemployment resulting from the closure of coal mines. There is little expectation of future employment for either parents or pupils and this can, it was suggested, lead to a reinforcement of gendered values, rather than their diminution:

*"...the parents very much expect the girls to be doing as they are told and not to create waves and to be good at school, whereas the boys are encouraged to hit back and be part of the football team and be slightly more aggressive and it's quite acceptable if they get into trouble at school."*

**(Primary Headteacher)**

In this area a cluster of potential influences is noted for the pupils' apparent reluctance to commit themselves fully to achieving at school. The lack of a male-figure in the home is cited, as is a less than positive attitude towards education, whilst the lack of expectations, it is suggested, might be laid at the door of post-industrial society with the eradication of mining and traditional industries where, often, parents and grandparents had historically gone down the pit. It is noted, however, that employment prospects for parents appear to be improving, though pay is low. With both parents working, but money being sparse, two consequences are noted: children are left to fend for themselves and there is pressure on them to earn money whilst at school and to leave school early.

School F draws its catchment from two very different communities each of which had been served by their own secondary school before closure. This means that the catchment area is quite mixed. One teacher noted that some girls have low levels of confidence; they are not expected by their communities or families to achieve anything and, in many instances, are not expected to get a job. Whilst it is noted that parents have higher expectations for boys, even these are tempered by the awareness that jobs are scarce. It is noted also that part-time work is available to young people in this locality and it is anticipated that more boys than girls have such employment with consequent detriment to their school work.

The preceding descriptions clearly illustrate how influential local circumstances and parental attitudes towards education are on young peoples' attitudes towards and behaviour in school. Pupils' background circumstances were identified as being significant by a high number of respondents and it was noted that what the pupils experienced at home had a profound effect upon pupils' attitudes to school and schooling and to their wider expectations. Some believed that social background factors were an important influence, in particular, on boys' underachievement.

*“Some of the boys underachieve just because of the nature of the area they come from ... high unemployment ... they see in the home, there’s unemployment ... the father ... unemployed ... they have low expectations of themselves.... There’s also the macho-type thing as well ... that the boys don’t think it’s cool to achieve.”*

**(PT Guidance)**

One Headteacher made a clear connection with parents’ own experience of education, stating:

*“A lot of the parents have had unfortunate experiences in the school and that’s why they don’t push their children to achieve.”*

**(Headteacher)**

Those from more advantaged backgrounds were generally seen as having a more positive attitude towards school. Parental affluence, however, was not always connected with high attainment. In School C, it was suggested that some pupils from very wealthy backgrounds did not feel that they had to work at school as *“money is not a problem”*.

Respondents believed that schools needed to work with parents if they were to tackle underachievement.

*“... we have to get out there and make sure that the parent body are aware of it [boys’ underachievement] and that they play their part too because we can’t do everything.”*

**(Local Authority personnel)**

However, working with parents was not always an easy matter. In one school the lack of parental support for working-class boys was of concern. The Headteacher noted that schools and teachers were in danger of losing contact with working-class parents. Parents’ evenings tended to be dominated by parents of children from privileged backgrounds, and a range of difficulties for working-class parents were noted including lack of access to transport to get to the school.

Homework is a clear point at the interface of home and school, potentially encouraging children to talk to their parents about the work they are undertaking. It is identified as a way of keeping communication open between the school and the parents, with the school requesting that parents inform them if their children are encountering difficulties. Here again, however, there are:

*“...an awful lot of children not being given quality time by their parents.”*

**(Primary Headteacher)**

A connection was made between pupils’ behaviour in school and the level of parental interest in homework.

*“I send a homework letter out every year asking the parents to sign the homework ... a lot of the homework comes back that’s obviously not been looked at. And these are the children, in class ... who are not on task, not performing.”*

**(Primary 6/7 teacher)**

Changing roles for men and women in the home and the workplace and the increase of lone parent families were noted as having a significant influence on young people’s expectations. As increasingly the mother goes to work, there is less emphasis on domesticating young girls, whilst more men are unemployed. In essence, then, a radical shift in parenting has been accompanied by both industrial and societal change. The theme of family formation is focused upon by another teacher who refers to the fact that:

*“... a lot of the kids come from mono-parental families. They've only got mum or dad so it's really quite difficult ... or it's one week at the dad's, one week at the mum's. It's often at the grandparents as well, so I don't really know what input the family has in terms of male and female education.”*

**(French and German teacher)**

In School D it was noted that the range of influences on young people also includes the extended family and the wider community. While some parents were clearly supportive of their children's aspirations for employment, in an area of high unemployment, many lacked the knowledge or skills to fully assist their offspring to achieve. On a similar theme, a teacher suggested that a lot of the parents:

*“... didn't have a particularly successful time at school themselves and don't have the knowledge and sophistication to realise what school entails for a kid nowadays ... their value-system is markedly different from the pupils who come from the household where there's two professional parents.”*

**(Mathematics teacher)**

Parental background was thus seen as an important reference point with its significant effect on both boys' and girls' perceptions of self and of the prospects for self-improvement or otherwise.

Interestingly, the pupils' views on their parents' attitudes towards education do not wholly accord with the views of the teachers. Almost all pupil groups, including higher and lower ability groups in all case study areas, stated that their parents wanted them to do well at school and that parents saw qualifications as a route to getting a good job and having a good life. In some cases parents were seen as applying too much pressure, however, on the whole they were viewed as offering encouragement for good reasons. This means that, either the teachers had a misperception of the attitudes of parents, or that we did not speak to any pupils whose parents had a negative view of education. Also, it is possible that parents could be encouraging to their offspring, but not actively take an interest in homework or attend parents evenings, leaving the job of education up to the school.

More broadly, factors outside of the home and school were considered to exert a significant influence on pupils' attitudes and expectations, particularly in relation to gender identity and roles. Cultural views and expectations of males and females, stereotypes, available role models and images portrayed in the media were all considered to have an important effect.

In particular, there seemed to be a cultural acceptance that “boys will be boys”.

*“Personally, I think there's a deep-seated cultural attitude which seems to think it's acceptable for 'boys to be boys'.”*

**(Mathematics teacher)**

This was encouraged and strengthened in the media, through the “Bart Simpson” image that it is “cool to be a fool”. One teacher perceived that the perception of males has changed considerably in recent times:

*“I think the male is looked down upon and there's not enough role models for them to aspire to.”*

**(Deputy Headteacher)**

However, another teacher suggested that, while this might ring true, nevertheless boys still do better in the “world of employment”, and that for this reason believed that boys feel they do not need to try as hard at school. Another teacher noted that there was still a pressure on boys

to get a job and that failure to do so could have a negative impact on their self-esteem, relationships and general well-being. Whereas, expectations and opportunities for girls have expanded in recent years:

*“... girls are doing better because they realise that they can succeed ... I think that their horizons have been very much widened.”*

**(PT Guidance)**

The media was seen as having a shaping influence for girls and boys and, for boys in particular, computer games and football were also seen as important. One P6/7 Teacher observed how often children play out what they have seen on television and invariably reflect TV images and scenarios in their writing and what they express an interest in reading. For girls, the media could have an important negative impact on their views about the importance of image.

*“... while the school is trying to do all these things, the child is learning all these other things from society in general, from television, newspapers, magazines, pop stars, footballers, whatever ... I can see my Primary 7 girls starting to worry about what they're eating for their lunch ... that's not coming from school or parents – that's coming from the media.”*

**(Primary Headteacher)**

It was noted that the media could also have a positive impact by portraying non-traditional gender roles.

*“... the job thing is starting to disappear a wee bit more because you do see male secretaries on the television ... Soap operas, they can be slagged all you like, but they do address issues, like that, they show young people and they say 'I saw somebody in 'Eastenders' or 'Coronation Street' doing that.'”*

**(PT Guidance)**

Stereotypes were still seen as fairly wide-spread. This is exemplified by the responses of some people to the fact that in one school, the football team's best player and captain was a girl.

*“People are quite surprised by that so I suppose that's telling us something about stereotypes.”*

**(Primary Headteacher)**

A further example is provided in another Primary school.

*“... this wee boy had gone home and said he was playing at school pushing the pram ... I had to try and persuade the father that this was all right, he wouldn't suffer mental damage over this.”*

**(Primary Headteacher)**

It was seen as the responsibility of the school staff to challenge such stereotypical representations in as many instances as possible, in and out of the classroom. But it was recognised that school was only one of many influencing factors. Furthermore, there was evidence of stereotypical attitudes operating within some schools. For example, a request for a work experience placement for one pupil was agreed to in a bcal Primary school, with the request that the student should not wear trousers – the fact that the request was for a male pupil had clearly not occurred to them. Teachers, of course, are also subject to the influence of cultural attitudes and expectations.

*“... you hear it among teachers, I've known them giving out pink cards to girls and blue to boys. I've seen teachers' names on walls with flowers around female teachers' names and triangles around the male teachers' names.”*

**(Languages teacher)**

The lack of positive role models for boys and girls was a concern, in particular in the area of sport. For boys, sporting role models were not seen as necessarily positive.

*“In a high profile activity like football, the role models for the boys are often negative. You know the way they talk to referees, talk to officials, talk to opposition, fans ...”*

**(PT Physical Education)**

For girls, the lack of sportswomen on television was seen as a potential issue.

*“Because there is no girls' sport on television ... there's perhaps tennis which is perceived to be a feminine sport in some ways ... There's no football.... basketball... golf, or it's seen to be secondary to the male side.”*

**(PE teacher)**

Teachers believed that it was the school's responsibility to try to address some of these issues. In one school, for example, the PE department were emphasising the sporting success of females (and males) in the school.

*“... if you've walked down our corridor, you'll hopefully have seen that the girls had their football final on Saturday.”*

**(PE teacher)**

Role model issues within schools among the teaching staff have already been discussed in Chapter 2. Teachers were clearly concerned over the lack of male figures in Primary schools, the gender imbalance in some subject areas and the lack of women in senior management positions.

Parents, home background, the local area and society were all seen as very important influences on young people's views about what it means to be male and female. While parents were seen as having a direct influence on the child's attitude towards school, opportunities (or lack of them) in the local area also impacted on young people's aspirations and expectations and the roles adopted by their parents. The link between social disadvantage and low attainment was seen by staff as, at least in part, to do with parental attitudes towards education. However, this was contradicted by pupil groups who almost unanimously stated that their parents encouraged them to do well at school in order to increase their post-school opportunities. The images and role models available to young people, in particular through the media, were also seen as highly significant to the formation of their attitudes, views and expectations.

## Summary

- The views of teachers and pupils on factors associated with gender differences were broadly in accordance with the findings in the research literature.
- Teachers and pupils explained boys' underachievement in terms of peer group pressure, boys being less mature and less motivated than girls and teachers, but not pupils, said that prevalent teaching styles suited girls' learning styles better than boys'.
- Girls were seen as more likely to lack confidence in their own abilities, to worry about their performance in coursework and examinations and less likely to volunteer answers in class than boys.

- Boys were seen as more likely to contribute to classroom discussions and to attract the teacher's attention through misbehaviour.
- Teachers believed that they applied the same rules to all pupils, and that any differences in behaviour towards boys and girls were in response to the pupils' own behaviour.
- Pupil groups believed that boys got harsher punishments than girls for the same misdemeanours and that girls were expected to behave better than boys by teachers.
- Girls were generally seen as more co-operative, more organised and more likely to get on with a task, to do what they were asked to do and to produce neater work. They were also seen as more hesitant on practical tasks.
- Boys were seen as more competitive, more confident, more willing to have a go at something, as needing more help to break a task down into sub-goals and more likely to cram for an examination at the last minute, rather than working steadily through the year.
- Parents, home background, the local area and society were all seen as very important influences on young people's views about what it means to be male and female.
- The link between social disadvantage and low attainment was seen by staff as connected with parental attitudes towards education. This was contradicted by pupil groups who almost unanimously stated that their parents encouraged them to do well at school in order to increase their post-school opportunities.



## CHAPTER 4

### STRATEGIES FOR ADDRESSING GENDER DIFFERENCES

In this chapter we focus on the strategies which have been adopted by local authorities and schools in Scotland to address gender differences in performance. Our first step was to find out the extent to which local authorities and schools had adopted strategies aimed at addressing these issues. Where strategies were in place, we wanted to find out how well they were working and what issues had arisen in their implementation. To this end, we surveyed all 32 Directors of Education, asking them about the extent and nature of gender-related activity in their areas. On the basis of the information provided, we selected six secondary schools that were employing a range of strategies and that represented different types of catchment areas. These schools formed the basis of case studies, which involved discussions with staff, pupils and parents and visits to one or two of their associate primary schools, and, where appropriate, interviews with local authority personnel. From these activities, we are able to describe below the extent and nature of gender-related activity across Scotland and to discuss the pros and cons of the different strategies that had been adopted. It should be noted that most strategies had only been in place for a relatively short time, and for this reason, it is not possible to provide hard evidence of their effectiveness. However, the chapter does provide an overview of strategies being attempted and qualitative data from interviews with staff and pupils on how well the strategies were working in practice.

We look first at the extent to which strategies addressing gender differences in performance have been implemented in Scotland; this information is based on a questionnaire survey of all of the Directors of Education. Then, we describe the strategies being used in the case study schools, and discuss their advantages and disadvantages; this information is based on the perceptions of interviewees in the case studies.

#### The extent and nature of activity across Scotland

Our questionnaire to Directors of Education asked about the extent of gender-related activity in their areas. It also asked them to identify secondary schools which had adopted approaches specifically aimed at addressing gender differences in attainment to aid us in the selection of case studies. The information below is based on the responses we received from 28 education authorities (by January 2000). The aims of the questionnaire survey were to:

- review current practice;
- identify school-based approaches being undertaken;
- assess the extent of activity;
- identify schools for case studies.

**Table 4.1:** Stages of development

	No of authorities
No activity reported/unclear	6
Orientation and preparation activities only	7
Strategies in use; several also doing orientation activities as well	15
<b>Total</b>	<b>28</b>

It was clear from the responses that schools and local authority areas were at different stages in their thinking on addressing gender differences (see Table 4.1). About half the authorities reported that schools in their areas were trying out specific strategies aimed at addressing gender differences, while the remainder reported orientation and preparation activities only or no activity at all. Table 4.2 gives details of what we have classified as orientation and preparation activities and Table 4.3 details the strategies in use.

**Table 4.2:** Orientation and preparation activities

	<b>No of Authorities mentioning this</b>
Awareness raising of Headteachers, staff, education committee, INSET	13
Analysis of statistical information; monitoring attainment by gender	6
Policy development; setting up working groups	3
Research – reviewing existing research; undertaking research	3
Evaluation of practice, relevant concepts and/or potential strategies	3

Some of the information given by authorities was incomplete. For example, some reported that they did not know what schools were doing in response to training that they had provided. Of the six reporting no activity, two stated that they were planning to address the issues in the future. Most authorities mentioned more than one kind of activity and hence the numbers add up to more than 28 in Tables 4.2 and 4.3. Most of the active authorities were aiming their strategies at both boys and girls. Only three areas mentioned strategies focusing on boys only.

**Table 4.3:** Strategies in use

	<b>No of Authorities mentioning this</b>
Use of particular teaching approaches/materials eg individual timetables, approaches to different learning styles	9
Study/learning support; study skills development	6
Awareness raising of parents or pupils	5
Seating arrangements/grouping by gender (single-sex or boy/girl)	5
Addressing attitudes – to achievement, gender roles; addressing peer pressures	5
Target setting for individuals/departments	5
Raising expectations (staff/pupils); improving self-esteem	4
Early identification of underachievers, monitoring of individuals	3
Development of specific skills eg numeracy, literacy, organisational or thinking skills	3
Action planning	1
Mentoring	1

We have described in Chapter 1 how the case study schools were selected, providing a profile of each school, and details of the respondents. Six secondary schools were selected that represented a range of different catchment areas and that were employing a range of different strategies to address gender differences. For each secondary school, staff in one or two associate primary schools were also interviewed and where appropriate, in three areas, local authority personnel were also interviewed. The strategies employed in each school and, in some cases, area are described in Table 4.4.

In the next section, we present staff and pupils' views on the strategies which had been implemented and discuss issues that arose in their implementation.

**Table 4.4:** Strategies employed by case study schools

School A	School D
<ul style="list-style-type: none"> <li>• Analysis of statistics by gender (at local authority level and within school)</li> <li>• Looking at statistics with primary cluster</li> <li>• Whole school approach, all staff considering the issues, trying strategies and sharing experiences, teachers working together in classroom sometimes</li> <li>• Awareness raising of staff, pupils and parents</li> <li>• Parental involvement</li> <li>• Literacy strategies</li> <li>• Tackling gendered subject choices</li> <li>• Rewarding behaviour, expectations of behaviour made clear</li> <li>• Considering teaching and learning styles</li> <li>• Student feedback regularly collected</li> </ul>	<ul style="list-style-type: none"> <li>• Local authority involvement</li> <li>• Working as cluster with primaries and nursery</li> <li>• Whole school approach</li> <li>• Analysis of statistics by gender</li> <li>• Awareness raising of staff</li> <li>• Gender co-ordinator in school</li> <li>• Working group set up (cross-curricular), focus on raising attainment, trying various strategies and sharing experiences</li> <li>• Addressing teaching and learning styles</li> <li>• Literacy strategies – whole school code</li> <li>• Parental involvement</li> </ul>
School B	School E
<ul style="list-style-type: none"> <li>• Awareness raising (staff development)</li> <li>• Single sex grouping for middle ability in English and Maths, reducing group size by half</li> <li>• Target setting with identified boys</li> <li>• Boy-girl seating in some classes</li> </ul>	<ul style="list-style-type: none"> <li>• Awards for effort, achievement</li> <li>• Behaviour-related strategies</li> <li>• Target setting</li> <li>• Confidence building</li> <li>• Careers support</li> </ul>
School C	School F
<ul style="list-style-type: none"> <li>• Analysis of statistics by gender</li> <li>• Observation of classroom interactions</li> <li>• Awards (for sport, effort etc)</li> <li>• Some single-sex classes</li> <li>• Awareness raising of staff, pupils</li> <li>• Supported study periods</li> <li>• Behaviour-related strategies</li> <li>• Identification/targeting of at-risk pupils</li> <li>• Literacy strategies</li> <li>• Boy-girl seating</li> <li>• Fewer Standard Grades for some pupils</li> </ul>	<ul style="list-style-type: none"> <li>• Analysis of statistics by gender</li> <li>• Single-sex classes in some subjects</li> <li>• Awareness raising of staff, pupils</li> <li>• Addressing teaching and learning styles</li> <li>• Boy-girl seating</li> <li>• Friendship grouping in classes</li> <li>• Identification and targeting of at-risk pupils</li> <li>• Addressing attitudes</li> </ul>

## 4.2 The pros and cons of different strategies

We found that all the secondary schools were using a number of different strategies which were related to issues of gender and pupil performance. In some cases, the strategies were not overtly focused on gender issues, but were found, in practice, to have implications for gender differences. Strategies fell into four broad areas, all of which were closely inter-related.

1. Getting started: raising awareness of the issues, analysis of statistics, INSET, formation of working groups, development of whole-school approaches to the issues, consulting pupils and parents.
2. Changing gender stereotypes and attitudes, improving motivation by the use of praise and rewards, and tackling issues of gendered subject choice, careers choice and aspirations.

3. Aspects of learning, teaching and classroom organisation, including classroom observation, sharing of experience regarding teaching methods, development of literacy strategies and rearrangement of seating and grouping.
4. Strategies targeted at underachievement, low self-esteem or behavioural issues, including mentoring.

## Getting Started

Most of the schools included in the case studies were at an early stage of developing strategies to address gender differences in performance. In this section we describe the first steps taken by some schools, including:

- raising awareness of the issues;
- INSET;
- developing a whole-school policy;
- setting up working groups;
- developing cross-sector links;
- consulting pupils;
- working with parents.

### *Raising awareness of the issues*

Awareness raising was the most commonly reported strategy for addressing gender-differences in attainment, and appears to be a pre-cursor to all other strategies. Many of our informants from local authorities and schools confirmed that their starting point was to look at the statistics on differences in girls' and boys' attainment which stimulated debate in schools. Some teachers found the differences quite astounding, and it made them aware that something had to be done.

*"We've raised awareness among pupils, parents and staff. That's the main thing we've done. I've worked with the principal teachers asking them to reflect on things and talk it through with their departments. When SMT members attend departmental meetings - gender is occasionally on the agenda. We had it on the school plan. We've brought groups together to talk it through across departments - getting teachers to share strategies and experiences. That gives people ideas. It's teachers eventually that make things work. They are professional, they are reflecting on what they are doing."*

**(Headteacher)**

Some Headteachers shared the statistics with pupils as a way of opening up debate on the issue.

*"We raised the awareness of boys and had them discuss it with us (with girls sometimes too). Some are realising that there are approaches to study that might be more rewarding in the long term. We've challenged the peer pressure thing a bit - we're not always going to be successful at that but it has influenced some boys, to be keener to do well in school."*

**(Headteacher)**

However, some of the pupils were not so keen on their schools' efforts to raise their awareness of gender differences in attainment:

*Boy: "I think they focus too much on that, but possibly they're saying girls do better than boys, so the boys think what's the point of trying harder if there's no point anyway."*

Girl: "They always say it to you the girls are better off, even after we came back in 5th year and he [the Headteacher] stood up in assembly and he said 'oh the girls did really well'."

Boy: "What's the point of trying?"

Interviewer: "Would you prefer not to know about it?"

Boy: "They put it far too strongly. They put far too much emphasis on it."

Girl: "I think they try to make it a sort of incentive for you."

Girl: "When we came back after standard grades and we all sat down and they commended us then they started talking about the boys and I thought if I was a guy and I was sitting there with good marks, 8 Ones or something you'd just be so insulted."

Boy: "Not even 8 One's. You're sitting back with credit awards and they say you're still not doing well enough."

**(S6 students)**

On the whole, raising awareness formed an important first step in the development of schools' approaches to addressing gender differences. Care is needed, however, with regard to how the issues are presented. Some higher attaining boys, for example, felt discouraged by the message that all boys were under-achieving.

### ***INSET***

In most schools a few staff had attended external courses and training sessions focused on methods of raising the attainment of boys. Many spoke with enthusiasm about the style of presentation and the "tips and tricks" provided. Staff who had attended courses would then cascade the training to other members of staff. However, we found that staff who had not personally attended the external courses tended not to be as enthusiastic as those who had. It was also evident that the "tips and tricks" were being passed on to a greater extent than any theories about learning which underlay the proposed methods. For example, some teachers had attempted to use an approach such as boy/girl seating without having a clear idea as to why they were doing it. There is previous research which suggests that a cascade approach to INSET is not entirely satisfactory (O'Brien and McGettrick, 1995), and this is borne out by the comments of teachers interviewed. We concluded that INSET focused on addressing gender differences was most successful where it allowed for the personal involvement of teachers, as part of their own professional development.

### ***Whole-school policy***

There were differences between the case-study schools in the ways in which strategies had been developed and implemented. In some schools there was a commitment by the whole school, with involvement of all subject departments, and teachers at all levels of the hierarchy, while in other schools the strategies appeared to be limited to a small number of departments.

In School A, raising boys' attainment was clearly a whole-school policy which had been initiated by the Headteacher and involved active participation by teachers, parents and pupils. The Headteacher took a "hands-on" approach, and disseminated statistical information on attainment broken down by gender and ideas about raising attainment and gender differences to his staff. The policy was included in both the school development plan and departmental

plans. It had led to a wide range of linked initiatives, including ones addressing attitudes, behaviour, teaching and learning, classroom organisation and parental support, and it was apparent that each of these initiatives reinforced the others:

*"I would say that the awareness of gender issues has been heightened throughout the school and that's pupils included as well. ...The pupils will make better choices and they will aim towards careers they might not have in the past. And I've felt both sexes, boys and girls, parents are coming around, so it is having an effect. The community in general are changing their attitudes as well. We don't just work with the parents. We work in whole different areas out in the community there. And they are changing their attitudes as well. So it's a slow process but it has happened. It reflects in results now. We targeted boys and we didn't half target them and it just ... shot up. And the achievement now is quite close [of] boys and girls in the lower schools."*

**(Guidance and Biology teacher)**

In School D, there was whole-school involvement fostered by a working group drawn from all subject departments within the school which had responsibility for developing policies to raise attainment. All of the teachers interviewed had found this helpful. One of the benefits of this approach was to *"pull the school together in a really basic way"* (English teacher). A more detailed description of this approach is included in the next section.

In other schools there were a number of strategies to raise attainment, and particularly to raise the attainment of boys, initiated by Headteachers or other members of the senior management team. However, in these schools, strategies were more fragmented, did not always engage all staff, and did not have the self-reinforcing effect of whole-school policies. Some staff in these schools did not appear to be aware that there were strategies addressing gender differences in other departments, but expressed interest in finding out about them.

Whole-school approaches to addressing gender differences had several advantages, including coherence of approach across the school, greater awareness among all staff and reinforcement of approaches adopted.

### **Working groups**

In School D, a working group of teachers drawn from all departments in the school had been convened to look at aspects of teaching and learning with the objective of raising attainment. A number of sub-groups had then explored different aspects of teaching and learning, one of which had a remit to explore ways of raising boys' attainment. They produced a series of documents which gave practical advice to teachers, and these were then discussed at an in-service meeting of all teachers in the school, at which staff split into workshops to focus on each aspect. Further ideas arising from the workshop were collated and included in the final documents. A key feature of the work of the group and in-service day was the sharing of ideas and practical experience between teachers from different departments:

*"A lot of the stuff was from what people had read, from what people had been doing in practice.... One of the things that you tend to do a lot in the Maths department is a lesson starter. You'll put some work up on the board, 5 questions, just something to do as soon as they walk in the door. And the idea behind that is that they'll go over what they've done before, ... very briefly in the first 5 minutes or so, revising what they've done previously. And that's something that comes up that was mentioned in that particular group. But it's also mentioned in some of the other work that people have read. A lot of it is practice, practical things that people came to this group saying "well this is what we do in our department and I think it works" and you give particular reasons for why it works. So it's very much a*

*practical document that has come from peoples ideas. I think there was a lot of stuff in there that people thought "that's a good idea, maybe try that, it could work".*

**(Mathematics teacher)**

All interviewees at the school commented very favourably on the work of this group. The positive aspects they described were:

- It provided a means of sharing good practice within the school.
- It provided teachers with the opportunity to discuss common issues with teachers from different departments, and with different backgrounds.
- Every single teacher was consulted.
- It gave teachers a "whole-school" outlook on teaching and learning.
- It raised awareness within the school of issues concerning the raising of attainment.
- Teachers found it refreshed their ideas. It gave them an opportunity to review and rethink teaching approaches.
- The focus was very practical, and since the ideas and information came from teachers within the school it was seen as having particular relevance to conditions in the school.

School A had a series of working groups which included parents as well as teachers. This initiative had started in 1997 when 300 parents had attended a meeting at the school at which senior management talked about issues to do with raising attainment. The parents had been divided into discussion groups, led by staff members, who reported to a plenary meeting. It was then suggested that there should be a working group to take these discussions forward, and 72 parents volunteered. Since this was such a large number, four sub-groups were formed to look at:

- support for learning
- classroom organisation
- monitoring and supporting achievement
- strategies for supporting boys.

The sub-groups investigated these issues, reported back to the other parents and made recommendations to the school. This approach had been very successful in obtaining the support of parents for school initiatives to raise attainment. (The involvement of parents is discussed further later in this section).

### ***Cross sector links***

Cross sector links were a strong feature of the strategy adopted by the local authority and schools in Area D. Direct links were also mentioned in two other areas by secondary school learning support staff. In one area this was simply a means of contact, sharing information and meeting pupils before the transition to secondary school. In the other, a learning support teacher had demonstrated teaching strategies for writing in the primary school, and it was reported that this had had a positive effect on boys' presentation of work and motivation. Cross sector issues were considered by local authority staff in two areas, one of which analysed statistics by gender across the board and fed these back to all schools in the region.

In Area D, key staff at the local authority level had reviewed research and evidence on gender differences and decided to focus on two main areas: literacy and teaching and learning styles. In addition, they had realised that gender differences started at a young age, and for this

reason were developing a cross-sector strategy. A gender co-ordinator was appointed from among existing staff in one secondary, one primary and a nursery school. The three co-ordinators were charged with taking the initiative forward in their schools, initially as a pilot. They met and discussed the materials and suggestions provided by the local authority personnel and then developed a series of techniques and strategies that they wanted to try out in their own classrooms or a limited number of classrooms initially. The actual strategies tried are described more fully in the section on teaching and learning styles. All three co-ordinators stated how beneficial it had been to forge cross sector links and to meet and share ideas. They had been surprised at how much they had in common and how many ideas they could pick up from each other. One of the key local authority personnel involved described this process as follows:

*"... quite strange the way it's evolved because initially I don't think we saw them meeting with each other at all because they're sectorally different but what happened was because we pulled them in to have meetings we then found that they were learning from each other. For example, one of the things that they'd been trying in Secondary was an advanced organiser idea where .. it was very structured: the plan was laid out, and the Pre-5 Head happened to be there at that meeting and she said "I could try that in Nursery because what I could do is I could say, doing a story I could say "I want you to listen and tell me what happens to the bear in this story" or read the back cover of the story - things she'd never done with Pre-5's before and she's finding - you know you'll talk to her yourself - that it's holding their attention, that they're understanding - it's also creating a scenario where it's allowing them to develop certain learning styles as well over and above their own."*

**(Local Authority personnel)**

Providing a cross-sector forum where issues to do with gender differences can be discussed seems a very fruitful exercise, given that differences appear at a young age and persist throughout schooling. The group in Area D seemed particularly effective because the discussion was focused on developing and trying common strategies and therefore had a practical focus. However, even if this were not the case, a cross-sector discussion of the statistics, the key issues and the strategies available seems potentially productive.

### ***Consulting Pupils***

School A had developed a system of seminars for seeking the views of pupils about school policies and these were held three times each year. Pupils were encouraged to express their views about a number of different issues, and the school management responded to their views. At one of these seminars it was found that many girls were unhappy about the policies of the school to raise the achievement of boys, because they felt the boys were getting preferential treatment. The response of the boys was also somewhat unfavourable: *"why are you picking on us?"*. The school was modifying its' strategies as a result of the pupils' views, including the development of "women into management" type courses.

The students we spoke to in School A confirmed that the school management did listen to what the pupils had to say and acted on it. They cited the school's action in response to pupils' anxieties about bullying as an example of the responsiveness of the school. In other schools, some pupils did not feel they had been consulted on school policies. For example, in one school the boys were aggrieved that their complaints to the school council about aspects of their school uniform appeared to have been ignored.

We concluded that consulting pupils is a useful part of developing school policy on issues such as addressing gender differences in attainment. Pupils tend to have a rather different

perspective on school policy than their teachers might anticipate. We note that the Standards in Scotland's Schools Act (2000) places a responsibility on schools to consult pupils and involve them in policy making. It appears that the extent to which pupils are consulted varies considerably.

### ***Working with parents***

Parents were perceived to have an important influence on pupils' attitudes and behaviour. Therefore, many schools believed it was crucial to raise awareness among parents of gender issues and the importance of raising expectations and attainment. One interviewee from a local authority explained:

*"What we were trying to get across to them was that they've got their part to play too which is equally important because they spend ... a lot of their life at home as opposed to being at school, and it's not to accept second best so you take from wee Johnny "oh yes that'll do and away and watch the football now" but wee Jeannie's still sitting there doing all the stuff and re-drafting - so it's to encourage the kind of fairness with them as well and to ask "now have you done your homework?" and to chase up this kind of thing, be interested in it more."*

**(Local Authority personnel)**

Most of our case-study schools were trying to improve communication with parents over these issues, by "parent and child" evenings focused on gender and attainment. Many had developed homework policies, in the expectation that parents, pupils and teachers should all know the amount of homework to expect, so that the parent could challenge the child who said "I've not got any homework". Some schools also encouraged parents to comment on the standard of presentation of the homework, and to be more involved. One school had developed a booklet for parents suggesting to them ways in which they could help their son or daughter to make progress. (There is now a booklet for parents prepared by the Equal Opportunities Commission which can be distributed by schools).

One of the case study schools had included parents in their awareness-raising. As one teacher explained:

*"Involving parents in it is probably one of the most crucial aspects of it that we know. Boys, they don't like being grounded and they don't like their money being docked and if it works then go for it. So these things I think we do quite effectively."*

**(English teacher)**

Many of the strategies which used merit awards or praise awards to motivate pupils (described later in this chapter) were partly aimed at involving parents. In most schools the certificates or praise postcards were sent to the pupil's home so that parents could encourage the pupils to further efforts. This also had the potential to improve attitudes to school among parents whose own experience of school might have been less than happy.

Teachers who were involved in mentoring individual pupils, and those concerned with behaviour support (described later in this chapter), all found it was crucial to involve parents at every stage of working with under-achieving pupils, in order to build up trust. They would try to involve the pupils and parents in setting targets, and feed back to the parents information about progress being made. One teacher stated:

*"One of the best strategies I've employed is to include the parents and to have regular contact with parents, monitoring of the boys on a daily basis, just testing them at various points for behaviour and application, setting targets with them and getting the parents involved in formulating targets with them and then looking back. This week we've got the*

*parents coming in because we're looking just over the past few weeks and to what degree they've met their targets and so on."*

**(Guidance teacher)**

Schools made a lot of effort to involve parents in the subject-choice process and to educate them in the need to move away from gender-stereotyped subjects. However, many teachers explained that it was an uphill struggle:

*"We can deal with (the pupils) in here but what gets said at home has an awful lot of influence.... And the parents can say "never mind what THEY say". So it's still there and they see a lot at home - the way the father treats the mother and ... "go and get me a cup of tea" and all this kind of stuff. ... so although we're addressing it, what happens out there still has an awful lot of influence."*

**(Guidance teacher)**

### ***Getting Started: Summary***

Some of the initial steps taken by schools getting started on strategies addressing gender differences in attainment included raising awareness of the issues, INSET, development of whole-school policies, formation of working groups, cross-sector links, consultation with students and involving parents. We concluded that all of these approaches are potentially valuable aspects of good practice.

## **Changing gender stereotypes, attitudes and aspirations**

Many of the explanations of gender differences in attainment, outlined in Chapters 1 and 3, focused on the adverse effects of gender stereotypes, attitudes and aspirations. For example, many respondents described the effects of negative peer cultures. Consequently, all of the schools adopted strategies to try to change the views held by pupils about gender roles and opportunities. Their strategies included:

- teaching about equal opportunities;
- providing positive role models;
- addressing attitudes to subject choice;
- careers work;
- raising aspirations;
- praise and awards.

However, all of these approaches are closely inter-linked and cannot be viewed in isolation.

### ***Equal opportunities***

All of the case study schools addressed aspects of equal opportunities, including examining gender-role stereotyping. In some schools the topic was addressed in Personal and Social Education (PSE) classes, in others it was permeated through other subjects and courses such as history, in which the status of women in the 19<sup>th</sup> and 20<sup>th</sup> centuries was studied. In school F there was an important equal opportunities element to Home Economics classes in S1.

*"The first lesson with all the pupils in S1 Home Economics - it's an exercise we do - 'What do you do? What does your mum do? What does your dad do? What do you consider is a boy's task or ... a girl's task? Look at this list. Tick what you think is a boys only task or a girls only task. Look at this list of occupations and jobs. Tick what you think is a job that can only be done by men. Can only be done by women. And we have a huge discussion and even*

*yet, we have lots of kids in first year who openly tell you that their dads do nothing in the house, and that's the mummy's job, and that their big brothers don't do anything in the home. And that's the first lesson in first year. And after that we always - everything we do, is always based on - - this can be done by anybody, it can be done equally well by both a boy and a girl."*

**(Home Economics teacher)**

Other aspects of equal opportunities were covered as part of the subject choice and careers education classes in all schools.

### ***Positive role models***

Many teachers expressed concern about the role models pupils saw at home and on television, and the negative messages these gave about the value of study. One strategy seeking to overcome these stereotypes has been to introduce positive role models. For example, in one region the local football team are involved in promoting books, so as to let pupils know that it is "cool to read".

In other areas schools used their own pupils as role models for others. For example, in School A, which had set out to create a climate in which pupils found it "cool" to do well at school, there were supported study sessions, which boys who were generally considered to be "cool" because of prowess on the sports field were encouraged to attend, in the hope that their influence would spread to other pupils. Similarly, two schools had introduced "Buddy" systems, whereby students in S6 befriended groups of pupils entering S1, and helped them to adjust to secondary school. This enabled the younger children to see positive role models in S6 that they could relate to.

### ***Subject choice***

In all schools there was a strong focus on issues of equal opportunity, and the use of positive role models, with respect to subject and career choice. Many schools were trying to encourage girls to enter non-traditional subjects such as physics or craft and design. Teachers in science and technical departments were trying to combat their image as male-dominated areas; for example, by looking at the content and language of worksheets and examination questions to avoid gender stereotyping. Several schools also brought in guest speakers who were male nurses or female doctors.

Other subject departments were attempting to encourage boys to enter non-traditional subjects. In modern language classes teachers attempted to make it clear that languages were relevant to the careers of males as well as females. In one school the languages department chose role models from among former pupils who were using languages as part of their work. Business studies departments used information and communications technology (ICT) to show that business and office skills were relevant to careers for both sexes. Home economics departments also encouraged boys to realise that it was as important for boys to study home economics as girls.

As part of the process of choosing subjects and careers many schools made efforts to counteract gender-stereotyping:

*"We make a big issue of this and we bring in, we have a conference in which we bring in people from all walks of life. For example, we bring in an architect whose a woman, we bring in, if you think of all the jobs that women do like a nurse, well we'll bring in the opposite equivalent so that we have a female joiner, a male nurse, a male receptionist and so on so*

*that children can see that you don't have to be a male or female to do this job, anybody can do it. We make a big issue of that. I think we organise about 20 different people and they come in and they talk and then they talk in groups to the children. The children elect to speak to whoever they want. Say for example it's a girls who wants to be an architect, well there'll be a female architect, there'll be a male nurse and so forth."*

**(Guidance teacher)**

### **Careers-work**

Teachers found that pupils still tended to have traditional career choices, and these were often influenced by home background. There were efforts to make pupils aware of the demands of a modern labour market:

*"I think a lot of boys who are maybe not going to university, in this area would want to be fishermen or farmers and if not they want to be in a trade like a joiner or a motor mechanic. But we have to point out to them that motor mechanics nowadays, it's all computer/ machine. It's machines that are computerised and they actually need to be quite able to get that kind of job and we need to explain to them what sort of skills they actually need and what's available, what's in the job market."*

**(Guidance teacher)**

Most of the teachers responsible for careers work in the school were at pains to emphasise equality of opportunity:

*"Kids can opt for what they want and if a girl said 'I want to be a brick layer' well we would say 'lets look at what you need to do then'. We wouldn't say 'that's a silly job for you, you'll ruin your hands'."*

**(Guidance teacher)**

One teacher spoke of the cumulative effect of strategies in the school to address gender inequality:

*"I would say that the awareness of gender issues has been heightened throughout the school and that's pupils included as well. Now, the pupils themselves are better informed, they will make better choices and they will aim towards careers where they might not have in the past. It's not disappeared but it's reduced this image of what is expected (of men and women)."*

**(Guidance teacher)**

Schools were very concerned to raise the aspirations of boys and girls with respect to their vocational choices. In school F a video called "the Glass Ceiling" was found to be very effective in stimulating pupils to consider stereotypical aspects of certain careers. As a result it was found that:

*"...the girls perceive that women have not had a very good deal in our society and it's not going to happen to them."*

**(Guidance teacher)**

The influence of parents and home background were found to be very strong:

*"I have a second year boy who was on the point of making his third year choices and it was very much his father's perception that interior design was for cissies and this boy's fabulous in art, he talks at length about what his bedroom's like and the lavender walls and the black furniture, and his dad's a wee bit ware of this you know, thinks his boy could be gay or whatever. And I mean that's the bottom line. And you have to just, the dad was in and we were talking about it and it was just a case of saying it's just matching a person's strengths to a job he really is interested in and would enjoy. So it's breaking all of these parental perceptions down too. And I think communication between parents and the school is crucial in this one, because that's your major sphere of influence."*

**(Guidance teacher)**

It was clear when we spoke to pupil groups that the efforts of schools to promote the idea of equal opportunities had apparently been successful. Pupils, on the whole, believed in the principle of equal opportunities in work and family roles. However, they were aware of gender differences in roles in their own homes and in the workplace. See Chapter 5 for full details of the pupils' views on work and family roles and their own personal aspirations for the future, which incidentally varied more by ability level than by gender.

### ***Aspirations***

Strategies to raise aspirations and boost self-confidence and self-esteem were being tried in all of the case study schools. These strategies had implications for both boys and girls, and were linked to other approaches to counteract negative gender stereotypes and boost attainment. In particular, School D, in an inner-city area with multiple deprivation, was engaged in a major effort to raise aspirations by every means at its disposal, including posters on every wall urging "be all you can be" and "only your best is good enough".

*"Just slogans and phrases constantly chipping away at them, just constantly trying to get them to be themselves and to really go for it. I think that is the best we can do, just constantly praise them, and constantly reward them for doing well. But I really do believe that, I mean personally I think it's pretty deep-seated some of the attitudes are pretty deep-seated, and I think they will take a large amount of shifting."*

**(Mathematics teacher)**

In other schools a very strong element in PSE classes was to build up self-esteem and assertiveness:

*"The main issue that I'm seeking to address in the programme is self esteem really. As I've already mentioned, in this community there is definitely low expectations from the pupils and from their families and it's an area of quite a lot of unemployment, and there's not a great deal of push from home for pupils."*

**(PT Guidance)**

### ***Praise and Awards***

Careful use of praise was considered to be very important by many teachers in motivating pupils. Praise was an important form of encouragement for all pupils, but publicly praising boys was considered to create a risk that the boys would be ill-treated by other boys.

*Boy: "I hate when the teacher calls out the test results and if you don't do well it's embarrassing - like you get 9 out of 20 - people start laughing - I'd rather get a gold - and then they start laughing if you get like 20 out of 20."*

*Interviewer: "So it works both ways - it's bad if you do really badly but it's also bad if you do really well?"*

*Boy: "If you want to be a people person then you just have to aim for average!"*

*Interviewer: "So average is pretty safe?"*

*Boy: "But I don't want to be average - I want to move up - to get into good classes next year - I think you just try to ignore them and just... it's not so bad now cos the boys that can do well realise that it doesn't really matter what anyone else thinks but last year it was kind of different cos they didn't realise that they'd let it get to them."*

**(Low attaining boys group)**

School E had a system of praise awards which were sent by post to the child's home twice each term:

*“Our view is that youngsters who perform well academically are rewarded well academically through certification. For the youngster who goes through their day-to-day business, works quietly in the class, doesn't flash the hand up every time a question's asked, that recognition will only come about once a year in the annual report to parents. Once a year is not an awful great deal in terms of how youngsters will perceive themselves and one of the biggest problems we've got at (school) is the low expectations of youngsters themselves, their low self esteem: they don't think that colleges and universities are really for them because if it was they'd be first generation and trying to change this perception is very difficult. There's no great history in the community of university and whatever... What we did very simply was we introduced a system of praise awards. What we do is we ask staff twice a year “just put a tick beside your class list of any youngster who you think is working to the best of his or her ability - that's the sole criterion - if it's the whole class, put a big tick”. We then feed that into the computer and we use cut-off scores, so if a kid in S1, say, got nine out of twelve then they'll get a gold praise award, then there's silver, bronze and you've hit the cross-bar but try harder next time letter which goes out. We produce a certificate and the Rector signs every one of them. A huge number of kids achieve this. We are absolutely delighted.”*

**(AHT)**

School F had a system of praise postcards, which any teacher could send home to show their appreciation for a pupil who had made an extra effort, or improved her/his behaviour. Another method was to stamp the pupil's year-planner.

In School A there was a merit certificate to reward good practice. Pupils in S1-S4 all began the year with 16 merit points, and had merit points deducted by teachers if they failed to meet standards of presentation of work, homework, or classroom application. Teachers could give bonus points to recognise exceptional effort. At the end of the session pupils were presented with laminated certificates. The merit certificates were considered to reward aspects of behaviour and effort which were valued by the school, and to provide short-term targets at which pupils could aim. Merit certificates were valued by the parents, who encouraged their children to work hard so as to achieve one.

In School C, instead of sending the merit certificate by post to the pupil's home, there was an awards ceremony. This was one of a number of strategies used to publicly reward and celebrate achievement and effort, together with an “achievers' notice-board”, sporting awards and an exhibition of work by the technical department. Awards for effort and for achievement in the S1-S3 stages were allocated on the basis of nomination by teachers from two different subject areas. The strategy was aimed particularly at encouraging boys to make more effort, but at present more females than males achieve awards.

The pupils expressed very mixed feelings about the awards ceremony, with some expressing the view that pupils did work harder in order to gain an award, and others suggesting that they did not care one way or the other.

*“I think it's a good thing - they might work harder towards it to see if they can get awards and that. It boosts confidence - you're getting an award and you think “oh, I'm doing well at this and I'd better keep it up and all that”.”*

**(High attaining boys group)**

*Girl: “I think it can be encouraging if you get an award but quite often you find that people DO work hard and then they don't get any recognition and they feel well I've put in all that effort and not even been recognised so that's discouraging...”*

*Girl: “Cos there's some people that maybe like work their very hardest but they're not like at the top of the class or anything.”*

*Interviewer: “But wouldn't they get an award for effort?”*

Girl: "No ... there's like a limit on how many the teacher can - they can only nominate like three people - five - from a year or a class or something like that."

**(High attaining girls group)**

Interviewer: "How did you feel about (receiving an award)?"

Boy: "Well quite pleased - and your parents it's pleasant for them as well cos they think you're doing really well in school - they encourage you more - there's a big ceremony when the parents come and watch the pupils going up to collect their award."

Interviewer: "So do you think that makes you work a bit harder?"

Boy: "Some people just act as though "who really cares" - cos it's just the same people every year and they're not getting any awards cos it's usually the same people."

Interviewer: "Right so do you think it's a bit unfair for them? Or does it actually encourage others to work hard?"

Boy: "Not really - a lot of people just don't really care."

**(High attaining boys group)**

However, the pupils were very impressed by the exhibition of work by the technical department.

Interviewer: "I know that as well the school has been exhibiting work from Technology and putting Sporting awards up, are you aware of that? What do you think of that?"

Boy: "It's pretty good cos you get to see everyone's work."

Interviewer: "Does that make you try harder? Is that motivating?"

Boy: "Yeah, I have to do as good as that cos it's going to go on show."

Boy: "You just think 'Oh, I want to do as good as that'."

Boy: "You think of it as a competition - if your friends are getting high marks you think I can't be getting lower marks than my friends, I'm going to have to try and get high marks to keep in with them."

Boy: "It's like in a race if you're running against someone they're gonna motivate you to go harder but if you're running on your own... then you don't get as good a time."

**(Low attaining boys group)**

It is difficult to reach any firm conclusions about the success of strategies using praise and awards. Schools were using these strategies in order to motivate their pupils to study. However, the pupils had mixed views as to whether they and their peers were motivated by this means. This is perhaps an area where there is scope for more consultation between schools and pupils.

### ***Changing gender stereotypes, attitudes and aspirations: Summary***

Schools were attempting to change gender stereotypes, attitudes and aspirations from a number of different angles. These included teaching about equal opportunities, providing positive role models, addressing issues of subject choice, careers choice and aspirations, and providing motivation to pupils through praise and awards. All of these approaches were linked and apparently reinforced each other.

Changing attitudes and aspirations is difficult because of the pervasive influences of society. It is difficult for schools to influence the role models pupils see in their daily lives. Media coverage of footballers and television starts does not always emphasise the importance of

study and hard work. Nevertheless, there is evidence that equal opportunities teaching in schools has affected young people's attitudes and aspirations and encouraged them to believe in the principle of equal opportunities (see Chapter 5 for further details). This gives encouragement that efforts to change negative attitudes to study for males will also make a difference. The strategies described in this section make important contributions to addressing fundamental causes of gender differences in aspirations and expectations.

## **Aspects of learning, teaching and classroom management**

Some of the explanations of gender differences in attainment, outlined in Chapters 1 and 3, focused on differences between males and females in their approaches to learning, study habits and levels of interest in curricular areas. To address these issues a number of schools focused on:

- teaching and learning strategies;
- classroom observations;
- teachers sharing experience;
- literacy strategies;
- single-sex classes;
- boy-girl seating;
- other grouping arrangements.

### ***Teaching and learning strategies***

One of the main approaches adopted across all school sectors in Area D was a focus on teaching and learning styles. The strategy was being led by the local authority and taken forward through the appointment of three gender co-ordinators, one in each sector from nursery up to secondary. The co-ordinators were working together to develop teaching strategies, which they were trying out in a small number of classrooms initially, with the intention of sharing their experiences with other teachers later on. In the secondary school, work was being taken forward through the work of the raising attainment working group, consisting of twelve members of staff across departments. This group had produced a document, containing practical strategies and suggestions, which had been very well-received by staff. In these ways, strategies were being tried and experiences shared among staff across the curriculum and across sectors. Some teachers in other schools were also considering similar strategies based on teaching and learning styles. The discussion here will mainly focus on Area D, however, since this was one of the main thrusts of their strategy to address gender differences and raise attainment and the comments made by teachers in other schools on their experiences of using the strategies were largely similar to those made by staff in Area D.

The theory underpinning the work in Area D, based on a review of the research literature and, in particular, the work of Geoff Hannan and Alasdair Smith, carried out at local authority level, was that everyone has a preferred learning style and if they are taught in ways that do not match that style, then they are less likely to engage with or understand the material being presented to them. Each person also uses other styles, but they tend to prefer one style. There is some disagreement in the literature about exactly how to categorise different learning

styles, however, the model in use in Area D included three broad groups: visual learners, auditory learners and interactive learners. There are roughly equal proportions of each type of learner in a classroom, and learning styles cannot be predicted from gender, although boys and girls tend to prefer different styles. It is important for teachers to be aware of the different broad learning styles, but not necessary for them to identify individual's learning styles. Instead teachers should aim to teach in a variety of ways, with the aim of engaging with all pupils in the classroom through different methods. It was considered helpful for teachers to identify their own learning styles, however, so that they would become aware of how these affected their teaching styles. For example, teachers with an auditory style, might give a lot of verbal explanations without using any visual aids, which would be difficult for visual or interactive learners to access. The aim was to engage with pupils through their preferred learning styles initially, with a view to ultimately developing their use of the full range of styles, rather than entrenching them in one mode.

The actual strategies being tried included the following.

- Giving the “big picture”, ie connecting the lesson with previous work and giving an overview of what would be covered, the aims and desired outcomes.
- Using visual aids, diagrams, pictures; providing the lesson overview in written form; putting key points/information on posters around the room.
- Using a variety of approaches in each lesson including interactive/practical, reading and writing tasks.
- Using short-term tasks, time-allocated tasks and breaking tasks down into sub-tasks.
- Requiring pupils to structure their work in five stages; answer five questions or make five points.
- Pupils working in pairs or small groups to encourage reflection, discussion and co-operation.
- Praising achievements, maintaining high expectations of all pupils.
- Getting pupils to evaluate their own work.
- Providing models of completed tasks (eg essays) so that pupils know what they are aiming for.
- Introducing an element of competition into tasks.
- Reviewing with pupils what has been learned at the end of a lesson.

Teachers were generally positive about the strategies they had tried, although it was too soon to see any evidence of their effect in grades and assessments. The following, mainly positive, comments were made.

- The strategies are appropriate for all teachers to use, across sectors and across the curriculum.
- No additional resources are required.
- The approach encourages teachers to reflect on and develop their practice in the classroom.
- Cross-sector and cross-department sharing of practice and ideas had been very useful.
- The approach does not view boys and girls as homogeneous groups.
- Pupils seemed more engaged, particularly boys.

- Some pupils had produced better work.
- In Nursery, behaviour had improved.
- In Primary, boys had become more co-operative in single-sex group tasks.
- In some circumstances, the strategies had not engaged a small hard-core of pupils.
- In Primary, parents had expressed concern because pupils had produced less written work, due to the increase in group work and discussion.

Focusing attention on teaching and learning practices, in trying to address gender differences, is potentially very fruitful. It moves away from viewing boys and girls as homogeneous groups and focuses attention onto improving classroom practice for all pupils. Most of the strategies listed would be described by many teachers as good teaching practice and the teachers that we spoke to had welcomed being reminded of them or hearing about new ideas that they had not tried before.

*“I went to a few in-services before and the first guy that started to speak, it seemed to me that the strategies contained the seed of what was successful teaching, things that I’ve actually proven to myself. I’ve taught for 25 years. And that was why I was convinced already by the ones I knew were successful and was willing to try some of the others which maybe I hadn’t used.”*

**(English teacher, D)**

Teachers had also welcomed the chance to share ideas and experiences with each other across departments and across sectors. While evidence was not yet available on the effects of these strategies on pupils’ attainment, teacher reports suggested greater levels of pupil engagement and early signs of improvement in pupils’ work.

### ***Classroom observations***

In one secondary school and the nursery school, teachers had decided to undertake systematic observations of pupils, in order to examine gender differences in behaviour. These observations had produced evidence of gender differences and had raised staff awareness of their own and pupils’ behaviour. While the findings were in line with the findings of research using classroom observations, the results seemed more compelling because they came from the teachers’ own schools. Not all schools will wish to undertake such an exercise, given that it can be time-consuming. However, the observations reported, provide invaluable evidence against which assumptions can be tested. The Headteachers describe the findings of their observations below.

The secondary Headteacher described the results of his school’s observations as follows.

*“... time of arrival: no great difference; seating choices: social groups were the main factor; settling down: boys take longer - the girls tended to be in and organised while the boys were still talking about last night’s football; bringing equipment: as it happened there was no great difference in the classes that were seen; homework: no significant difference in classes observed but a general “far more difficulty with boys” - it’s the most probable reason for detention ... Presentation of work: need for good presentation of work - that needed to be emphasised but far more consistently to the boys. Boys tended to rush into tasks - they wanted to get on with it whereas the girls were prepared to get organised for it ... boys just wanted to do it. Boys lose attention much more easily - they had a much more casual attitude to the teacher and their work. A cheeky attitude but a more relaxed attitude. .... the girls talk AND work, the boys talk OR work. I think it’s left/right side of the brain. I can’t do both. Interest was often lost at transitions during a lesson or from one lesson to the next lesson: it was easier to lose the boys. Behaviour: there was significantly more disruptive behaviour from*

*the boys even in the classes that were seen and that's often with a member of the SMT there. It would be more significant without and our kids would generally be - you know they're pretty agreeable, easy to manage."*

The Nursery Headteacher summed up her findings as follows.

*"The tendencies are that girls like talking, people, thinking, they do reflect, have relationships, they are supportive to one another and they hold back, they're passive, ask for help and are verbal. Boys like action, objects, doing, trial and error, they are competitive, they rush in, they are aggressive, ask for help, like power, goals, facts, results, they interrupt, like banter, street cred and are insensitive. These were the observations. And some girls are like boys and vice versa."*

### ***Teachers sharing experience***

Teachers were generally positive about any opportunities they were provided with to share ideas and experiences with other teachers. Co-operative teaching was being used as much as possible in School A and was also mentioned by teachers in School E. This meant that there were two teachers in a classroom, either a learning support teacher and the class teacher or two subject teachers. Teachers were very positive about this as it provided opportunities for them to get ideas from each other and enabled them to give pupils more individual attention. Cross-curricular and cross-sector working groups in Area D were found to be very useful by teachers for sharing ideas for practice. Similarly, in other schools, cross-department and within-department meetings where teachers considered how to address gender issues and raise attainment were welcomed and found useful by staff.

### ***Literacy strategies***

Literacy is a major concern of all schools. However, primary and secondary schools in three of the case study areas were particularly focusing on literacy as a means of tackling gender differences in performance. Strategies were aimed at encouraging boys to read, engaging all pupils, but particularly boys, with English and whole school codes on spelling, punctuation and presentation. The strategies often interacted with or were part of other strategies, such as single sex classes in English, trying new teaching styles or cross-sector links.

Developing literacy skills in all pupils, but particularly in boys, was seen as a major concern, because reading and writing are central to accessing so much of the rest of the curriculum. Boys seemed to be less interested in reading than girls and this was evident from a very young age. One secondary school had done a survey of pupils' reading habits and discovered that boys were either not reading at all or only reading non-fiction. Because of this, some schools and local authorities had invested money into buying books specifically aimed at engaging boys with reading. Some primary schools had started using non-fiction with younger age groups and several schools were encouraging young people to read anything even if it was a comic or a cereal packet. Local footballers were being asked to pose for posters about reading, or to come into schools and encourage boys to read. In these ways, it was hoped that boys would get interested in reading and eventually start to read a wider range of texts, including fiction. In one secondary school, the librarian had devised a system whereby young people could enter their interests into a computer and they would be provided with a personalised reading list. The English teachers were setting pupils reading targets, having 10 minutes silent reading at the start of every lesson and asking pupils to write brief book reviews when they had finished a book. All of this was being monitored and signs of

improvement were evident in that more boys were reading and using the library. More intangibly, the librarian felt that the library had become a cool place to be. Similarly in a primary school that had started using non-fiction with younger pupils, the Headteacher had noticed that boys were more interested in going to the library.

Secondary teachers who were teaching single sex classes in English reported selecting texts that they felt would be interesting or relevant to the gender of the class, with the aim of engaging the pupils in the class with the subject. This was usually done with a view to broadening out to a wider range of texts later on. These teachers generally reported positive results, with groups of either sex seeming to engage well with the lessons and some improvement in grades. In this case, the effect of targeting the materials is, of course, inseparable from the effect of teaching in single-sex groups. Teachers with mixed groups reported trying to choose a range of texts that would be equally engaging and interesting to both boys and girls, or texts that contradicted stereotypes, for example, that presented strong female characters.

Two secondary schools were using whole-school correction codes that made clear expectations about spelling, punctuation and grammar. These were displayed around the schools and provided standard expectations in all lessons, that reinforced what had been learned in English. In one school this was combined with a short block on spelling, punctuation and grammar for first year pupils in English. This was generally felt to be a good initiative, although, because it was cross curricular, it was difficult to tease out the evidence of its effect.

The initiatives in Area D were being led by the local authority and the main foci in tackling gender differences were literacy and teaching and learning styles. The authority had appointed gender co-ordinators in three clustered schools, one in each sector, including a nursery Headteacher. Initiatives for improving literacy were being delivered in the context of a focus on teaching and learning styles and strong cross-sector links. These initiatives are discussed further in the section on cross-sector links and on teaching and learning styles.

On the whole, initiatives aimed at encouraging boys to read did seem to be having beneficial effects. The boys in these schools, whether primary or secondary, were apparently reading more. The targeting of materials at boys or girls in English also seemed beneficial, although it was being done in the context of single-sex classes and it is difficult to tease out what is having an effect. The risk with this strategy is that stereotyped interests may be reinforced, and it is important therefore that it is only done initially as a strategy for engaging interest, with the aim of broadening out to a wider range of materials later on. It was difficult to assess the impact of whole school correction codes. However, providing common expectations of spelling, punctuation and grammar that are made explicit in all subject areas seems very likely to reinforce the work of the English department and improve standards.

### ***Single sex classes***

The main strategy adopted by School B was the creation of single sex classes in English and Mathematics for pupils in the middle ability range in S3 and S4. Most of the other schools had also experimented with single sex classes in one or two subjects. This was often done opportunistically, for example, where there were more boys than girls in a particular year group. In creating single sex groups, School B had also halved class sizes and it is difficult,

therefore, to separate out the effect of this from the fact that the groups were single sex. Most teachers and pupils that we spoke to in School B were very positive about the strategy, mentioning a range of advantages and very few disadvantages.

The strategy had been made possible when a learning support post became vacant. Rather than appointing a new member of staff, the Headteacher decided to use the resources to create smaller, single sex groups. He decided to focus on the middle ability pupils, because he believed that they were the pupils with most potential for improvement. The strategy had been in place for less than two years at the time of the research and the first cohort were due to sit their Standard Grades in the Summer of that year. A formal evaluation of the strategy, carried out in the school by one of the teachers, concluded that it was too early to tell whether pupils' attainment had been significantly affected by the strategy, but noted improvements in classroom behaviour, teacher-pupil relationships and understanding and enjoyment of the subjects.

Teachers and pupils in School B mentioned the following advantages of single sex/reduced size groups.

- Pupils got more attention from the teacher.
- Relationships had improved between teachers and pupils: teachers knew pupils' strengths and weaknesses better and could give more individual help. Pupils felt they could say things that they would not normally say in front of members of the opposite sex.
- Girls and boys reported finding the solo talk in English easier in single sex groups because in mixed groups pupils of the opposite sex would laugh at them or make comments. Teachers reported improved performance on solo talks.
- Boys and girls got on with their work better.
- Girls were more likely to ask for more explanation in class.
- Some teachers tailored texts to boys' or girls' interests. Some boys had liked having what they felt were more relevant texts.
- A Business Studies teacher had noticed an improvement in some of the boys' mathematical ability which was helping them in Accounting. Some girls felt they had more time for other subjects because they were finding mathematics and English easier.
- Girls said they felt more confident in Mathematics.
- There was evidence that grades had improved.
- Some pupils said they enjoyed the subjects more.
- There was less disruption from boys. Teachers said this was because there were no girls to show off to. Emphasising the point that not all boys are disruptive, one boys group suggested that the disruptive boys should be put in a group together to let the rest of them get on with their work.
- Teachers said they believed that boys' presentation in Mathematics had improved.

Here are some comments made in interviews:

*“In relation to my own classes I think they have benefited tremendously from the small group, the single gender, the fact that they get to know a teacher much more quickly and probably much more closely than they would do in a class of 30. And they are certainly more eager to come forward and say ‘I don’t understand that, can’t do this, can you give me a hand with this’ and the presentation of the boys work has improved beyond measure.”*

**(APT English)**

*“They seem to notice better if you are coming on because there’s such a smaller class and they can concentrate more on what you’re doing and they know if you’re progressing ... “oh that’s good, you’ve come up a few marks there” or “you came up a full grade there - that’s excellent” and so on - you’ll get TOLD which makes you feel better ... which makes you try harder.”*

**(S4 girls, middle ability range)**

While pupils were generally positive about the strategy, they were clear that they would not like to have single sex classes in other subjects. Disadvantages mentioned were that the strategy had displaced team teaching, lack of accommodation was a problem (because of the increase in number of groups) and one boys group said they would prefer a mixed group in English, to get a broader range of opinions. A female teacher described how she had had difficulty taking over a boys group in fourth year, because they had formed a strong bond with their male teacher in third year and she felt they were slow to accept her authority.

Some of the advantages of the strategy are clearly related to smaller class sizes. This is highlighted by comments from another teacher in the same school, who described teaching a mixed class of 18. The smaller group meant that the pupils got more of the teacher’s attention and more individual help.

School A had also tried single sex classes in mathematics and English. The teachers taking these groups had adopted a particular teaching approach, with a strong emphasis on high expectations and the use of praise. Although a girls group had been created, the strategy was particularly aimed at raising the attainment of boys and at removing the disruptive element from the class so that other pupils could get on with their work. The pupils were told that they were in these groups because teachers believed that they could do better. If homework was not handed in, the teacher would express disappointment and say he/she expected better from the pupil, rather than giving a punishment. In English, texts had been selected to engage the interest of the groups. Teachers were giving more direction and structure at the beginning of the year to build confidence and trying to create an atmosphere in which it was socially acceptable to do homework. Improvements were noted in the volume and quality of the pupils’ work. As in School B, the mathematics group had meant a reduction in class size and this was felt to be a contributing factor to the strategy’s success.

*“I think so far, just looking at the results and the class groups, I think it’s worked pretty well ... I can see there’s an atmosphere in the class where they want to do well. There were boys on the periphery who were a bit reluctant at first, and because of the atmosphere in the class, it pulled them in ... So it’s been very positive.”*

**(APT English)**

Single sex groups had been tried in a few subjects in School C. However, teachers expressed reservations about segregating boys and girls and pupils were generally negative about their experiences of it. Girls said they found it boring without boys, because it was too quiet and all they did was work. The boys said they had not noticed that there was much difference without girls in the class. Another boys group said they found it boring because there was no-one to impress.

*Boy: “That’s one of the main motivations for messing about is ...”*

*Boy: “... impress the girls.”*

*Boy: “... yeah the girls.”*

**(Boys group, lower ability)**

Whether to have single sex or mixed groups was an on-going issue in some PE departments. Girls groups felt that mixed classes could be more fun but that they sometimes did feel embarrassed in front of boys. They also said that boys did not pass to them in team games, although they did acknowledge that if they tried harder themselves, then the boys would pass to them. Boys groups said that they felt the girls could hold them back because they did not take the sports seriously or try hard enough.

A study similar to the one described in this report, undertaken in England and Wales, by Sukhnandan *et al* (2000) examined the use of single sex classes in eight secondary schools. In these schools, single sex classes did not necessarily mean a reduction in class size. It is interesting therefore to consider their findings alongside the findings of our research. They identify similar advantages to the ones identified above including that boys and girls got more of the teacher's attention. In addition they note that single sex classes had raised staff awareness of gender gaps in performance. They identify more disadvantages including that:

- staff stated ideological concerns about the social implications for pupils of single sex groups;
- some staff were reluctant to teach all boy (especially lower ability) classes because they felt that they were demanding in terms of behaviour management;
- classes had a wider range of ability and were often uneven in size;
- only certain targeted pupils had the opportunity to experience single sex classes.

No teacher will be surprised to hear that reducing class sizes had beneficial effects for teachers and pupils, including improved relationships, and pupils receiving more individual attention. For most schools this would be very difficult to arrange within the limitations of current resources. Teachers and pupils were generally positive about single sex classes, stating that pupils were less distracted, girls, in particular, seemed more confident in class and pupils of both sexes found the solo talk in English easier without members of the opposite sex in the audience. Of course, what happens in the classroom is as important as who is in the classroom. Most teachers took the opportunity, when faced with a single sex group, to reflect on their teaching style and the materials they were using. While this is clearly to be encouraged, teachers should be aware of the risk in creating single sex groups, that boys and girls be seen as homogeneous groups and that stereotyped expectations, attitudes and behaviour become entrenched rather than challenged.

### ***Boy-Girl seating***

Teachers in all the secondary schools and one of the primaries had tried boy-girl seating. The main benefit from the teachers' point of view seemed to be that it reduced disruption in the classroom, by breaking up friendship groups. This meant that potentially disruptive pockets of boys were separated and that girls talked less. Some teachers did it to make clear that they were in charge of the classroom and to encourage pupils to take their work seriously, rather than seeing the classroom as a social setting. Some were hoping that the boys would be positively influenced by the girls' more organised approach to work, that it would encourage mixing of different ideas or make girls and boys more comfortable with each other socially.

The main concern expressed was that boy-girl seating made the girls feel uncomfortable and inhibited in the classroom. Some teachers had adopted a diluted version of boy-girl seating

because of this, for example seating two boys with two girls. Others had completely abandoned the strategy over concern for the girls' discomfort with it.

Indeed, most girls did not like the arrangement, preferring to sit next to their female friends. They felt more comfortable that way and could help each other out with the work. They also said that boy-girl seating enabled boys to copy their work.

Boys, on the whole, were more positive about it. It meant there were fewer distractions from friends and from girls talking, although they might be tempted to try to chat a girl up. Boys of all abilities confirmed that it enabled them to copy the girls' work.

On the whole, boy-girl seating probably had a positive effect on both boys and girls in that it reduced disruption in the classroom. However, it seemed to have a detrimental effect on the girls, who felt uncomfortable about it, and there seemed little evidence that boys and girls were influencing each others' styles of working, or gaining a richer educational experience because of it.

### ***Other grouping arrangements***

A small number of teachers described other grouping arrangements that they had tried. These included grouping by ability, either setting or pairing higher and lower ability pupils with each other. With setting, it was felt that this, at least, gave the more conscientious boys a chance to get on with their work without exposure to boys who were less interested. Pairing higher and lower ability pupils together had proved beneficial to the less able, at least. However it was felt that this could be used in isolated circumstances only, because resources did not permit this kind of careful stage management of the classroom in every lesson.

### ***Aspects of teaching, learning and classroom management: Summary***

The main approaches adopted by schools in the area of learning, teaching and classroom management were specific teaching and learning strategies, teachers sharing experience with each other, literacy strategies, single-sex classes and boy-girl seating. Altering teaching practice to accommodate as wide a range of learning styles as possible was viewed in general as good practice. Teachers involved were generally enthusiastic about it. It got away from viewing boys and girls as homogeneous groups and focused attention onto improving classroom practice for all pupils. Teachers welcomed opportunities to share ideas for practice with other teachers, finding it both useful and developmental. Initiatives aimed at encouraging boys to read seemed to be having beneficial effects and whole school correction codes for punctuation and grammar seemed potentially effective. Teachers and pupils generally saw single sex groups as beneficial, although it is likely that the smaller class sizes were contributing to their success. Schools adopting this approach need to be aware of the risk that boys and girls be viewed as homogeneous groups and that stereotyped expectations, attitudes and behaviour be reinforced rather than challenged. Boy-girl seating seemed to reduce disruption in the classroom, but girls generally felt uncomfortable about it and there seemed little evidence that boys and girls were influencing each others' styles of working, or gaining a richer educational experience because of it.

## **Strategies targeted at under-achievement**

Some of the strategies to combat underachievement were not overtly focused on gender differences, but had gender implications because more boys than girls were perceived to be underachieving. Strategies included:

- study support and skills development;
- targeted support for individual pupils perceived to be under-achieving, including mentoring and building self-esteem;
- target-setting.

### ***Study support and skills development***

All the secondary schools were offering supported study periods, either after school, or during lunch-time. These might be focused on particular subjects or cover the whole range. In addition, School C had started to supervise the senior pupils' free study periods. Study support was being supported through local authorities and tended to be aimed at raising attainment generally among all pupils. However, some teachers felt that it could be of particular benefit to boys. Initially the periods had been mainly attended by girls, but teachers had noticed an increase in uptake among boys and were generally pleased with levels of attendance. It was felt that supported study did have a beneficial effect on pupils' grades, although no hard evidence was available to support this assertion.

In addition, two schools, one secondary and one primary in different areas mentioned initiatives aimed at improving boys' organisation and presentation skills. Both schools were doing this through establishing standards across the school and making it clear to all pupils what was expected of them. There was no evidence yet of the effectiveness of these strategies, given that they had only recently been implemented.

### ***Targeted support for individual pupils perceived to be underachieving***

All of the case study secondary schools had systems in place to allow teachers to notify guidance staff if they perceived that individual pupils were underachieving. Our interviewees reported that boys were more likely than girls to be identified as at-risk of underachieving.

In School C there were a number of early-warning systems, including a simple tick-box type of report on which teachers could alert the guidance team that there were signs of a pupil falling behind, even if the problem had not become serious. In addition there was a system of structured observation and monitoring of classroom behaviour by members of the senior management team who looked at such factors as time of arrival, seating choices, time taken to settle down, concentration and behaviour. Records of detention and misbehaviour were analysed to provide additional clues concerning pupils who might need targeted support.

The forms of targeted support varied. For example, in two schools groups of boys who were underachieving in English were brought together so that courses could be tailored to their needs, and they could be motivated to want to read and enjoy what they were reading. In School A the school librarian worked with this group and put together individual reading lists to interest them. Teachers were able to take the opportunity to praise the pupils when appropriate, in order to boost their self-esteem.

## Mentoring

In some schools, mentoring systems were developed, in which pupils who were considered at-risk of underachievement were provided with an adult mentor who would meet with them regularly to keep them on track, and provide support and advice. In School B the mentor was a member of the guidance staff, in other schools members of the teaching staff volunteered to be mentors for one or two pupils. In each case the mentor would seek the support of parents and other teachers in helping the pupil to manage their workload and meet short-term targets. In school F mentoring was linked to study support. Pupils were identified by teachers as needing extra support, and met with volunteer teachers after school on a one-to-one basis. The extra support would include offering assistance with how to study, coping with the study timetable, homework and general advice. If necessary, the mentor would arrange for help with specific problems such as spelling from learning support teachers.

All of the teachers involved in mentoring believed that it had been beneficial in helping the majority of pupils who had been targeted. One teacher reported:

*"I think it's one of the most successful things we have had in the school for a long time."*

**(Guidance and RE teacher)**

The benefit of a mentoring system appears to be that pupils (mainly boys) have someone taking a very special interest in them, who is aware of the complete picture of their progress and behaviour, can advise them on how to overcome specific problems, and keeps a regular check on how they are progressing. One teacher told us:

*"Because we have some quite large classes, some kids just tend to fall by the wayside, and really just all they need is somebody there and being aware that they're not working to their potential – for those kids it did work."*

**(Guidance and Mathematics teacher)**

## Building self-confidence and self-esteem

Many of the teachers involved in mentoring spoke of the need to raise the self-esteem of the individual pupils with whom they were working, because low self-esteem was one of the causes of their under-achievement. Boys were more likely to be identified as having low self-esteem, and in many cases this was linked to behavioural problems.

In school F there was a system of "Self-Esteem Groups" which were taken by community-education counsellors. These groups consisted of around twelve pupils who were identified as having low self-esteem at the time of transfer from primary to secondary school. The self-esteem groups were found to be very successful in helping the child to adjust to school, develop friendship patterns and think well of themselves.

In School E, pupils with serious difficulties were referred to a Support Centre where they could develop learning skills away from the distractions of the classroom. One teacher explained:

*"Basically I'm aiming to let the pupil see that they are perfectly capable of producing reasonable pieces of work and through increasing their self-confidence, increasing self-esteem, hoping that that has a beneficial effect on the behaviour in the classroom ....I would like to say that (the strategy is) working really well. Again, it depends very much on the individual. There are some pupils that we have that are not interested in learning at all. If we have a pupil from an early age then we've got more opportunity to affect how they feel about school, their attitude to school. If we have a referral about a 3rd or a 4th year boy then we have little chance of success. We might make a small difference in that case but they're so*

*entrenched by that stage and their attitudes to school and their attitude to authority and their attitude to learning that sometimes we don't have much of a success rate. But there are times when we work really well with pupils and it's great for us to see the standard grade results."*

**(PT behaviour Support)**

### **Target-setting**

Schools A and E had developed systems of target-setting with pupils in an effort to motivate the pupils to work systematically towards achievement targets. These strategies were aimed at raising attainment of all pupils, rather than addressing gender differences. However, some teachers believed target-setting to be more necessary for boys because boys tended to be less organised in their study habits than girls, and to leave homework to the last minute. In S5 the process of setting targets in both schools was based on the predicted relationship between Higher-grade attainment and Standard Grade grade-point average, which has been developed by the SQA. However, in S3 and S4 the process was based more on negotiation between pupils and teachers.

At School A the process of target-setting prior to Standard Grade is carried out by guidance teachers with groups of pupils. The pupils are referred to their reports and asked to consider any areas that their teachers have suggested need improvement and to set themselves achievable targets. Subsequently, the pupils will review progress towards these targets with their guidance teacher. Guidance teachers felt this process was helpful in keeping pupils on track, and preventing them from slackening off.

*"The very fact that someone's come in asked them to think about how things are going. What are people saying about them? What do they think about that? Do they agree with it, disagree with it? If they disagree with it, then that's another issue. But if they agree with it, then OK, what are we going to do about it? Are we going to sort things out?"*

**(Guidance and Mathematics teacher)**

However, the pupils were less positive about target-setting:

*Interviewer: "Do you have targets that you're setting for yourself?"*

*Boys: "Yeh, but they just mean nothing."*

*"Yeh, you just make them up."*

*"Aye, your Guidance teacher comes into your class for ten minutes and gets you to write down about do better in your Maths tests and then that's it, and it means nothing at all. They don't check up on it or anything so you don't need to worry about it.."*

*Interviewer: "But surely the whole idea is for you to set targets for yourself that you will feel are important to you to aim to achieve in order to do better."*

*Boys: "But you're not getting pushed to do it so if you're not getting pushed."*

*Interviewer: "So you feel that you need more pushing and more direction - are they trying to get you to be more self-motivated?"*

*Boys: "They're trying to but it's not really working. They're trying to get you to write something on a bit of paper but it hardly motivates you. I mean just writing "do better in your Maths tests - don't leave stuff to the last minute" I mean it's like easily said, but if you say "do better in your Maths tests" how are you going to do better?"*

*Interviewer: "So you know what you need to do but you just can't get yourself to do it - is that it?"*

Boys: *“Yeh - cos when you pick your subjects, you pick them so that you enjoy them and not so that you pick all the ones that make sure you do well. So that’s like you want to enjoy yourself the most so you don’t do all the stuff that’s not enjoyable.”*

**(High-ability S3 boys)**

At School E the process of target-setting prior to Standard Grade is carried out by the senior management team and guidance staff. Pupils are interviewed individually, and negotiate their targets for Standard Grade attainment. For example, each pupil is asked to pick two subjects in which s/he wishes to improve her/his attainment, and the teacher picks another two subjects. Pupil and teacher then discuss strategies for achieving these targets including homework and revision plans. Computer software has been developed by the school to record the targets and study plans, and subsequently evaluate effectiveness. Two print-outs are made of the targets, one for the pupil’s bedroom wall and the other, signed by parent, pupil and teacher, is kept at school. A similar target-setting exercise is carried out with S5 and S6 pupils, which takes account of Standard Grade attainment.

Target-setting at School E has not involved staff other than the SMT and guidance team. A major aim is to raise expectations:

*“I am optimistic about it, I think for a lot of kids it might just make them think. I’m keen on anything that’s going to raise the expectations of our pupils and I think that’s one way to do it.”*

**(PT Guidance)**

The pupils had very mixed views about target-setting. On the one hand, some found it helpful:

*“I think it gives people something to aim for throughout their standard grades, whereas if you’ve not got it you’ve not really got anything to aim for. So they just maybe study and then whatever they get they get. But if they’ve got their targets set to choose maybe A 1 then they’ll have a better chance to aim for that.”*

**(S3 higher ability girls)**

*“I think it’s good cos you see if you’ve got the bit of paper with the results you’re expecting and if you’ve got it on your room wall you can go up there and say that looks quite good, you’ll be working really hard to try and get the marks. It’s even got the grades that you’ve actually got on it. So if you look at it and you’re sitting there revising for that certain subject you might see the grade that you’ve got and you might try and beat it.”*

**(S3 higher ability boys)**

However, some of the pupils felt it put a lot of pressure on them:

*“The pressure it can put on you. Because if you set four targets but now you think they’re realistic but time the exams come you’ve got that much strain on you that you think ‘I can’t do this, I’ve set them too high’. It’s just pressure.”*

**(S3 High ability girls)**

*“I think it does sometimes ask a bit much cos it’s like asking you tae dae like nine hours a week revising - Aye - and maist people will maybe start daein’ it within the last three weeks before the exams but they were wantin’ you tae dae it like three months before - like every week - and it just .. The fact is that they’re not even expecting you to have free time because they’re expecting you to do two hours a day almost every day so they’re basically saying “have a social life but as long as it’s not in these hours and when you’re not doing your homework, when you’re not revising for your exams, when you’re not doing anything else. This is like you’ve got “I will revise for two hours for this subject” and then “I will revise an hour” and then you add it all together and then at the very end the teacher will say “oh yes and don’t forget your breaks!” and you’re sitting there and you’ll say “oh I havenae got time for a break”. It’s when they get your Mum and Dad to sign it and they see what the school*

*wants you to do and then they expect - if it doesnae turn up at the end they're gonna be quite miffed"*

**(S3 high ability boys)**

It is difficult to reach firm conclusions about the relative benefits of target-setting. In School A, where targets are softer, and set by the pupils themselves, the pupils seemed to feel little pressure to achieve them. On the other hand, in School E where targets had the full weight of senior management team involvement and parents' signatures, some pupils complained of the pressure. The views expressed by pupils are conflicting, and it seems there may be scope for further consultation between schools and pupils concerning the most effective approaches.

### ***Strategies targeted at under-achievement: Summary***

All of the case study schools were seeking to raise the attainment of all pupils. Some of their strategies to address underachievement had implications for gender differences because more boys than girls were perceived to be under-achieving. Strategies perceived to be successful included study support, mentoring, and building confidence and self-esteem. Some schools were developing systems of target-setting for individual pupils, but it is not yet evident how successful these systems will be.

## **Summary**

### **The extent and nature of activity across Scotland**

We surveyed all education authorities to assess the extent of gender-related activity in January 2000. About half the authorities reported that schools in their areas were trying out specific strategies aimed at addressing gender differences, while the remainder reported orientation and preparation activities only or no activity at all.

### **Getting started**

Some of the initial steps taken by schools getting started on strategies addressing gender differences in attainment included raising awareness of the issues, INSET, development of whole-school policies, formation of working groups, forging cross-sector links, consultation with students and involving parents. We concluded that all of these approaches are potentially valuable aspects of good practice.

### **Changing gender stereotypes and attitudes**

Schools were attempting to change gender stereotypes, attitudes and aspirations from a number of different angles. These included teaching about equal opportunities, providing positive role models, addressing issues of subject choice, careers choice and aspirations, and providing motivation to pupils through praise and awards. All of these approaches were linked and apparently reinforced each other. Changing attitudes and aspirations is difficult because of the pervasive influences of society. It is difficult, for example, for schools to influence the role models pupils see in their daily lives and on television. Nevertheless, there is evidence that equal opportunities teaching in schools has affected young people's attitudes and aspirations and encouraged them to believe in the principle of equal opportunities (see Chapter 5 for further details). This gives encouragement that efforts to change negative attitudes to study for males could also make a difference. The strategies described in this

section make important contributions to addressing fundamental causes of gender differences in aspirations and expectations.

### **Learning, teaching and classroom management**

The main approaches adopted by schools in the area of learning, teaching and classroom management were specific teaching and learning strategies, teachers sharing experience with each other, literacy strategies, single-sex classes and boy-girl seating. Altering teaching practice to accommodate as wide a range of learning styles as possible was viewed in general as good practice. Teachers involved were generally enthusiastic about it. It got away from viewing boys and girls as homogeneous groups and focused attention onto improving classroom practice for all pupils. Teachers welcomed opportunities to share ideas for practice with other teachers, finding it both useful and developmental. Initiatives aimed at encouraging boys to read seemed to be having beneficial effects and whole school correction codes for punctuation and grammar seemed potentially effective. Teachers and pupils generally saw single sex groups as beneficial, although it is likely that the smaller class sizes were contributing to their success. Schools adopting this approach need to be aware of the risk that boys and girls might be viewed as homogeneous groups and that stereotyped expectations, attitudes and behaviour be reinforced rather than challenged. Boy-girl seating seemed to reduce disruption in the classroom, but girls generally felt uncomfortable about it and there seemed little evidence that boys and girls were influencing each others' styles of working, or gaining a richer educational experience because of it.

### **Strategies targeted at under-achievement**

All of the case study schools were seeking to raise the attainment of all pupils. Some of their strategies to address underachievement had implications for gender differences because more boys than girls were perceived to be under-achieving. Strategies perceived to be successful included study support, mentoring, and building confidence and self-esteem. Some schools were developing systems of target-setting for individual pupils, but it is not yet evident how successful these systems will be.

## **CHAPTER 5**

# **WORK, FAMILY AND SCHOOL: THE VIEWS OF PUPILS AND PARENTS**

The past three decades have seen substantial shifts in the kinds of opportunities available to both males and females post-school. Prior to the 1970s it was widely assumed that in Scotland (as in the rest of the UK) boys and girls were being educated for very different occupational and domestic roles (Riddell, 2000). During the 1970s, Gaskell (1983) reports that women expected to work, but that they saw this as secondary to their domestic responsibilities. Nowadays work has become a much more central feature of women's lives, with women making up almost half the work force in the year 2000 (EOC, 2000). Post-school opportunities available to young men have also changed substantially. The collapse of employment opportunities for 16 year olds in the late 1980s affected boys more than girls. Whereas previously boys would typically have left school early and entered the labour market, increasing numbers are now staying on at school or entering youth training. In addition, the Sex Discrimination Act 1975 and the rhetoric, policies and practice of "Equal Opportunities", as well as more specific initiatives such as Women Into Science and Engineering, have been influential, to some extent, in changing people's attitudes towards the roles and expectations of men and women in society.

Given these apparent shifts in attitudes and expectations, we were interested to find out what young people themselves thought about the roles of men and women in society in the year 2000 and how this was shaping their own future expectations of work and family roles. We also took the opportunity to ask them for their views on their experiences of school and on what they believed would help them to perform better at school. In addition, they were asked for their feedback on particular gender-related initiatives and for their views on the reasons for boys' underachievement, both of which are included in other chapters. We also asked a number of their parents for their views on gender roles in society, and these are included in this chapter as well.

### **The views of pupils**

During the case study visits, we spoke to a total of 24 groups of pupils. Three-quarters of the groups were in S3, the remainder in S4. In addition, we spoke to one group of S6 pupils in School A, whose views are not included in this chapter. We spoke to four groups in each case study school: two groups of boys and two of girls. For each gender, we spoke to one average to higher ability group and one average to lower ability group. In one school, all four groups were in the middle ability range, because this was more relevant to the gender-related initiative the school had implemented.

Before each group discussion, the pupils were given a short questionnaire to fill in by themselves. The findings reported here are based on the views of a total of 190 young people: 94 males and 96 females, 144 of whom were in S3 and 46 of whom were in S4. The majority of the young people (82%) were hoping to stay on at school after completing S4. The young people were asked about their parents' occupations and levels of education in the questionnaire, which allowed us to assign them to social class groups using the Registrar-

General's classification. All responses to the questionnaire were analysed by these social background variables and these are reported in the text where they were statistically significant.

### ***Pupils' attitudes towards qualifications, work and family roles***

All of the young people believed in the importance of gaining good qualifications at school. In fact 97% of them stated in the questionnaire that this was very important and the remainder that it was quite important. The importance of gaining qualifications at school was emphasised very strongly by the young people in group discussions. School qualifications were seen as essential to getting a good job and ensuring a good future.

*Girl: "It's the most important thing cos after you leave school you don't want to be lying in the gutter, you want to have a good job and getting on with your life cos you won't be able to enjoy it if you don't have a good job. You don't have to worry."*

*Girl: "If you don't have any qualifications what are you going to do?"*

*Girl: "You won't be accepted in any colleges."*

*Girl: "You want to go and make something of yourself."*

*Girl: "The qualifications you get just now determine the rest of your life."*

**(Girls group, lower ability)**

*"If you're unemployed – no' me other people - it's just good for a wee bit cos you just laze about but I think it ends up getting boring ... Also if you have a family to support - if you don't have a job. And if you have no money, you can't do nothing cos then you have no social life and [end up] on the dole - wasting your dole money on the bookies and that - getting drunk, you know."*

**(Boys group, middle ability)**

One boys group, however, admitted that the need to get good qualifications was not always at the forefront of their minds.

*"... eventually boys just can't be bothered cos you just forget that it matters ... see if it's a sunny day or something, you don't want to be cooped up in the house – don't want to be sitting revising on a Saturday afternoon."*

**(Boys group, lower ability)**

Almost all the young people believed that it was equally important for boys and girls to get good qualifications at school. Only a small number (males 7%, females 1%) indicated in the questionnaire that it was more important for boys to get good qualifications than for girls.

*Girl: "I think boys should get the exact same as girls."*

*Girl: "Cos we are the exact same."*

*Girl: "You shouldn't have to be brought up like your mother."*

*Girl: "It's the 21st century, it's not how it was ... years ago. Things have changed and women are doing more things that men used to do."*

**(Girls group, middle ability)**

While boys and girls groups stated that it was equally important for girls and boys to get good qualifications at school, some of the boys groups added qualifiers. One group thought that women might need better qualifications in order to prove themselves in the workplace.

Boy: *"If they've [girls] got the qualifications then it's giving them an extra bonus as well - you see like a lot of guys get picked over women for jobs and they mightn't be as good at the job that they've been chosen for."*

Int *"Why is that? Why do men get picked before women?"*

Boy: *"Sexist. Maybe think men haven't got so many distractions. Women can get pregnant and ... leave and men aren't going to get pregnant."*

**(Boys group, higher ability)**

In another boys group, the members agreed with equal opportunities in principle, but believed that it might be more important for boys to get good qualifications because the man should take primary responsibility for being the breadwinner in the family. This was the pattern that they saw in their own homes. In the questionnaire, just over one-fifth of the boys (22%), and only 2% of the girls, agreed with the statement *"The man should be the main breadwinner in the family"*.

Boy: *"The same (general agreement). Maybe more for boys because I don't know many mums who have a better paid job than their husband. My Dad has a much better job than my Mum. It will always be like that ..."*

Int: *"How can you square the fact that the girls are doing so much better than the boys and yet it's more important for the boys to do well?"*

Boy: *"... a man - support a family and stuff."*

**(Boys group, higher ability)**

Some boys were not convinced that girls were in fact doing better on average at school, because it did not accord with what they saw in the workplace.

Int: *"Do you think it's more important for boys or girls to get good qualifications at school?"*

Boy: *"Both the same - but in saying that there's so many more men MPs than women sort of showing that I don't know if women are getting better results you see - it's not evident - there's more guys than girls like overall."*

**(Boys group, lower ability)**

In the questionnaire, the vast majority agreed (males 92%, females 95%) that it was important for both women and men to have successful and worthwhile careers. Furthermore, in discussion, they generally agreed that men and women could do any jobs they wanted to these days. However, some believed that women might have difficulty doing jobs that were physically strenuous. They also thought that men and women entering non-traditional occupations would have to deal with prejudice among employers and colleagues. They were all aware of jobs that were usually done by women or men, such as secretarial work, engineering or the care of young children and said it might be hard for someone of the opposite sex to do those jobs.

Girl: *"Something like a bouncer, that's just physically harder because women aren't physically bigger. There's nothing anybody can do about that. Any job like an astronaut, then of course you can ..."*

Girl: *"I think women can do any job that they want to but I think there's less allowance in the work place for them to do it. It's not a question of their ability, it's a question of other peoples' ability to let them into the jobs in the first place..."*

Girl: *"Guys wouldn't like it if women were in charge of them, like if we were in management and then you were below them ..."*

Girl: *"I think if it's the right person for the job, it doesn't matter if they're male or female..."*

Int *"Do you all think if you really wanted to do a job that was traditionally a man's job, say Engineering or someone who does Physics, a Scientist. Do you think you would just do it anyway or do you think you would worry about it being difficult? ..."*

Girl: *"You'd worry about getting the job."*

Girl: *"Sometimes it might put you off because you know that you might not get the job because there'd be all this hassle. It might put you off it."*

Int: *"Would you do it anyway do you think?"*

Girl: *"Yeah."*

**(Girls group, lower ability)**

Girl: *"... there's more pressure on a girl if she goes to try out for, to be an engineer say. And the boys all make a fool of her and say 'you can't do that as good as me'."*

Girl: *"It's still in the employers that they'd rather go for the male than the female within a working environment, for more practical jobs."*

**(Girls group, higher ability)**

Boy: *"You are able to - it's just sometimes you don't want to cos of prejudice and things like that."*

Boy: *"... some people in the workplace might feel intimidated because there's more of one sex than the other."*

Boy: *"... you don't see many female bricklayers or builders or..."*

Boy: *"... you've got to be quite physical when you're a bricklayer ... and it's maybe not suited to women ..."*

**(Boys group, higher ability)**

When asked who should take responsibility for childcare in the family young people were almost unanimous that it should be a joint responsibility (males 98%, females 100%). Only a handful (males 4%, females 1%) thought that the woman should give up her career to bring up children. The majority (males 72%, females 79%) also stated that they would respect a man who stayed at home and looked after the children while his wife worked. Higher ability pupils of either sex were more likely to agree with this statement, as were girls with mothers in non-manual occupations (89% vs 68% of other females). In the discussion groups, some girls said that they thought that it was more likely to be the woman who cared for the children, however, because she carries them and forms a stronger bond with them and that in reality few men do actually take primary responsibility. Some of the boys said that it would be more likely to be the woman because the man would most likely have a better job, that women are better at it, or that the partner earning the least money would be the one to stay at home. Reflecting the rise in divorce and the increase in dual-income families, some young people stated that it should still be a joint responsibility even where parents had split up and that responsibility should fall to whichever parent was around because both parents were so busy these days.

Girl: *"It's supposedly equal but I don't think..."*

Girl: *"I think maybe it's because females carry that child inside them for 9 months and have a stronger bond so they feel that they can't part with it, they can't go to work. But then others feel ..."*

Girl: *"The thing about women and careers these days is that people in the workplace think that young women are gonna have babies in 6, 7 years time so is there any point in giving them that job. That's just not fair."*

Girl: *"And when you do have the child it's like you can't do the job cos you're gonna have to go and look after your children.."*

Int: *"So in theory any woman could do any job she wants to but having children is a factor that you've got to fit in somewhere."*

Girl: *"Yeah"* (general agreement)

**(Girls group, lower ability)**

Boy: *"They've got a lot of extra things to deal with as well like babies ... which men don't have to deal with."*

Int: *"What's your views about that - if you grow up and you have your own family, do you think that child care should be a woman's or a man's role or both should be involved?"*

Boy: *"Both - it always seems to be the woman who does give up her career usually - you may think both but it doesn't happen most of the time - it's only very occasionally that it's the man who takes over."*

**(Boys group, higher ability)**

*"Yes, but ... your Dad like he's got the higher work - the better job you know - that's what usually happens but it should really be both that look after them; it should be both but I think the Mum's really better."*

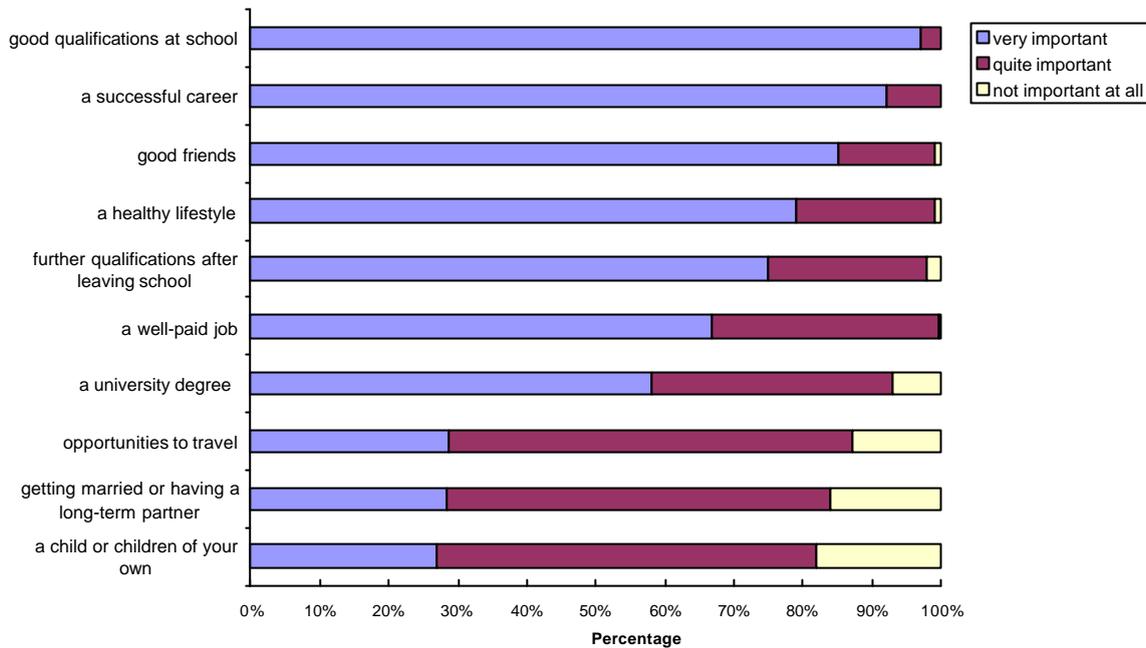
**(Boys group, lower ability)**

In general the young people that we spoke to held modern, rather than traditional views on the roles of men and women in work and the family. In Chapter 4, we saw that this was, at least in part, due to the promotion of equal opportunities in subject and career choice by schools. While young people agreed, in principle, with equal opportunities, views of equality were tempered by what they saw around them in their own families and in the workplace. For example, while they believed that bringing up children was a joint responsibility, they were aware that this was most often done by women. They also saw that men tended to have higher status, higher paid jobs and about one-fifth of the boys retained the idea that the man should be the main breadwinner. Both girls and boys believed that women may have more difficulty getting jobs because employers would be expecting them to get pregnant and leave at some point. Also, while they believed, in principle, that men and women could do any jobs they wanted to these days, they were aware that those entering non-traditional occupations might encounter prejudice among their colleagues and employers.

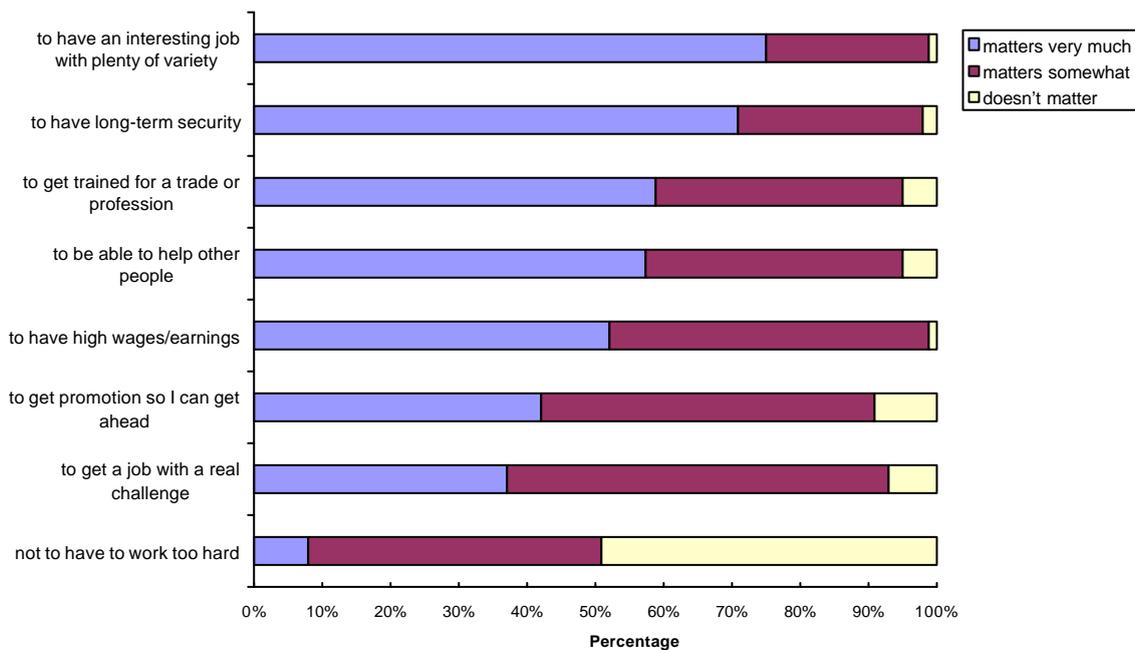
### ***Their own future aspirations***

The young people clearly believed in the principle of equal opportunities when considering the general roles of men and women in society. We were also interested, however, in their personal aspirations for the future and whether these varied by gender, ability level or social background. We asked them, in the questionnaire, to indicate how important each of the items listed in Figure 5.1 were to them in the future. The items covered work, qualifications, family and lifestyle. All of the items were rated as either very or quite important by the majority of young people. Getting good qualifications at school and having a successful career were rated as very important by most of the young people. These were closely followed in importance by having good friends, a healthy lifestyle and getting further

qualifications after leaving school. Not surprisingly, higher ability pupils tended to consider further qualifications and a university degree to be more important than lower ability pupils. They also valued having good friends more highly. Interestingly the aspirations of males and females were broadly the same. The only significant gender difference was for “opportunities to travel”. This was considered important by more females than males.



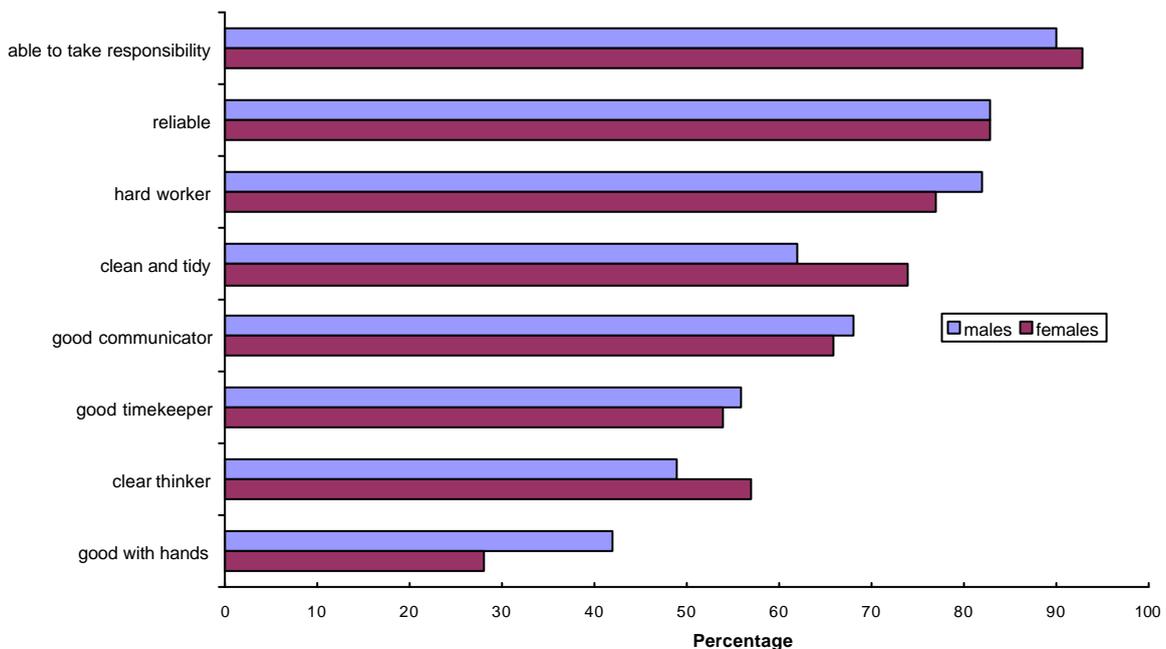
**Figure 5.1:** Responses to the question: How important are each of the following to you in the future?



**Figure 5.2:** Responses to the question: How much do each of the following matter to you in your future job?

We also asked the young people what they were looking for in their future jobs, to see whether males and females had different aspirations<sup>3</sup>. Figure 5.2 shows their ratings of the importance of different items that we put to them. Having an interesting job with plenty of variety and long-term security were considered important features of a future job by the majority of the young people. As before, the views of males and females were broadly similar. The only exception to this was that more females than males considered it important to be able to help others in their future work. This was particularly the case for lower ability females (percentage answering “matters very much”: lower ability females 81%, higher ability females 63%, males 43%). Higher ability males were more interested in long-term security than lower ability males (percentage answering “matters very much”: higher ability males 90%, lower ability males 54%, females 71%). About half the young people were not concerned about having to work hard in their future jobs.

It was clear from Chapter 3 that teachers considered girls to be less confident than boys and more anxious about their school work. We could conclude from this that girls and boys might have different views of their own strengths or that they might feel that their strengths lay in different areas. In fact, when we asked them about what they felt were their strong points for the future, there were slight variations by gender, but none were statistically significant (at the  $p < 0.05$  level). Figure 5.3 shows that more than three-quarters of the young people considered themselves to be reliable, hard-working and able to take responsibility. While there were no significant gender differences, there were significant differences by ability levels. Lower ability boys were more likely to say that they were good with their hands than other boys (52% vs. 31%). Higher ability girls were more likely to state that they were hard-working than other girls (89% vs. 67%) and more lower ability than higher ability girls considered themselves reliable (90% vs 75%).



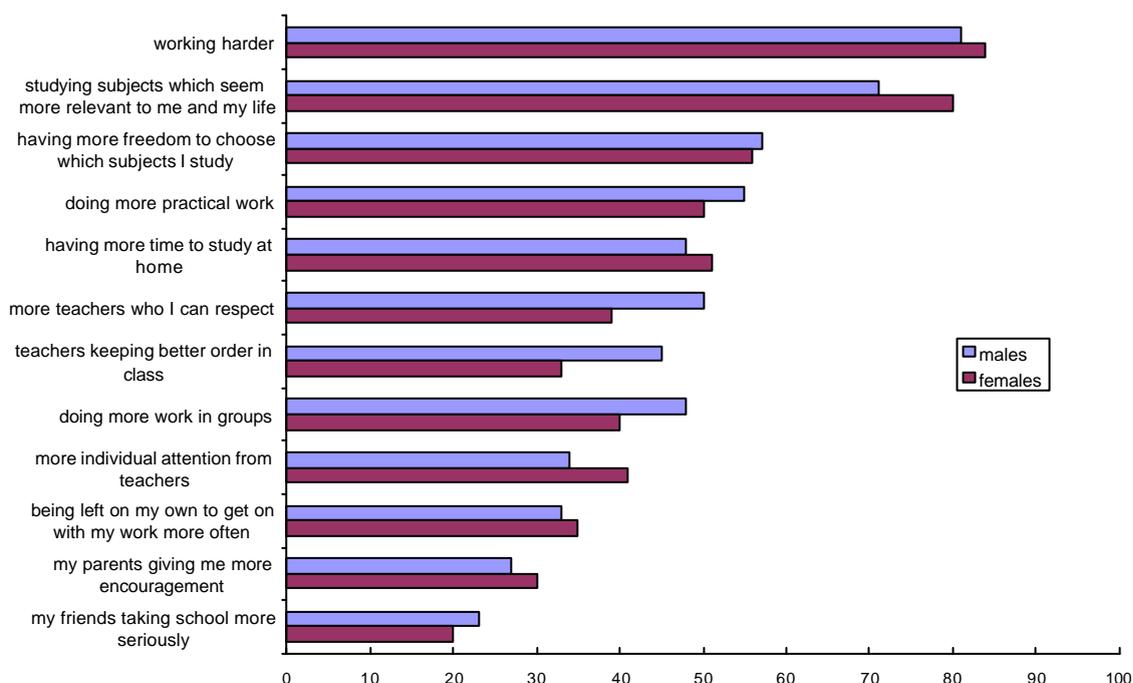
**Figure 5.3:** Responses to the questions: What do you think are your strong points for the future?

<sup>3</sup> Questions used in Figures 2 and 3 come from Furlong, A (1993).

On the whole, the future aspirations of young males and females were broadly similar. Almost all of them considered getting good qualifications and having a successful career important. They also had similar views on what they were looking for in their future jobs. The only significant gender differences were that girls were more interested in having opportunities to travel in the future and in being able to help others in their future work. Males and females also had similar views of their strong points for the future. There were more significant differences within genders by ability level than there were differences between the sexes. Lower ability females were particularly interested in helping others in their future work and more likely to consider themselves reliable than other females. Lower ability males were more likely to say that they were good with their hands than other males. Higher ability females were more likely to state that they were hard-working and higher ability males were more interested in long-term security. Higher ability pupils of either sex considered post-school qualifications and having good friends more important than lower ability pupils.

### *Pupils' views on what would help them to do better at school*

We asked all of the young people what they felt would help them to do better at school. In the questionnaire, the majority of pupils stated that they could do better at school if they worked harder and if they could study more relevant subjects (see Figure 5.4). There were no significant differences in responses given by males and females. There were, however, differences within genders by ability level. Lower ability boys were more likely than other boys to tick working harder, studying more relevant subjects, getting more parental encouragement, my friends taking school more seriously and doing more practical work. Higher ability girls were more likely than other girls to tick teachers keeping better order in class and more teachers who I can respect.



**Figure 5.4:** Responses to the question: Which of the following would help you to do better at school?

Pupils came up with a variety of ideas in group discussions. These are listed in Table 5.1.

**Table 5.1:** Some suggestions made by pupils on what would help them to do better at school

- Improving relationships between teachers and pupils
- Rewards/incentives to get your work done (eg Mars bars, time to talk at the end)
- More single sex classes
- Teachers giving clearer direction rather than self-responsibility
- More individual attention from the teacher or more opportunities to work in small groups with a teacher
- More peer assessment in classes
- Putting boys back a year
- Putting music on in class
- Focusing resources at raising attainment of general/foundation level pupils
- Removing disruptive pupils from the classroom

In their own words, here are some of the suggestions they made.

*“More individual ... teaching like spending more time with each person ... not a teacher but like a helper in a classroom as well - to go around - who was doing the same sort of things to go round and help other people - more time to spend with the person who was struggling a bit.”*

**(Boys group, middle ability)**

*“I know it sounds like really harsh but if they put us all a step back then boys would have like a year, a year ahead so you're maturing quicker.”*

**(Boys group, lower ability)**

*Int “What else could your school do to help girls do better?”*

*Girl: “Making it a bit leveller. Give them all the same chance. And maybe putting more work into the general and foundation classes to try and bring them up to credit level.”*

**(Girls group, higher ability)**

*Boy: “A set amount of work to do each period and if you don't do it, it's homework. You can talk but as long as you finish your work and if not it becomes homework and you get an exercise to go along with it ...”*

*Boy: “And if you all finish the last 3 minutes you can all just sit and talk.”*

**(Boys group, lower ability)**

*Boy: “They could put music on in class.”*

*Boy: “Good music for the boys to listen to.”*

*Int: “Does that help?”*

*Boy: “Certain music motivates you.”*

**(Boys group, lower ability)**

*Girl: “[Single sex classes ]...because you try to get on with your work and some of the boys start to nip your head.”*

*Girl: “And maths too ...”*

*Girl: “Yes. Maybe some languages because the teacher asks you a question and if you get it wrong you get laughed at.”*

**(Girls group, lower ability)**

Several of the pupil groups said that having a good relationship with the teacher helped them to do better at school. They liked teachers who treated them with respect, who they could

have a laugh with and who put effort into making the work enjoyable. If they liked a teacher then they would work hard so as not to let the teacher down.

*Girl: "If the pupils like their teacher and get on fine with their teacher they're more motivated to work with that teacher than the teachers that they don't get on with or don't like."*

*Int "What kind of things do you like about a teacher?"*

*Girl: "If you're stuck on something you can easily go and talk to them and then they'll be glad to help you."*

*Girl: "Not somebody who can't be bothered giving you the help that you've asked for."*

*Girl: "[Someone who is...] easy to understand but is a laugh, but you're still learning the same as people who just do it in like the old boring way."*

**(Girls group, higher ability)**

*Boy: "And if you like the teacher then you work harder. You feel bad about not doing as well."*

**(Boys group, lower ability)**

*Girl: "I think if the teachers were more, treat you more like one of them rather than somebody that they're actually looking down on 'I'm older than you, I have power over you'. If you do something wrong you have to go out or you get a punishment or something. So if they treated you like one of them instead of shouting at us they could just actually voice their opinion and let us voice ours back. So I think a two-way relationship has to go."*

*Girl: "That's a fair enough point but they have to keep authority as well. Because if there wasn't, I mean there has to be the age difference or people just don't take any notice of what they're saying."*

*Girl: "But it can sometimes be used to, too much against us."*

**(Girls group, higher ability)**

*Boy: "If you like him [the teacher] you don't want to make him look bad so you work to try and make him look good ..."*

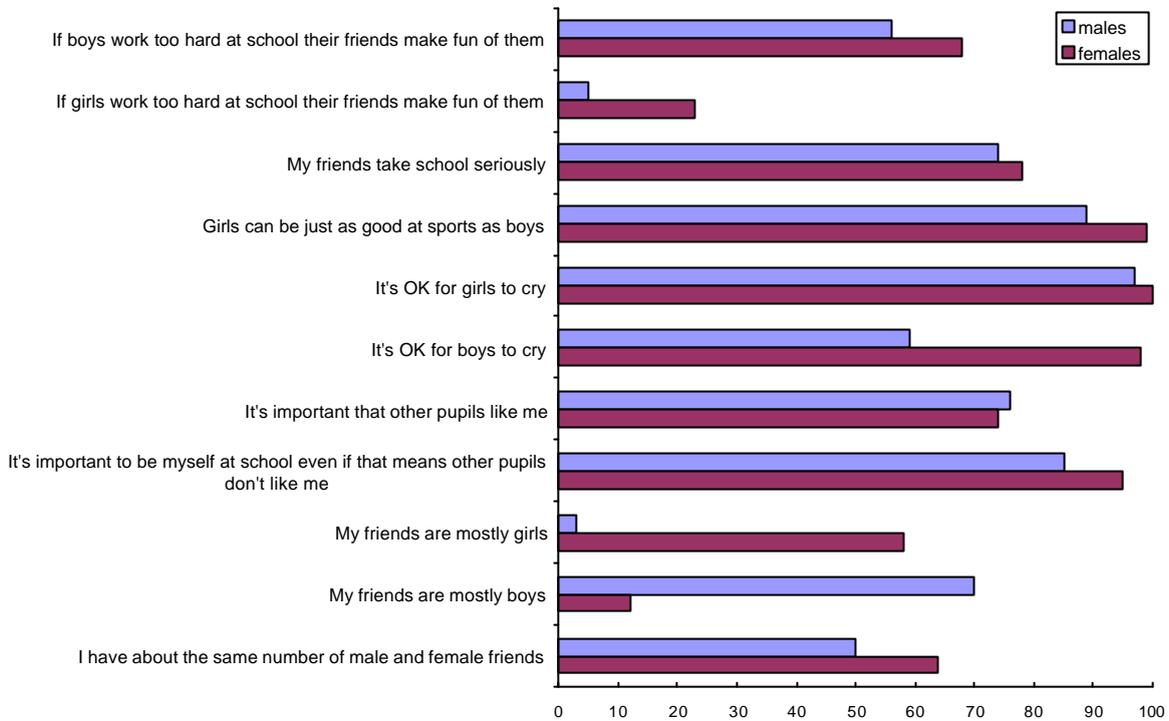
*Boy: "I think that if you've got a relationship with a teacher and you're friends with him you're going to work harder."*

**(Boys group, lower ability)**

### ***The influence of peers***

The influence of peers was seen as an important factor in explaining boys' underachievement by both teachers and pupils. Comments made on this by pupils are included in Chapter 3. Here we report responses made on the questionnaire about social pressures on young people at school (see Figure 5.5). Young people's responses confirmed the notion that boys' underachievement was, in part, to do with peer pressure on them not to be seen to be trying too hard or doing too well at school. Over half the boys and over two-thirds of the girls agreed that if boys worked too hard at school their friends would make fun of them. Surprisingly, almost one-quarter of the girls indicated that this was a problem for them too. The majority of the pupils did, however, indicate that their friends took school seriously. Pupils acknowledged that it was important that other pupils liked them, but ultimately the majority believed that it was important to be themselves at school even if other pupils did not like them. This was particularly true for the girls (95% vs 85% for the boys).

Moving on to more general views about boys and girls, most pupils believed that girls could be just as good at sports as boys. Almost all of the girls thought that it was OK for both boys and girls to cry. The boys, however, were less sure about this. Only 42% of boys with fathers in manual occupations and 65% of those with fathers in non-manual occupations believed that it was OK for boys to cry.



**Figure 5.5:** Responses to the question: Do you agree or disagree with the following statements?

In summary, over half the boys and almost one-quarter of the girls said that their friends would make fun of them if they worked too hard at school, confirming the importance of peer pressure in underachievement. Some boys still believed that it was not OK for boys to cry, although girls generally thought that it was OK for both sexes to cry.

## The views of parents

The views of parents were sought through a number of telephone interviews with parents of children who had taken part in the discussion groups. Each pupil was asked to take a letter home to their parents which described the project and asked them to complete and return a form to us if they were willing to be interviewed. A total of 190 letters were sent out in this way and 51 parents responded that they would be willing to take part. Of these, about three-quarters were from parents of high ability pupils and less than one-tenth came from the parents of low ability boys. We initially wanted to interview one parent from each of the four types of discussion groups in each school (ie one parent of a high ability male, a low ability male, a high ability female and a low ability female). We also wanted to speak to equal numbers of mothers and fathers. However, an imbalance in the responses received made this impossible. For example, we only received responses from parents of higher ability pupils in case study areas D, E and F. We also received responses from a more mothers than fathers. We therefore aimed for as much of a balance as we could achieve, given the response pattern.

This resulted in a total of twenty telephone interviews being carried out with 16 mothers and four fathers. Table 5.2 shows the breakdown of parents by the discussion group that their child was in.

**Table 5.2:** Number of parents by type of discussion group

	Sons	Daughters
Higher ability	6	7
Lower ability	2	5

### *Parents' aspirations for their children*

Similarly to the pupils, all of the parents that we spoke to considered it to be important that their children gained good qualifications at school. Qualifications were seen as important stepping stones to the future, whether that involved further education or jobs. Parents considered that good qualifications would create a wider range of opportunities for their children and provide a good basis for the future. They all considered gaining good qualifications to be important for both their sons and their daughters. Parents of lower ability children tended to state that they believed that their children could do better at school, while parents of higher ability pupils tended to say that they felt their children were doing as well as they could.

What parents hoped for for their children in the future largely matched the preferences of pupils displayed in Figure 5.1. The majority of parents considered it "very important" that their children had a successful career, a healthy lifestyle and good friends in the future. A university degree was also considered to be very important by parents of higher attaining pupils. A well-paid job and opportunities to travel were seen as important. But having a long-term partner/getting married and having children were seen as very much up to the child, and not so important to the parents. When asked if there was anything else that they hoped for for their children in the future, most parents answered "happiness". Apart from a university degree which was more relevant to higher attaining pupils, parents responses did not vary for sons or daughters, or for children who were doing more or less well at school.

### *Views on the gender gap*

When asked for their explanations of the gender gap in attainment, parents mentioned peer pressure, boys being less mature and girls being more conscientious. These views corresponded with the views of teachers and pupils, reported in Chapter 3. The only difference being that teachers also mentioned that prevalent teaching styles suited girls better than boys. Some parents said that they saw differences in motivation to do school work between their own sons and daughters.

Most, but not all, saw the gender gap as a cause for concern and believed that it was the responsibility of both parents and schools to try to address it. Awareness of strategies adopted by their children's schools to address gender differences was fairly patchy, although some parents were aware of fairly prominent initiatives such as single sex classes. Some mentioned information that they had received from school about gender differences in attainment.

## *Views of equal opportunities*

Similarly to pupils, most parents believed in the principle of equal opportunities. They tended to agree that it was equally important for both men and women to have successful and worthwhile careers and that childcare should be a joint responsibility. As with the pupils, a small number still saw it as the man's responsibility to be the main breadwinner, or said that things were unequal at the moment in work and family roles and that it would take time for things to change.

Parents generally believed that men and women could do any jobs they wanted to these days, although, as with the pupils, several mentioned that they may encounter difficulties entering non-traditional careers. Again, similarly to the pupils, they generally believed that men and women could do jobs that have been traditionally associated with the opposite sex just as well as the traditional sex. Firefighting and childminding were mentioned as possible exceptions.

## **Summary**

- All of the young people believed in the importance of gaining good qualifications at school. Qualifications were seen as essential to securing a good job in the future.
- Almost all of them believed that it was equally important for both boys and girls to gain good qualifications.
- One-fifth of the boys still believed that the man should be the main breadwinner in the family.
- The vast majority of the young people agreed that it was important for men and women to have successful and worthwhile careers and that women and men could do any jobs they wanted to these days. They were aware, however, that men and women entering non-traditional occupations could face prejudice from employers and colleagues and that employers might favour men because of the risk of women leaving through pregnancy.
- Young people were almost unanimous that childcare should be a joint responsibility, although they were aware that this was most often done by women. Some boys said that it would be more likely to be the woman because the man would have the better job.
- The young people generally held modern, rather than traditional views on the roles of men and women in work and the family. They agreed, in principle, with equal opportunities, however, their views were tempered by the inequalities they saw around them in their own families and the workplace.
- The future aspirations of young males and females were broadly similar. Males and females held similar views of their own strengths. In this area, there were more differences by ability level within the genders than between the genders.
- Pupils believed that having a good relationship with the teacher improved their performance at school. They liked teachers who treated them with respect, could have a laugh and who put effort into making the work enjoyable.
- Over half the boys and almost one-quarter of the girls said that their friends would make fun of them if they worked too hard at school.
- Some boys still believed that it was not OK for boys to cry. Girls generally thought it was OK for both sexes to cry.
- Parents views were very similar to those of pupils. They strongly believed in the importance of gaining good qualifications at school for securing future prospects, and the

majority hoped that their children would have good careers, a healthy lifestyle and good friends in the future. Parents aspirations did not vary for their sons and daughters.

- Parents views on equal opportunities were also very similar to those of pupils. They generally believed that it was equally important for men and women to have successful and worthwhile careers, that childcare should be a joint responsibility and that men and women could do any jobs they wanted to these days. They were aware that young people entering non-traditional jobs might encounter difficulties and a handful still saw it as the man's responsibility to be the main breadwinner.

## CHAPTER 6

### PRIMARY SCHOOL ISSUES

Until now the main focus of concern about gender differences in performance in Scotland has been at secondary level. This is because the gender gap in attainment has been most evident in both Standard and Higher Grade results. However, in Chapter 2, we demonstrated that gender differences in performance emerge in the pre-school stages and are evident throughout primary education. Our research suggests that, although some primary schools are trying to address gender differences, in general, they have not focused on this issue. In many cases, primary school staff were not aware of gender differences evident in statistical data, particularly in literacy skills. We suggest that this is partly due to the relative lack of information about attainment in the stages prior to Standard Grade examinations, and, where data are available, the lack of a statistical breakdown by gender.

We are aware that our research also took as its starting point secondary schools that were focusing on addressing gender differences. This was partly because of the lack of primary school activity in this area. However, we did interview a number of staff in associated primary schools in each case study area. The findings reported in Chapter 2 clearly highlight the need for primary schools to become more aware of gender differences in performance. We therefore summarise findings and issues of particular relevance to primary schools in this chapter.

In practice we found that there were many issues common to both primary and secondary schools, and just a few of particular concern to primary schools. Therefore, in this chapter, we summarise:

- issues common to primary and secondary schools, which have been mentioned in previous chapters
- issues of particular concern to primary schools
- strategies adopted by primary schools to address gender differences in performance.

#### **Issues common to primary and secondary schools**

Those issues which were found in both secondary and primary (and nursery) sectors have been discussed in detail in previous chapters. They include:

- Learning skills, literacy and numeracy
- Maturity, behaviour, peer pressure and learning styles
- The influence of family, the local area and society
- The gender profile of staff

#### ***Learning skills, literacy and numeracy***

In Chapter 2 we outlined research which indicated that girls develop learning skills at an earlier stage than boys. The three main findings are detailed below.

### **1. At the pre-school stage and the Primary 1 stage girls were rated by teachers as having significantly higher levels of personal, emotional and social development.**

This was based on data from the national pilot in Scotland of Baseline Assessment (Wilkinson *et al*, 2001). Teachers in 46 pre-school and 27 primary schools throughout the country were asked to rate each child on a four-point scale for each of eight aspects of learning. These were: personal, emotional and social development, physical co-ordination, expressive communication, listening and talking, reading, writing, mathematics and understanding the environment. The pre-school findings are displayed in full in Figure 2.1 (see Chapter 2). At the pre-school stage, girls were more likely than boys to have been highly rated on every aspect of development and attainment. At the Primary 1 stage girls had significantly higher ratings in personal, emotional and social development and writing.

### **2. Girls tended to have more highly developed literacy skills than boys.**

Higher levels of attainment by females compared with males at the primary stages are most pronounced in the area of early literacy. As part of the Early Intervention Programme in Scotland, a number of local authorities carried out baseline assessment of the early reading skills of pupils entering Primary 1 at age 4.5. The data show that at this very early stage girls have significantly higher reading attainment on average than boys (Croxford, 1999; Croxford and Sharp, 2000). There was no evidence that boys subsequently caught up with girls in reading skills. At a national level, the female advantage in reading is found at the end of Primary 3 at age 6-7 (Fraser *et al*, 1999). The Assessment of Achievement Programme shows that girls are performing consistently better than boys in reading and writing at P4, P7 and S2 (Scottish Executive, 1999). Similar gender differences in reading at various age-stages have been found in inner-London junior schools (Strand, 1998; Sammons, 1995). At the end of compulsory schooling females are more likely than males to attain Credit-level awards in English at Standard Grade.

### **3. Evidence about gender differences in mathematical skills was mixed.**

The pattern of gender differences is less clear for numeracy and mathematics. In Aberdeen primary schools there was no evidence of gender differences in mathematics on entry to Primary 1, but after taking account of baseline attainment boys made more progress in mathematics than girls in the course of Primary 1 (Croxford, 1999). The Assessment of Achievement programme found no significant differences between the performances of girls and boys in the 1997 mathematics survey, which covered P4, P7 and S2 (SOEID, 1998). However, in inner London junior schools it was found that girls made more progress in mathematics than boys, and they achieved higher attainment in mathematics by the end of junior school at age 10 (Sammons, 1995). At the end of compulsory schooling females achieve slightly higher Standard Grade awards in mathematics than males.

### ***Maturity, behaviour, peer pressure and learning styles***

In Chapter 3 we reported that teachers and pupils explained boys' underachievement in terms of peer group pressure and boys being less mature and less motivated than girls. Teachers, but not pupils, also said that prevalent teaching styles suited girls better than boys. In addition, boys were seen as more likely to misbehave in the classroom. All of these issues

were evident in discussions with primary school staff as well. Although they reported changes in boys' behaviour with progress through the primary stages.

One Primary Headteacher noted a change in attitude and behaviour between P1 and P4; in P1 boys were as keen to please as girls, but at later primary stages they lost interest and their behaviour became more difficult. Another noted that, by P6, girls are "more sensible than boys".

*"I think, yes, (boys) don't seem to value education per se. The girls seem to understand that it's important for them at an early age. They seem more motivated, more organised. I think, as well, an awful lot depends on the maturity level of the boy when he comes into school because boys, if they're not ready emotionally when they come into school, are immediately disengaged."*

**(Primary Headteacher)**

Some teachers argued that they tried to treat boys and girls equally but found themselves reprimanding more boys than girls for bad behaviour. Others qualified this by saying that they reprimanded girls for talking too much. Teachers were concerned by those children who did not work to their ability. They saw these young children as not having established a work ethic and believed that this might have repercussions for later learning and achievement.

A number of the primary staff that we interviewed suggested that the statutory age of starting school is more suited to girls than boys. They believed that some pupils, especially boys, are not ready for school at the age of five, and it would be better for them if they could start school at the age of six. In addition to levels of maturity, they reported differences in fine motor movement. They considered boys' writing to be much poorer than girls' at the age of five, and considered that this could be explained by boys having less well developed fine motor movements.

Negative effects of peer pressure were evident at primary school as well as secondary school.

*"I would say the influence of their peers is of crucial importance and becomes more important as the boys get older. I would say, in my experience probably peer pressure from boys is, as far as academics is concerned, it's more oppressive than it is with girls. I think the boys are encouraged to be macho, to be aggressive, to be the class clown. They're not encouraged by their peers to do well academically, in fact, quite the opposite and if they do they're the target of abuse - Verbal abuse, physical abuse and alienated often. It certainly isn't cool, in my experience, for the majority of boys, to be seen to be academically bright."*

**(Primary Headteacher)**

Nursery and primary staff stated that overall pupil performance was affected by the ratio of boys to girls with learning being slower when there were more boys than girls. One Primary Headteacher pointed to the issue of learning styles:

*"I still think that it's the nature/nurture thing and I still think that there is something about boys' learning styles and girls' learning styles being quite different and I think for a long time in the '80s and probably in the early '90s where we were expecting girls and boys to do the same things in the same way because we wanted equality and I think that that was the wrong route. I think that what we should have been saying is "what is it about girls' learning or boys' learning that they're finding particularly difficult?" ... Then we put things in place by either not forcing them to do those things in that way or by finding other methods for them that would meet the same end. And I think that that's probably why there hasn't been a big enough change because people weren't hugely convinced with the argument that it was only about the nurturing side of it and, well a lot of the research IS showing that there are differences in boys' learning styles now."*

**(Primary Headteacher)**

### ***The influence of parents, the local area and society***

Teachers in both primary schools and secondary schools were concerned about the effects of family background on attitudes to school and study. They were also aware of the impact of attitudes and opportunities in the local area and images portrayed in the media on children's ideas about gender roles. For example, in one area with high levels of unemployment, it was felt by staff that boys were encouraged by parents to become aggressive, while girls were taught to be good and to do as they were told, which broadly reflected adult gender roles in the area.

In particular, the early development of reading was an area in which parents could make an important difference if they were willing to read stories with their children. Primary staff reported that some pupils received little or no help or encouragement from their parents in this area and they saw a connection between the parent's attitude and the child's behaviour in school.

*"I send a homework letter out every year asking the parents to sign the homework ... a lot of the homework comes back that's obviously no been looked at. And these are the children, in class ... who are not on task, not performing."*

**(P6/7 teacher)**

Many of the early intervention schemes have acknowledged the need to work with parents and have included projects to encourage the involvement of parents in their child's learning.

Primary staff commented on the powerful influence of television programmes and other media on children's behaviour and ideas. Children would often play out images that they had seen on TV and reflect programmes that they had watched in their writing. By Primary 7 some girls were starting to express concern about their weight: an idea clearly picked up from magazines and television.

Staff had also encountered stereotyped attitudes among parents. For example, some people had expressed surprise that one school's best football player and team captain was a girl. In another example, a father had been very worried because his son had gone home and said that he had been playing with a pram at school.

Primary schools themselves were not immune to stereotyping and teachers are also subject to the influence of cultural attitudes and expectations. An example was given in Chapter 3 of a secondary pupil applying for a work experience placement in a primary school. The instructions sent back included the guideline that no trousers were to be worn. The school was clearly not expecting a placement request from a male student.

### ***The gender profile of staff***

The gender profile of staff in primary schools is even more unbalanced than that in secondary schools; 93% of staff in primary schools are female. However, 23% of Headteachers in primary schools are male (full details in Chapter 2).

Respondents expressed concern about the lack of male role models in primary schools. The gender imbalance was seen as exacerbating problems for those boys who did not have appropriate male role models within their own families. It was also seen as having implications for behavioural problems, and in some cases, unwillingness by boys to accept the authority of female teachers.

## Issues of particular concern to primary schools

Issues of particular concern to primary schools, which emerged from interviews, were:

- the availability of statistical data on gender differences in performance;
- the importance of play.

### *The availability of statistical data*

Some Local Authority staff were convinced that more had to be done to raise teachers' awareness about gender and underachievement in the nursery and primary sectors. The lack of statistical data about performance in nursery and primary schools is clearly one reason why staff are less aware of gender differences than staff in secondary schools.

A few schools had used the results from National Tests in literacy and numeracy to examine and compare the performance of boys and girls. One school with results better than expected overall found that, whilst the girls were achieving more than was expected, the boys were underachieving. The good overall results had initially masked the boys' underachievement. Another school's results showed that the girls were outperforming boys in both literacy and numeracy National Tests. The gap in achievement was wider in mathematics than reading and, furthermore, it widened as the children got older.

### *The importance of play*

Views on whether children play together and enjoy the same activities up to the end of Primary school were mixed. Some teachers expressed the view that younger children were more likely than older children to play together regardless of their gender or type of activity. Teachers suggested that by the time children reach P6 and P7 their interests are gendered. Boys are interested in physically active pursuits such as sport and in particular football. Girls are seen as more passive. However, some teachers remarked that boys and girls in P6 and P7 did play together in the playground, for example playing hide and seek and chasing. Some believed that the kind of playground environment available could encourage children to play and mix during playtimes.

*"We don't find it here because we find that they all play together. Maybe it's just the type of environment it is that there's so much for them because they've got the beach, trees, they've got the park. There's lots of spaces for them ... so they all tend to play together. The girls play football and you've got boys that don't like playing football and they play in the playground. And I think because we've got quite a lot of activities for them to do in the playground they all tend to mix together. So even if they're doing skipping you'll have boys and girls skipping. Maybe we're not aware of it."*

**(Primary Headteacher)**

The Nursery Headteacher stated that even very young children exhibited gender differences in their choice of play activity. She noted that although the girls dominated the role play corner when it was a home corner, the boys dominated the same play area when it was transformed into a veterinary surgery.

Teachers were aware of how important an influence play could have on children's ideas about being male and female.

*"I think the younger they are, certainly in the nursery, they play together, a lot of similar type games and they don't think twice about that. They certainly do take on the roles. You'll get the wee boy pushing the pram pretending he's a mummy. Even at that early age you'll get*

*somebody say 'you can't be a mummy, you can't push that baby'. You get it very early on, it's there all the time.'*

**(Member of SMT and P3/4 teacher)**

The Nursery Headteacher suggested that young children's learning styles may affect the type of play they engage in. Having done some structured observations of the children, the nursery staff had sought to find ways of encouraging all children to be more active in their learning – this included staff investigating better ways of intervening in children's play. By being "active" the teachers meant active in thinking rather than, solely, physical activity.

*"What we've found from general observations and discussion [is] that the boys you would consider to be running about during play were in fact fairly busy - taking up lots of learning opportunity, whereas what was worrying was that some of the girls seemed to be very busy, not causing any mess, but were in fact doing very little. They were chatting, they were conforming and were quite comfortable with that. From our observations, we focussed on a few strategies. All our children would benefit from a more active way of learning, to be active in their learning. This would suit the boys but also benefit the girls, giving them a gentle push."*

**(Nursery Headteacher)**

## **Strategies**

Several of the primary schools had adopted strategies to try to address gender differences in performance. These are summarised here. They are reported in detail in Chapter 4. The strategies fell into three main categories:

- improving boys' literacy skills;
- focusing on learning and teaching styles;
- improving boys' organisation and presentation skills.

Resources were mentioned as an important issue, when considering strategies that might be adopted. For example, where schools were trying to buy books that might appeal to boys to encourage them to read, this clearly had a resource implication. In addition, class size was seen as a significant over-arching issue which affected everything that teachers did. The optimum class size was considered to be about 18. Average class size in publicly funded primary schools was 24.6 pupils in 1999 (Scottish Executive, 2000c), which means that many children were being taught in larger groups.

### ***Literacy strategies***

Primary schools in three areas reported strategies aimed at encouraging boys to read. Teachers were encouraging boys to read anything, whether it be a cereal packet or a comic. Some schools had started using non-fiction books with younger age groups, because they recognised that boys seemed to prefer this to fiction. "Horrible Histories", in particular, had proved useful in encouraging boys to read. The aim was to get boys interested in reading initially by whatever means, with a view to broadening out the kinds of books they would read later on. One Headteacher reported that boys seemed to be using the library more since the introduction of these strategies.

### ***Learning and teaching styles***

The primary and nursery schools in Area D were involved in an initiative which had been initiated at the local authority level. Gender co-ordinators had been appointed in three

clustered schools – one secondary, one primary and a nursery. The two main foci of the initiative were literacy and teaching styles. The gender co-ordinators had met and been surprised at how many practical ideas they could share with each other for teaching practices. The aim was to broaden the range of teaching styles used by each teacher in the classroom, with a view to engaging as broad a range of learning styles as possible. The strategy was based on the premise that children's learning styles vary and that traditional teaching methods favour one learning style over another. If a teacher becomes aware of this s/he can increase the range of styles used, thereby engaging with all children in the classroom. While boys and girls tend to have different learning styles, boys can be girl-type learners and vice versa. Thus the strategy gets away from viewing boys and girls as homogeneous groups (see Chapter 4 for full details of the strategy and its pros and cons). The teachers involved were enthusiastic about the strategy and saw what they were doing as good teaching practice for all pupils. They were also enthusiastic about the opportunity they had had to share ideas and experience across sectors.

### ***Organisation and presentation skills***

One primary school reported that they were trying to improve boys' organisation and presentation skills. They were doing this by establishing standards across the school and making it clear to all pupils what was expected of them. It was too early to measure the effectiveness of this strategy as it had only recently been implemented.

## **Summary**

- Gender differences in performance emerge in the pre-school stages and are evident throughout primary education.
- There is a need for greater awareness in primary schools of gender differences in performance. This could be helped by the increased availability of statistical data broken down by gender. Some staff had used National Test results in literacy and numeracy to examine and compare the performance of boys and girls.
- At the pre-school stages and during Primary 1 girls were rated by teachers as having significantly higher levels of personal, social and emotional development.
- Girls tended to have more highly developed literacy skills than boys throughout primary education.
- Evidence about gender differences in mathematical ability was mixed.
- As in secondary schools, primary staff reported that boys were less mature than girls, more likely to misbehave, were subject to peer pressure not to achieve and that boys and girls tended to prefer different learning styles. These gender differences were seen to increase during the course of primary education.
- Parents, the local area and society were seen as important influences on young children's development of ideas about being male and female. Parents were seen as having a significant impact on children's attitudes towards and performance in school.
- The gender imbalance in the staff profile in primary schools was viewed with concern, because of the lack of male role models available to pupils.
- Views on whether girls and boys play together were mixed and varied by age group. Play was seen as an important arena where young children communicated to each other ideas about being male and female.

- Strategies aimed at addressing gender differences in primary schools had focused on improving boys' literacy, employing a broader range of teaching styles and on improving boys' organisation and presentation skills.

## CHAPTER 7

### CONCLUSIONS AND RECOMMENDATIONS

In the preceding chapters we reported the findings of our investigation into gender differences in performance in education in Scotland in the year 2000. In this chapter we draw together our main conclusions and make recommendations for policy-makers and practitioners to consider.

#### Underachievement: who is underachieving?

In recent years the strong emphasis on raising levels of achievement in Scottish schools has caused HMI, local authorities and schools to focus on pupils perceived to be under-achieving. The realisation that on average boys do not attain as highly as girls in school at Standard Grade and Higher Grade examinations has led to a perception that the under-achievement of boys is a problem which needs to be addressed. Schools were made aware of the differences in performance by boys and girls by the school-level statistical breakdown of information provided as part of the *Raising Standards – Setting Targets* initiative (Scottish Office, 1998a). Schools were made aware that if they could raise the levels of attainment of boys to approximate those of girls they would be more likely to attain the targets for improvement.

However, average figures for attainment conceal many differences between groups of pupils. Some males achieve very high levels of attainment, and some females fail to achieve examination awards. We have shown that high attaining boys can feel discouraged by the suggestion that all boys are underachieving. Similarly, the perception that all girls attain high levels could cause lack of attention to those girls who are not doing as well as they could. Our research showed far greater differences in school experiences between high attainers and low attainers of both sexes than between boys and girls. We agree with the conclusions of other researchers (Collins *et al*, 2000) that it is more helpful to consider the “gender jigsaw” than the “gender gap” because males and females are not homogeneous groups. These authors also advocate consideration of which males are disadvantaged and which females are disadvantaged, what they have termed a “which boys? which girls?” approach.

We may also need to ask: “What do we mean by underachieving?” Most common perceptions of achievement/underachievement are based on levels of attainment at Standard Grade and Higher Grade, which are academic examinations. A number of our respondents reflected on the view that the curriculum and examination structures within Scottish schools favoured pupils whose abilities were academic, and disadvantaged pupils whose abilities were of a practical or artistic nature. Some questioned whether existing curriculum and assessment favoured “girl-type” learners to a greater extent than “boy-type” learners. Others suggested that the content of the curriculum gives messages to young people about the sort of achievement which is valued.

The new Standards in Scotland's Schools Act (2000) gives a much wider definition of achievement than *Raising Standards – Setting Targets*.

*It shall be the duty of the (education) authority to secure that the education is directed to the development of the personality, talents and mental and physical abilities of the child or young person to their fullest potential.*

(op. cit., para 2.1)

Staff in all of the schools that we visited were clear that gaining qualifications was only one aspect of school education. At the same time, however, gaining qualifications was perceived as very important. Aside from the emphasis placed on qualifications by initiatives aimed at raising attainment, qualifications are now seen as crucial to ensuring post-school prospects for young people. We believe that the wider definition of achievement spelled out in the new Standards in Scotland's Schools Act (2000) now needs to be re-emphasised in order that all of young people's achievements are valued and recognised.

### ***Recommendations***

- 1. We advocate the adoption of a "which boys, which girls" approach to addressing underachievement.**
- 2. A broader definition of achievement in schools needs to be re-emphasised.**

### **Focusing on the under-achievement of boys is too simplistic**

In recent years, the focus of concern, among policy-makers, practitioners, researchers and the media, has shifted from the underachievement of girls to the underachievement of boys, in particular, their attainment at the end of post-compulsory schooling. How a problem is defined has a significant impact on decisions made about what to do about it. We would argue that this definition of the "problem" is too simplistic and thereby severely limited. A much more complex definition of the problem needs to be adopted which takes account of all of the following factors:

- there are continuing inequalities for females in education and beyond;
- there are persistent and marked differences in attainment for both sexes by social class background;
- there are gender, and social class, differences in performance from pre-school onwards;
- there are gender differences in uptake and attainment in different subjects across the curriculum;
- the notion of boys' underachievement is based on an average: not all boys are underachieving and not all girls are doing well;
- there are gender differences in assignment to learning and behaviour support.

Historically, females have been disadvantaged and have had fewer opportunities for educational advancement than males. Since 1975 the focus of equal opportunities teaching in schools has been to challenge the low status of women in education, employment and society. The success of equal opportunities policies is evidenced by the attitudes expressed by young people in our study, who are almost unanimous in their expectations of the equality of sexes in work and family life (Chapter 5). Similarly, the current high levels of attainment by females may be seen as a consequence of breaking down historic barriers to the education of females (Chapter 1). Nevertheless, females are still disadvantaged in higher education and employment. Previous research by the one of the authors demonstrated that females were not entering higher education to the same extent as males with equivalent levels of attainment (Tinklin and Raffe, 1999). The low numbers of women in the senior management teams of secondary schools in Scotland (Chapter 2) is evidence of the continuing disadvantage of women in the educational hierarchy. At the other end of the attainment spectrum, we find that

females who leave school with low levels of attainment are more disadvantaged than low-attaining males in the labour market (Biggart 2000).

Gender is in fact a much smaller source of inequality and underachievement in education than social class. If we are concerned about social justice we should also consider the differences in opportunities between males and females from different social backgrounds. Unfortunately, there is no adequate data for monitoring the effects of social class on performance and so the problem is not recognised, and not addressed. Ideally analysis of results should be broken down by social class, gender and ethnicity, in order to understand the complex nature of inequalities in education. We note that the Standards in Scotland's Schools Act (2000) places a statutory responsibility on local authorities to evaluate equal opportunities and school performance. We believe it is important that ways should be found of evaluating the effectiveness of policies and practice for different groups of pupils.

Recent concern about gender differences in performance focused on a single dimension - overall levels of attainment in Scottish secondary schools. However, our review of existing research (Chapter 2) showed that gender differences in learning development are evident at the pre-school and primary stages. In particular, girls tended to have more highly developed literacy skills than boys throughout primary education. Many of our respondents in primary schools were quite surprised at the extent to which gender differences in learning, attitudes and behaviour among their pupils were revealed by our questions. Primary teachers who had not previously thought about gender differences at the primary stages, described problems and issues which were very similar to those described by teachers in secondary stages. These included boys being less mature, more likely to misbehave, more subject to peer pressure, and boys and girls tending to prefer different learning styles. The first three of these factors became more evident through the course of primary education. We believe there is a need for greater awareness of gender differences in performance at the early stages of schooling.

We would argue that there is a need for more effective monitoring of progress in primary schools. More data are needed on both attainment and pupil characteristics, such as ethnicity and social class as this would allow more complex monitoring of inequalities. Looking at overall measures of attainment in each school is not enough; a value-added approach to the analysis of statistical information on attainment would enable schools to evaluate the relative progress made by pupils at each stage.

A further dimension to gender differences in performance is the differences in attainment in subject areas. There are still some subjects considered to be boys' subjects or girls' subjects, and gender stereotyped subject choice is associated with different opportunities for higher education and careers. Young people we interviewed were very clear in the view that males and females should be able to study any subject they wanted, however, when we looked at patterns of subject uptake, it was clear that young people are still opting for gender-typical subjects where there is room for choice.

## ***Recommendations***

3. **There is a need to raise awareness in local authorities and schools of the complex, interlocking range of inequalities in education, including differences by social class, ethnicity and gender.**
4. **There should be a greater focus on inequalities by gender, social class and ethnicity at the pre-school and primary stages.**
5. **Data should be collected on social class and ethnicity, and analysis of attainment at all stages should be broken down by both of these as well as gender.**
6. **More data are needed at the primary stages on attainment and pupil characteristics.**

## **Factors influencing gender differences are complex**

It is clear from the research literature and our case studies that there is no single, simple explanation for gender differences in performance at pre-school/primary through to higher education, allowing for differences between subject areas, changes over time, differences by social background and similarities in other countries of the developed world. We conclude that there is a complex bundle of interacting factors which influence young peoples' attitudes, aspirations, expectations and confidence levels, thereby influencing their behaviour and performance at school. These include:

- teacher-pupil relationships and classroom interactions;
- the interaction of teaching and learning styles;
- curriculum content and assessment methods;
- the promotion of equal opportunities in schools;
- wider school ethos;
- the attitudes and behaviour of peers;
- parents' attitudes towards education, their views on gender roles and their own roles in the family and the workplace;
- opportunities available to young people post-school and in the future;
- cultural views of male and female roles represented in the media;
- existing inequalities by gender in the family and workplace, including within schools;
- individual biological make-up.

It is clear that there is no simple explanation for gender differences in performance. Furthermore, any explanation of gender differences needs to take account of changes over time and similarities and differences across cultures. This renders simple biological explanations wholly inadequate. We do not want to deny that each person's individual biological make-up is influential, but rather to argue that this interacts with a whole host of social, environmental and cultural factors. Indeed the evidence suggests that the social, cultural and environmental factors are of great significance in the development of each young person's ideas, interests, aspirations and beliefs. One only needs to look at changes over time in the aspirations and expectations of young women. Our data show that both girls and boys hoped for a worthwhile and successful career in the future and saw childcare as a joint responsibility. This clearly marks a change in attitudes over the course of the past three

decades, and, we would argue, is clearly linked to rising levels of female attainment at school.

While all of the above factors influence young peoples' attitudes, aspirations and behaviour, the ways in which they have combined have changed over time and this has been accompanied by changes in social and economic conditions. Further emphasising the need to take a "which boys? which girls?" approach, changes over time have had differential impact on high-attaining and low-attaining young people. While opportunities for high attainers to progress through the traditional route of higher education have expanded, opportunities for low-attaining young people to enter the labour market and training have decreased. Many young people, especially males, who in the past would have left school at the earliest opportunity, now perceive the need to stay-on at school for longer periods. It therefore becomes more important for these young people to achieve worthwhile outcomes within the school environment, but there may be greater tension if the academic curriculum and teaching styles of school are not perceived as relevant by this group of young people.

It is important to be aware of the dimension of change over time in trying to explain gender differences in performance. Although concern about the perceived under-achievement of males has been relatively recent, in fact statistical sources indicate that females were attaining higher levels of examination success in Scotland since 1975 (Chapter 1). Levels of attainment of both males and females rose dramatically following comprehensive reorganisation, but the rate of improvement for females was greater than that for males. Subsequently the gender gap in overall attainment widened, because the increase for males has not matched the increase for females.

It is also important to consider the international dimension in constructing any explanation of gender differences. Remarkably, similar trends in attainment have been reported in other countries including France, Germany, Japan, Australia, Jamaica, and the rest of the United Kingdom (Sutherland, 1999). Thus explanations of gender differences in performance need to take account of factors occurring throughout the developed world.

The evidence suggests that any explanation of gender differences must take account of all of the factors listed above. It also needs to take account of changes over time in attainment patterns, in social and economic circumstances and cross-cultural trends. The explanation chosen is important because it determines the course of action decided upon to address the problem. We would thus argue for the adoption of a complex explanation, which takes account of all of the factors listed at the start of this section.

### ***Recommendations***

- 7. Schools seeking to address gender differences need to take account of the complex range of factors influencing young people.**

## **Gender, classroom interactions and assessment**

The research review and interviews with case study respondents showed evidence of gender differences in a range of classroom situations. Input from boys predominated in whole class settings, with boys contributing more to discussions and attracting more attention through misbehaviour. Boys tended to dominate in physical settings by volunteering for practical demonstrations and controlling the mouse on computers. Girls were more likely to ask for

help than boys and did not seem to suffer academically because of differences in interaction. Arnot *et al* (1998) argue that, while classroom interaction does not seem to affect performance, it is of indirect relevance because it impacts on young people's attitudes and learning strategies. We would argue that, whether or not it affects performance, awareness needs to be raised among teachers of these gendered patterns of interaction.

There is some evidence from both the research literature and interviews in case study schools of gender differences in approach to and attainment in different kinds of tasks and assessments. It has also been shown that both boys and girls do better on tasks involving content which is familiar to them from home or school. Some writers and interviewees argued that the increased emphasis on coursework, brought in with the introduction of Standard Grade, has favoured girls' approaches to assessment and that this explains the gender gap in performance. Indeed there is evidence that girls do slightly better than boys on coursework elements and that boys do better on multiple-choice tests. However, this does not explain the gender gap, because in fact girls do better overall on coursework and examinations (Sukhnandan, 1999) and girls' advantage in coursework only has a marginal effect on the overall results (Arnot *et al*, 1998). The main conclusion from this work was that a variety of assessment modes should be used in order to provide all pupils with the opportunity to produce their best performance.

### ***Recommendations***

- 8. Where they are not already aware of this, teachers need to be made aware of gendered patterns of interaction in the classroom.**
- 9. A variety of assessment modes should be used in order to provide pupils with the opportunity to produce their best performance.**

## **Gender differences: what can be done?**

Given the complexity of gender (and other) inequalities in education and the range of factors that have been shown to influence these differences, we conclude that no single strategy will be sufficient to address these issues. Instead a range of strategies needs to be adopted to address different aspects of the problem and strategies need to be considered at all stage of school education.

The strategies adopted by the case study schools were mostly at very early stages of development. It was too early to conclude on the basis of any hard evidence which strategies were most successful. However, our research has provided an overview of the range of strategies being tried and presented the pros and cons as reported to us by the staff and pupils involved, which allows us to draw out some preliminary conclusions.

Many of the strategies adopted to address gender differences in performance were seen as general good practice by the staff in the case study schools. These included raising awareness of gender differences among staff, development of whole-school policies, formation of cross-curricular working groups, forging cross-sector links, the involvement of pupils and parents, considering the relationship between teaching and learning styles, teachers sharing experience with each other and codes on language and behaviour that were reinforced across the curriculum. Strategies aimed at encouraging boys to read at both primary and secondary levels seemed to be having beneficial effects on boys. Other strategies, such as single sex

grouping and boy-girl seating, seemed to have disadvantages as well as advantages. A number of strategies targeted at under-achieving pupils had implications for gender differences, because more boys than girls were perceived to be under-achieving. Strategies aimed at changing young people's attitudes and aspirations appear to have met with some success, in that young people believe in the principle of equal opportunities, however, they are still choosing fairly gender-typical subjects and occupations.

### ***Good practice for all***

Raising awareness of gender differences in performance appeared to be an essential first step in all secondary schools, and followed from and was reinforced by analysis of attainment statistics. The schools used a number of different methods of raising awareness, but a key component was to encourage teachers, pupils and parents to discuss and reflect upon the problem. As we have mentioned already, awareness of gender (and other inequality) issues in primary schools was much more patchy, and we believe there is currently a need for awareness raising in primary schools.

Some schools had made particular efforts to involve parents in their strategies to raise attainment and address gender issues. While this is time-consuming, there are considerable benefits to be gained if parents reinforce the messages of the school in terms of study, attitudes and behaviour. In some cases parents were reported as being unclear as to how best they could support their children's learning. If schools can provide clear guidance to parents, they can empower parents to support school work and home work.

Teachers talking to each other about good practice across departmental boundaries and across sectors was also judged to be beneficial by participants. In particular, teachers engaged in cross-sector discussions were surprised by how fruitful such discussions could be. It may be that pressures of time make it difficult for teachers to share experiences on a regular basis, and therefore it is important to create opportunities for such discussion as part of a strategy to address inequalities in attainment.

A whole-school approach to the adoption of strategies appears to have strong advantages over more piecemeal approaches. We learned of whole-school strategies for raising attainment, addressing gender differences, implementing spelling and correction codes and behaviour codes. In each case, the fact that all departments of a school were adopting the same rules and approaches had a strong reinforcing effect.

One set of strategies which recurred in a number of schools focused on developing a wider range of teaching styles. This was based on the premise that pupils have different preferred learning styles and, because of this, do not all respond well to the same teaching styles. Teachers' employing a wider range of teaching styles was thought to engage a wider range of pupils. Although males and females are not homogeneous groups, there is some evidence of more males responding to some teaching styles, and more females to others. Similarly, there may be differences in the preferred learning styles between academic and less academic pupils. Teachers involved in these strategies were generally enthusiastic. The strategies avoided the risk of viewing boys and girls as homogeneous groups and focused attention onto improving classroom practice for all pupils. This work is underlined by a recent SCCC document which states:

*“A greater awareness of learning preferences and teaching styles helps teachers to be more flexible and to be aware of the need to employ a variety of approaches.”*

(SCCC, 2000)

### ***Strategies with pros and cons***

The strategy of creating single-sex groups in some subjects had advantages and disadvantages. The main example that we saw of this also involved reduced class sizes, which was believed to be contributing to the strategy's success. Some teachers working with single sex groups took the opportunity to tailor curriculum content to engage the perceived interests of boys and girls respectively. Advantages reported included that pupils were less distracted, girls seemed more confident in class and pupils of either sex found solo talks in English easier. In addition, the smaller class size improved teacher-pupil relationships and meant that pupils got more individual attention. Any teacher adopting this approach, however, should be aware of the risk that boys and girls be viewed as homogeneous groups and that stereotyped expectations, attitudes and behaviour become entrenched rather than challenged.

Experiments with boy-girl seating also produced mixed reports. While teachers believed that it reduced disruption in the classroom, it seemed to have a detrimental effect on girls, who felt uncomfortable about it, and there seemed little evidence that boys and girls were influencing each others' styles of working, or gaining a richer educational experience because of it.

### ***Other approaches***

A number of strategies targeted at under-achieving pupils had implications for gender differences, because more boys than girls were perceived to be under-achieving. In particular, the mentoring systems provided focused support for pupils who might otherwise drop out of the system. Study support provided additional opportunities for pupils to address study problems. These strategies tended to be quite resource-intensive, but demonstrated a beneficial way of focusing on the needs of the individual in addition to the needs of the group.

Many of the case study schools were concerned about ways of enhancing motivation by giving positive feedback to pupils through the careful use of praise and awards. The focus in some cases was on school work, and in others on effort and behaviour. Most of the pupils we spoke to valued positive feedback, but there was a continuing fear, particularly amongst some boys, of being perceived as a “swot” by their peers. Teachers and pupils were aware of the strong negative influence of peer pressure on some boys and teachers were aware that there is a very fine line to be drawn in the forms of praise that can be used. The negative effect of peer pressure, which encouraged boys to “aim for the average”, is something that clearly needs to be tackled by schools.

Target-setting with individual pupils is a way of supporting pupils in evaluating their own performance, and helping them to think strategically about ways to raise their own attainment. It has potential implications for gender differences in attainment because boys were perceived by many teachers to be less well organised, and to leave study to the very last minute. Individual target-setting provides the potential to focus on the study needs of

individual pupils, and thus helps address the problem that the needs of an individual can be overlooked when the focus of teaching is on the whole class or group.

Resources within schools in terms of time, classrooms and teachers are restricted, and there are organisational constraints on the extent to which schools can cater for the needs of individual pupils. Nevertheless, we were impressed by some of the flexible ways in which the case-study schools focused on the needs of particular pupils or groups of pupils who were perceived to be at risk of underachieving. For example, the systems of mentoring pupils who needed additional support, the focus on raising self-esteem, the learning support and behavioural support groups, and the creation of small single-sex teaching groups in some subject areas in order to focus a greater amount of teacher attention on at-risk groups.

Strategies aimed at changing young people's attitudes and aspirations appeared to have been successful, in that the young people that we spoke to believed in the principle of equal opportunities. As far as they were concerned, boys and girls could choose any subject and do any job they wanted to. However, their views were tempered to some extent by the gender inequalities in family roles and in the workplace that they saw around them. Also, there was a discrepancy between the young people's attitudes and their behaviour. In Chapter 2 we demonstrated continuing gender differences in choice of subjects and young men and women still enter gender-typical occupations and careers. While there is evidence that the equal opportunities message has got through, therefore, we would argue that it is too soon to stop awareness raising among pupils of these issues, because the equal opportunities message is still being contradicted by the young people's direct experiences.

### ***Recommendations***

- 10. A range of strategies should be adopted by primary and secondary schools to address different aspects of the problem of inequalities in attainment.**
- 11. Where these are not already in place, schools should consider the adoption of strategies identified as good practice for all pupils. These include:**
  - **raising awareness of gender differences (and other inequalities) among staff,**
  - **development of whole-school policies,**
  - **providing opportunities for teachers to share experience across the curriculum,**
  - **forging cross-sector links,**
  - **the involvement of pupils and parents,**
  - **codes on language and behaviour that were reinforced across the curriculum.**
- 12. Schools and teachers should consider how teaching and learning styles interact in the classroom and reflect on ways to improve teaching and learning for all pupils.**
- 13. Strategies such as single sex grouping and boy-girl seating, should be adopted only where the pros and cons have been fully considered.**
- 14. Schools should consider ways to improve boys' literacy skills from pre-school onwards.**
- 15. Ways should be sought urgently to tackle the negative effects of peer pressure on pupils, particularly boys.**
- 16. Schools need to be flexible in finding ways to target young people identified as underachieving, and considering the needs of the individual as well as the group.**
- 17. Schools should continue to promote equal opportunities to pupils.**

- 18. Schools and local authorities should continue to promote equal opportunities among school staff and consider ways to redress the gender imbalance in the staff and management profile.**

## **Monitoring and evaluation**

In our research it was not possible to carry out a rigorous evaluation of strategies addressing gender differences. There were two reasons for this – the short timescale of the research and the lack of pupil-level data to analyse progress. Our research has been based on the perceptions of respondents in our case studies.

Ideally, the strategies for addressing inequalities should be evaluated rigorously using quantitative as well as qualitative data. Our ideal approach would use a value-added model to evaluate the effect of strategies on the progress of pupils. We would have liked to have pupil-level data on the attainment and attitudes of pupils before and after the strategies were implemented, together with indicators of gender, age and family background, so that we could analyse the relative progress of pupils involved in the strategies compared with pupils not involved in the strategies. However, this quality of data was generally not available. Most of the schools planned to evaluate strategies by looking at overall levels of attainment of males and females, and the extent to which these changed year on year. The problem with this type of evaluation is that it is impossible to isolate which factors have made a difference.

While it is important for schools to evaluate their own strategies, there is also a need for national research, which takes an overview of the effects of different socio-economic circumstances on strategies aimed at addressing gender differences. The research reported here was based on a one-year project, working with schools at a very early stage in their thinking on addressing gender differences. In order to really evaluate the effectiveness of strategies adopted, further research is needed which looks at changes over a much longer time period.

### ***Recommendations***

- 19. Evaluation of strategies should be built in from the start. Criteria for the measurement of their success should be identified and measured before and after implementation.**
- 20. In order to really evaluate the effectiveness of strategies, further research is needed which looks at changes over a longer time period.**

## **The views of pupils**

We believe that it is very important for schools to consult pupils about policies which affect them, such as strategies addressing gender differences. Pupils should have opportunities to contribute their views, and schools should be genuinely responsive. We anticipate that pupils' views may sometimes provide relatively critical feedback to school staff, but if schools are genuine in seeking pupils' views this can lead to policy improvement.

The views of pupils do not always coincide with those of teachers. This was very evident from the contrasting comments by teachers and pupils concerning a number of strategies. For example, a number of schools were attempting to motivate pupils to study harder, by the use of awards; although teachers believed that pupils could be motivated in this way, the awards had a more mixed reception by pupils, some of whom had alternative proposals for awards.

Similarly, some schools used target-setting with individual pupils as a way of motivating them, and helping them to organise their workload efficiently; while this was favoured by some pupils, it was regarded as an additional pressure by others. There is perhaps a natural conflict between the policies of the school to raise overall levels of attainment, and the priorities of some pupils to enjoy the social experience of school.

We also found a contrast between the views of pupils and teachers concerning the influence of parents. Many teachers spoke of the negative effects of families from lower social-class backgrounds who did not support their children's education. However, pupils of all social backgrounds were unanimous in stating that their parents encouraged them to work hard at school.

Pupils suggested that improving the relationship between teachers and pupils could have a significant impact on their performance at school. They preferred teachers who treated them with respect, were sometimes fun and who put effort into making the work enjoyable.

### ***Recommendations***

- 21. There is a need for more genuine consultation with pupils over issues that concern them.**
- 22. Teachers should note pupils' comments on the importance of a good teacher-pupil relationship in improving pupils' performance at school.**



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