



**Research Paper 06/01**

**22 August 2001**

# **SELECTED CURRENT RESEARCH IN GENDER AND EDUCATIONAL ATTAINMENT**

An overview of current research into the "gender gap" in educational attainment and selected government strategies to prevent underachievement amongst boys.

Library Research Papers are compiled for the benefit of Members of The Assembly and their personal staff. Authors are available to discuss the contents of these papers with Members and their staff but cannot advise members of the general public.

## **SUMMARY OF KEY POINTS**

### **Selected Current Research in Gender and Educational Attainment**

The gender gap in educational attainment to the benefit of girls is a feature of many developed countries. This gap tends to increase at the higher levels of school education. From the review of the literature, the following factors may influence the performance of boys in relation to that of girls:

- The lack of male teachers in primary and post-primary sectors
- Boys are more likely to score extreme scores (high and low)
- The interaction between pupils and teachers, and gender stereotyping
- Girls show more aptitude and liking for collaborative, discussion-led lessons
- Coursework and changing forms of assessment which are thought to favour girls
- Reluctance of male pupils to select 'female' subjects
- Changing patterns of employment, the decline of the manufacturing sector and the perceived greater employability of girls, and the subsequent implications for boys' motivation and degree of disaffection
- Boys are more likely to reject authority, to truant and to be excluded
- Cumulative deficits in core skills of literacy and numeracy

## 1.0 Selected Research into Gender and Educational Attainment

*Gallagher, Dr A.M. (1997), A Review of Research Evidence in the Apparent Underachievement of Boys (Department of Education)*

- There is a general pattern of educational attainment levels increasing over time. Within this overall pattern the rate of increase for females has tended to be faster than that for males.
- The overall trend and the sex trend in attainment levels have developed steadily over time and appear to be linked to broader processes of social change.
- The general effect that attainment levels of females are higher than those for males is evident in developed industrial societies and appears on most measures of attainment.
- The sex pattern in educational attainment to the advantage of females is not evident in the area of vocational education.
- Definitive conclusions on comparative sex patterns in educational attainment are complicated both by different patterns of curriculum and by different levels of participation in post-compulsory education.

*Grubb, J., Research Briefing on Boys and Underachievement from the TES ([www.literacytrust.org.uk](http://www.literacytrust.org.uk))*

- The principal sources of evidence about gender and under achievement are mainly limited to performance scores on national tests up to 16.
- Religion, social class, ethnicity and gender are interwoven with performance.
- The national gap in literacy scores for boys and girls widens as pupils get older.
- More boys than girls have special needs, say they don't enjoy school, are excluded, have poor attendance and lower teacher grading.
- Post 16, boys and girls tend to make stereotypical course choices: science and maths for boys; and arts and humanities for girls.
- The overwhelming message from research is that there is no simple explanation for the gender gap in education. (Arnot et al)

*Powney, J. (1996) Trends in Gender and Attainment in Scotland, Spotlight 64, The Scottish Council for Research in Education<sup>1</sup>*

In 1996, the Scottish Office commissioned a review of research and statistics about pupils' attainment in schools between 1985-95. Outlined below are a selection of the key conclusions in relation to gender and attainment:

- Gender differences in attainment persist at all levels of education but are not always consistent with employment patterns and outcomes of higher education
- In 1995, 4% more girls than boys left with 5 or more Higher grades, and for the first time, performed relatively better than boys in mathematics
- Girls generally do well on coursework and essays whereas boys do better at multiple-choice type questions
- Across the UK, girls stay longer at school, leave with better qualifications than boys and are more likely to continue their education after leaving school

---

<sup>1</sup> <http://www.scrc.ac.uk/>

- More boys than girls go into full-time jobs and vocational training and apprenticeships

Powney also notes the importance of the following factors in the research evidence on gender difference in schools: teaching and assessment; approaches to assessment tasks; interaction with the teacher; home and society; school effects; parents' level of education; interaction between class, ethnicity and gender; and the take-up of higher education.

*Equal Opportunities Commission (1998) **Gender and Differential Achievement in Education: A Research Review***

This report examines gender and educational achievement in England, Scotland and Wales. Key findings include:

- Girls are outperforming boys across all areas at age 7 and at GCSE/Standard Grade
- More boys than girls tend to have extreme scores (either very high or very low)
- Both girls and boys have improved performance, although girls are improving at a faster rate
- Boys benefit from more structured lessons while girls prefer collaborative lessons
- More than four times as many boys than girls were excluded from schools in England in 1996
- Ethnicity and social class also have an impact on attainment levels
- Boys' subject choice excludes them from clerical and caring occupations where many new job opportunities exist
- Until the mid 1980s in Scotland, similar percentages of girls and boys left school with 5 or more Highers. By the mid 1990s, girls were 5% ahead

*Younger, M, Warrington, M, & Williams, J (1999) **The Gender Gap and Classroom Interactions: Reality and Rhetoric** in *British Journal of Sociology of Education* Vol. 20, pt 3*

This study examines the gender gap in terms of the interaction of teachers and pupils in a sample of 8 post-primary schools in England. It states:

- Evidence from throughout the UK demonstrates that girls are outperforming boys
- There are many different explanations in the literature, ranging from male disregard for authority and academic work; different attitudes, goals and aspirations; girls' greater maturity and more effective learning skills; changing labour markets, de-industrialisation and male unemployment
- Data suggests that growing number of teachers are defining their ideal student as female: ie more organised, self-learners, more confident and articulate, more able to conform; and more likely to ask for help
- There is some evidence that teachers are less prone to tolerate misbehaviour from boys than girls
- Teachers should be supported in devising more effective ways of working with boys

Harris, S, Nixon, J (1993), **School Work, Homework and Gender** in *Gender and Education Vol. 5, Pt 1*

This study is based on interviews with students, teachers and non-teaching staff in three English comprehensive schools. Its key findings are:

- The interaction of family, community, peers and teachers plays an important role in attainment
- A number of teachers believed that some girls, particularly middle-ability girls, in Years 10 and 11 were doing better academically because they had learnt to "conform to the conventions"
- Schools should be aware of the different sets of needs of different pupils

Gorard, S, Rees, G (1999) **Reappraising the Apparent Achievement of Boys at School** in *Gender and Education, Vol. 11, pt 4*

Examines the Key Stage statutory assessment and GCSE examination results for all pupils at school in Wales from 1992-97 and analyses the gap in achievement between boys and girls at each age for each grade or level and subject. The study notes:

- Although commentators state that the performance of girls is increasing more rapidly than that of boys, many are confusing the difference between percentages and percentage points
- The calculation of an achievement gap depends on the calculation of a entry gap based on the patterns of entry for boys and girls in each subject
- The gap between girls and boys in terms of aggregate measures of achievement has declined in Wales between 1992-97 although the percentage point difference has remained the same (10)
- The gender achievement gap is more of a problem at higher levels of achievement and the introduction of the A\* grade in 1994 has increased the differential between boys and girls at the highest level
- Mathematics and science are the most gender neutral subjects between age 7-16
- The largest achievement gaps were in English (35% in favour of girls in 1997), English literature and Welsh
- The only evidence of an increase in the achievement gaps are at the highest levels of attainment, otherwise the gaps are static or declining

### **Education Review Office<sup>2</sup>, New Zealand: The Achievement of Boys (1999)**

The Education Review Office is the New Zealand inspectorate of education. Outlined below are the conclusions of its 1999 study into the educational achievement of boys:

1. There is evidence that boys and girls learn and respond in different ways to different teaching styles. Teachers need to be knowledgeable about differences in the preferred learning styles and behaviour of boys and girls and be able to adopt a range of teaching strategies to help accommodate the differences. This may include grouping boys and girls differently for different activities.

---

<sup>2</sup> <http://www.ero.govt.nz/Publications/eers1999/Boys/boys1.htm>

2. Schools need to collect and examine achievement information to assess where boys are not achieving as well as they could and review their policies and programmes accordingly.
3. Boys in single sex schools tend to achieve higher examination results than boys in co-educational schools. ERO analysis carried out for this report indicates that this is true for schools in all socio-economic sectors.
4. An ERO survey on the quality of management performance in a sample of 60 secondary schools shows that girls' schools or co-educational schools perform better than boys' schools against a wide range of indicators, particularly in relation to curriculum delivery and the quality of the physical and emotional environment provided by the school.
5. ERO findings indicate that many boys-only schools provide an education with a strong emphasis on tradition, examination results and sporting success. In contrast, girls-only schools and co-educational schools tend to adopt a wider range of teaching styles that cater more successfully for individual differences.
6. An analysis of School Certificate examination results shows that the gap between boys' and girls' achievement in co-educational schools is larger in some types of schools than others. For example the gap in small schools and rural schools is considerably larger than the average.
7. The quality of schools' behaviour management and discipline programmes is crucial in influencing boys' achievement. Where some students are allowed to behave in a way that disrupts other students' ability to learn, the achievement of boys seems to suffer more than that of girls.
8. Boys appear to achieve particularly well where there is a supportive school environment which provides positive role models and in which students are encouraged to set goals and take responsibility for their own actions.
9. Boys' achievement can be limited if schools are unable to provide a wide range of programmes, including subjects which are of particular interest to boys. This is a particular issue for small rural schools.

### **The DfES Standards Site: Gender and Achievement<sup>3</sup>**

According to a review of current research into gender and attainment<sup>4</sup> for the Department of Education and Skills website on *Gender and Achievement* there are three areas of gender difference:

- Boys lag behind in early literacy skills and later on in English. The gap is apparent as pupils enter school and remains sizeable throughout pupils' primary and secondary schooling.
- Boys perform considerably less well than girls in GCSE examinations. A gap in the proportions of boys and girls securing 5 or more higher grade passes began to emerge in the late 1980s and has remained throughout the 1990s. Furthermore, girls have been making greater progress between the ages of 11 and 16 than boys.
- Girls continue to opt out of mathematics and science in the later stages of their educational careers. Although girls have begun to match boys in relation to entries and performance in mathematics and science at GCSE, many more boys still choose science or science-related subjects for further study. Boys still dominate science and technology at A-level and enter higher education to study these subjects in larger numbers.

---

<sup>3</sup> [http://www.standards.dfes.gov.uk/genderandachievement/data\\_1.2.1.html](http://www.standards.dfes.gov.uk/genderandachievement/data_1.2.1.html)

<sup>4</sup> by Professors Jean Rudduck and John Gray of Homerton College, Cambridge

This review also describes the gender differences in approaches to, and preferences in, schooling in relation to the following:

#### *Classroom learning*

The following patterns are established at an early age:

- contributions from boys are prominent both physically and verbally during classroom interactions
- girls request help from others to a greater extent than boys
- girls are often more attentive in class
- boys have more experience than girls of having their contributions evaluated during classroom interaction, both by teachers and peers and both negatively and positively.

#### *Tasks*

"Girls do better than boys on sustained tasks that are open-ended, process-based, related to realistic situations, and that require pupils to think for themselves. Boys are more responsive to learning tasks that require memorising abstract, unambiguous facts and rules that have to be acquired quickly. They also appear to be more willing to sacrifice deep understanding, which requires sustained effort, for correct answers achieved at speed."

#### *Subject Preference*

"There is some evidence that pupils' subject preferences and choices are becoming slightly less gender-stereotyped but the change is mainly in one direction: up to the age of 16, girls are more prepared to tackle 'masculine' subjects, especially high-status subjects; boys, on the other hand, continue to shun 'feminine' subjects, especially boys with stereotyped attitudes towards future occupations and roles."

#### *Peer Group Influences*

"Peer group cultures play a central role in determining what young people come to define as 'success' at school. Schools in turn may be involved in the formation of such cultures to a greater extent than is often recognised. Schools may endorse the 'nice quiet girl' image, and praise their work for its presentational qualities; schools may also, by giving attention to boys' disruptive behaviour, contribute to some groups of boys distancing themselves from schoolwork and minimising their effort - and winning peer support by doing so. Peer group cultures and their definitions of masculinity and femininity play a part in shaping patterns of disaffection and underachievement."

#### *Labour Market Opportunities*

"The collapse of the youth labour market in the late eighties, where young men were more involved in apprenticeship schemes and different forms of on-the-job training, has affected the futures of young men more than young women; this in turn may have led to some disorientation and loss of motivation among boys in school".

## **2.0 Government Strategies to Close the Gender Gap**

#### *Northern Ireland*

Guidance has been commissioned from the Council for the Curriculum, Examinations and Assessment (CCEA) on maximising boys' achievement<sup>5</sup>.

---

<sup>5</sup> (DENI, 1999) Learning For Tomorrow's World: Towards a New Strategic Plan for Education Services in Northern Ireland 2000 - 2006 available at <http://www.deni.gov.uk/strategies.htm>

*England*

Since 1998 the Government has required local education authorities to produce long-term strategies to counteract boys' underachievement. In August 2000 it was announced that OFSTED will include local authorities' success in boosting boys' performance in its inspection criteria and that LEAs have been asked to provide detailed evaluations of their progress. In addition, the *DfES Standards Site on Gender and Achievement* was established to provide advice, guidance and a forum for discussion for Local Educational Authorities and schools to support underachieving boys. There are also a number of National Reading Campaign initiatives aimed at encouraging men and boys to read<sup>6</sup> under the theme of "Reading Champions".

The four main strategies that have been adopted by schools to combat boys' underachievement are:

- single-sex groupings
- role modelling to challenge male and female stereotypes
- mentoring of individual or groups of pupils who are judged to be in need of particular support and guidance and
- developing whole-school monitoring policies in order to identify patterns of achievement in particular school settings.

Many of these strategies, particularly single-sex groupings, have been shown to benefit girls as well<sup>7</sup>. Details of initiatives aimed at improving boys' literacy levels by individual LEAs are available from the Literacy Trust ([www.literacytrust.org](http://www.literacytrust.org)).

---

<sup>6</sup> [www.literacytrust.org.uk/](http://www.literacytrust.org.uk/)

<sup>7</sup> Hendry, J. Help for the Boys helps the Girls *Times Educational Supplement* (01/06/2001)