Boys in Schools

What's Happening?

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Abstract

This paper considers current patterns of boys' and girls' participation and achievement in school. Evidence shows that boys have consistently poorer outcomes than girls on basic literacy tests, and are less likely to complete high school. While at school, boys tend to study a narrower range of subjects and their average Year 12 scores are lower than for girls. However, it is certain groups of boys rather than 'all boys' who are more likely to perform poorly or become disengaged with schooling. Oppositional and homogeneous gender categories are therefore inadequate for understanding the education of boys and the complex social factors which impact upon it.

In considering possible explanations for differences in performance and some of the strategies adopted by schools and governments, it is interesting to note some of the innovative initiatives being undertaken overseas, particularly in the UK and New Zealand. Finally, we will outline some principles which will help to shape future policy initiatives and improve gender equity in the educational outcomes of schooling.

Over the last few years, concerns about the experience of boys in schools have increasingly been incorporated into discussions about gender equity in education. This has occurred amongst education practitioners, academics and policy makers, in Australia and in other English speaking countries. In Australia, the opening of a more comprehensive policy debate about the education of boys through the 1990s is reflected by an increased number of research initiatives, conferences, and two official inquiries. The extent of community concern is reflected in the number of submissions to the current federal inquiry into the education of boys, media attention and the emergence of a plethora of popular literature on the theme.

However, much of the debate has been limited. Some contributions have tended to rely more strongly on opinion than on measured evidence, and have over-generalised the issues by framing it as a 'boys versus girls' contest. Such oppositional approaches are clearly inadequate as they see boys as inherently problematic or being neglected by the school system, and girls as inherently successful or being over-catered for at the expense of boys. They also fail to differentiate between the diverse circumstances of different groups of boys and different groups of girls. In this context, this paper aims to help ground the debate in more thorough research. By presenting the main indicators of boys' participation and achievement in school from a national perspective, we can help to promote more accurate and sophisticated community understandings. In turn, this helps to develop better research, and ultimately, to improve policy initiatives and outcomes for disadvantaged students.

Firstly, we will describe key measures of performance in the primary stage of schooling, where boys, as well as girls, need to develop basic skills of literacy and numeracy which will facilitate their ongoing development. The data shows that as a group boys consistently have poorer outcomes against national literacy standards than do girls. Fewer boys achieve the national benchmarks, more boys group at the lowest levels in literacy tests and fewer boys are concentrated at the higher levels of performance. By contrast, there are not significant differences between boys and girls on measures of performance in numeracy.

In secondary schooling, the issues of concern are boys' higher rates of early school leaving compared to girls and their lower than average levels of Year 12 completions so

that overall boys are less likely to finish school. Boys also study a narrower range of typically 'traditional' subjects, their average Year 12 scores are lower than those for girls (and may even be declining), and fewer boys than girls enrol in higher education.

Before considering these trends more closely, it is important to re-emphasise that identifying boys as a group at particular risk of underperforming does not imply that all boys are failing to achieve satisfactorily. Rather, the evidence is that *some* boys are failing to achieve the results of which they are capable, and that there is a performance gap which may be considered significant in some areas, including literacy. Indeed, incorporating issues of boys' performance should diversify and therefore improve discussions about gender equity, without displacing attention from those groups of girls who are in need of specific policy interventions.

Literacy

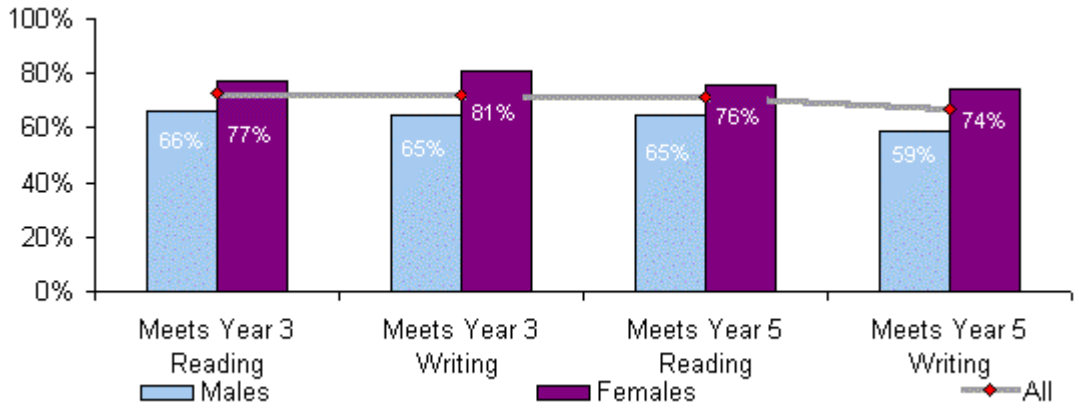
There is strong evidence that the most reliable predictor of longer term educational outcomes is the achievement of foundation literacy and numeracy skills in early childhood and in the early years of schooling (Ainley; DEETYA). Although there is evidence of a literacy gap between males and females in primary school, there does not appear to be a significant gender gap in performance in numeracy. The Australian results from the Third International Mathematics and Science Study, for example, show no significant gender differences in mathematical achievement for middle primary school students (Lokan, Ford and Greenwood).

However, gender differences in literacy achievement do become apparent in the early years of schooling, although there are not convincing indications of differences at the early childhood stage[1]. The National School English Literacy Survey indicates that in each aspect of literacy – writing, reading, viewing, speaking, and listening – girls outperform boys (Management Committee, 1997: 20). Interestingly, gender differences in literacy achievement are greater for writing and speaking (the expressive modes of literacy) than for reading, listening and viewing (the receptive modes), with the greatest

[1] Data from an evaluation of the Victorian First Steps Pilot Project for the First Three Years of Schooling for example, noted a small but significant difference in favour of boys on the verbal concepts subtest, but no significant difference between boys and girls on the subtest assessing basic school skills, including early literacy and numeracy skills (de Lemos et als, 1994). This runs contrary to expected differences in favour of girls.

gender difference occurring for writing and the least for viewing (Management Committee, 1997: 189). Other literacy surveys also show that there is some clustering of girls amongst the highest performers and clustering of boys in the lower achieving groups (SCRCSSP, 2000: 135), which obviously brings average levels of literacy for boys down.

Chart 1: Percentage of Year 3 and Year 5 students at or above the literacy standard by gender, Australia, 1997



Source: Management Committee for the National School English Literacy Survey (1997) *Mapping Literacy Achievement, Results of the 1996 National School English Literacy Survey*, Melbourne: Curriculum Corporation.

National literacy benchmarks

National literacy benchmarks, agreed by the Commonwealth and states for Years 3 and 5 in 1998, give a more recent and national picture of achievement disaggregated by gender. These benchmarks define or elaborate a critical level of performance without which students would have difficulty in making sufficient progress at school, and enable student performance across state education systems to be assessed against a common standard.

Nationally comparable data on the Year 3 literacy (reading) benchmark (reported in March 2000) showed that in 1999, 86.9 percent of Australian Year 3 students achieved the agreed minimum national standard in reading. On a State/Territory level, between 9 and 28 percent of all Year 3 students are below the reading benchmark. Nationally,

there is a five percentage point gap between boys and girls, with 84.9 percent of boys and 89.7 percent of girls achieving the reading benchmark.

Table 1 Percentage of Year 3 students achieving the reading benchmark

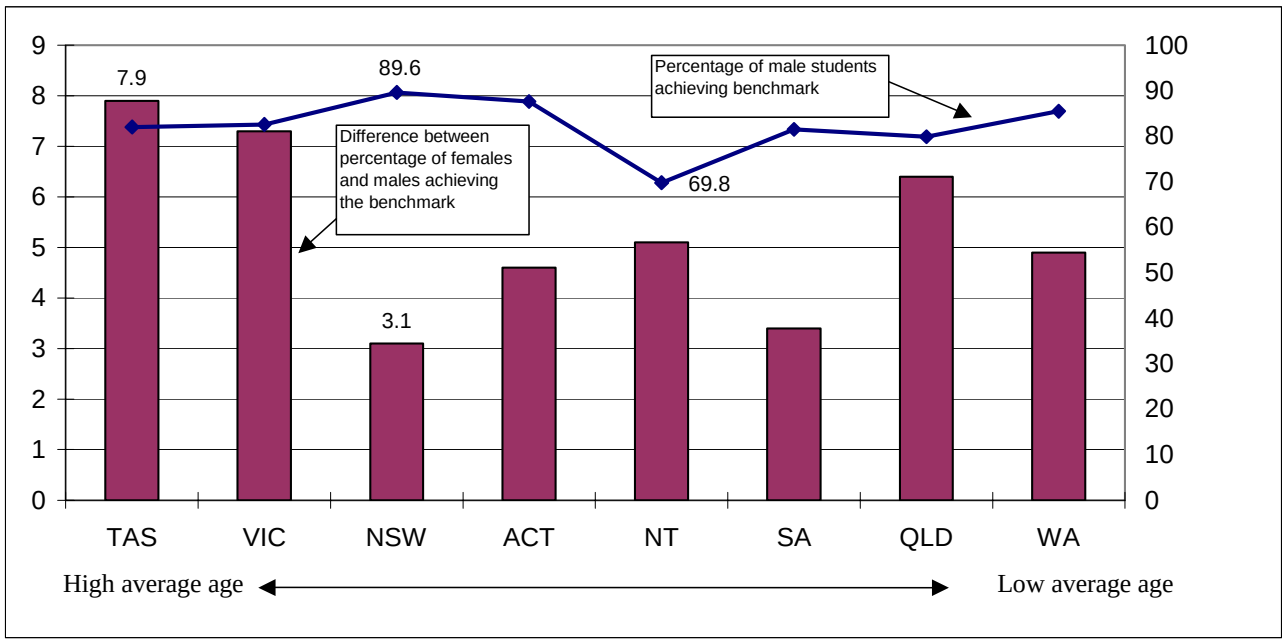
State/Territory ***1 Average Age (a)*** ***2 Years of Schooling (b)***	***Percentage of male students achieving the bench mark***	***Percentage of female students achieving the bench mark***	***Difference between percentage of male and female students achieving the bench mark***
New South Wales 1 8yrs, 9mths 2. 3yrs, 7mths	89.6 ± 2.6	92.7 ± 1.8	3.1
Victoria 1 8yrs, 11mths 2. 3yrs, 7mths	82.6 ± 2.9	89.9 ± 3.0	7.3
Queensland (d) 1. 7yrs 9mths 2. 2yrs, 8mths	79.9 ± 2.3	86.3 ± 2.4	6.4
South Australia 1. 8yrs, 6mths 2. 3yrs, 3mths	81.5 ± 3.4	84.9 ± 2.7	3.4
Western Australia 1. 7yrs, 7mths 2. 3yrs, 7mths	85.5 ± 2.2	90.4 ± 1.6	4.9
Tasmania 1. 9yrs, 0mths 2. 3yrs, 7mths	82.0 ±2.8	89.9 ±2.0	7.9
Northern Territory 1. 8yrs, 8mths 2. 3yrs, 3mths	69.8 ± 1.7	74.9 ± 1.2	5.1
Australian Capital Territory 1 8yrs, 9mths 2. 3yrs, 6mths	87.6 ± 2.0	92.2 ± 1.1	4.6
Australia	84.9	89.7	4.8

Note: The achievement percentages reported in this table include 95% confidence intervals, for example, 80% ± 2.7%.
(a) The typical average age of students at the time of testing, expressed in years and months.
(b) The typical average time students had spent in schooling at the time of testing, expressed in years and months.
(c) Data from Queensland are based on a sample of approximately 10% of year 3 students from government and non-government schools.

Source: National Report on Schooling in Australia, Preliminary Paper 1999 Year 3 Reading National Benchmark Results

This data also shows interesting differences between the performance of males and females across states and territories (see Table 1 above and Chart 2 below). The proportion of male students who achieve the benchmark ranges from 89.6 percent in New South Wales down to 69.8 percent in the Northern Territory. The gap between the proportion of males and females achieving the benchmark ranges from 3.1 percentage points in New South Wales to 7.9 percentage points in Tasmania.

Chart 2: Male reading achievement and the gender gap by state and average age, Year 3, 1999



Source: National Report on Schooling in Australia, Preliminary Paper 1999 Year 3 Reading National Benchmark Results

The age of students in Year 3 varies across states because students start school at different ages. Developmental explanations for the differences would lead one to expect that there would be more students meeting the benchmark in states where students are older in Year 3. However, the percentage of male students achieving the benchmark does not necessarily correlate with age. In Tasmania Year 3 students are, on average, the oldest in Australia. However, there is not a high percentage of males achieving the benchmark. In Western Australia Year 3 students are on average the youngest in the country. However, there is a relatively high percentage of males achieving the benchmark there. Indeed, further research needs to be done to identify more precise explanations for these variations by state.

Literacy through the middle years

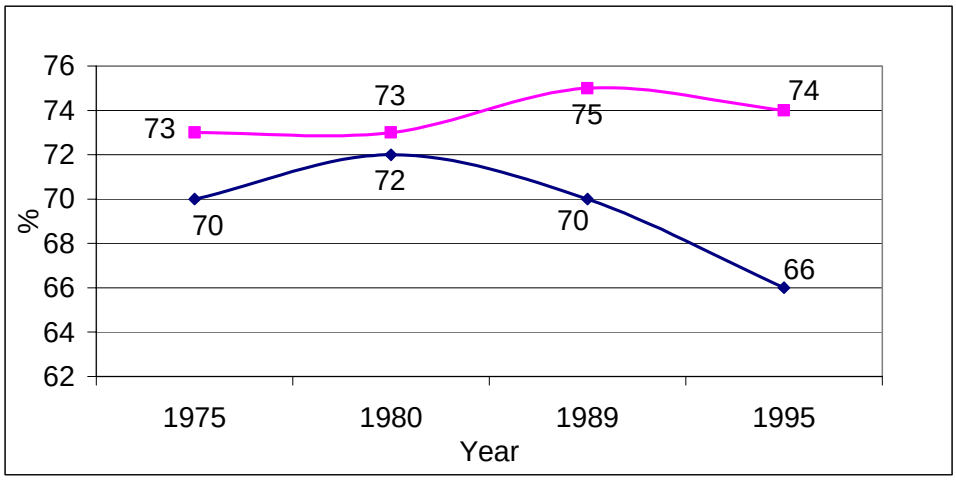
There may also be some discontinuity in the development of literacy skills through the transition from primary to secondary school. Research by Rowe (2000) shows that between Year 6 and Year 7 the median level of performance drops for both males and females, because there is a greater spread of students into the lower levels of achievement (particularly for males). The median level of competency does not improve as much for males as for females throughout high school.

Western Australian data on literacy achievements by government school students in 1995 also show that boys were behind girls in Year 3, with 88 percent of boys compared with 93 percent of girls at Level 2 or beyond in reading. By Year 7 boys had caught up, with 94 percent of boys and 95 percent of girls at Level 3 or beyond. In Year 10, however, only 84 percent of boys compared with 91 percent of girls were at Level 4 or beyond. Similar results were found for writing, with boys catching up in Year 7 but then dropping back by Year 10 (Collins et al 46). This tends to suggest that boys' poorer literacy performance at different stages of schooling may be related to different factors and late developers may not necessarily have literacy problems later on.

Have boys' literacy levels declined over time?

There is also evidence that boys' literacy skills have declined over time, while those of girls have remained relatively stable. Data on performance on reading comprehension drawn from longitudinal surveys conducted by the Australian Council for Educational Research (ACER) show that between 1975 and 1995 the proportion of 14-year old male students who demonstrated mastery on the reading tests conducted declined from 70 percent to 66 percent, while the corresponding proportion of female students changed little, from 73 percent to 74 percent. The performance gap in 1995 (66 percent compared with 74 percent) was statistically significant (Marks and Ainley).

Chart 3: Percentage of Students Achieving Mastery in Reading, Males and Females, 1975 to 1995



Source: Marks and Ainley (1997)

Influences on literacy outcomes

Literacy performance varies between different groups of boys, and there is some evidence that other factors, such as socioeconomic status (SES) and locality also affect literacy achievement, with SES impacting more strongly than gender. The combined impact of these factors results in boys from rural and remote locations and boys of lower socioeconomic backgrounds being disproportionately represented amongst those students with poorer outcomes.

Marks and Ainley (1997) found that high achievement in reading for junior secondary students is associated with higher socioeconomic status (SES). Scores tend to be lower for those students whose language at home is not English. Multivariate analyses of longitudinal data suggest that language background is the most important factor affecting literacy achievement, followed in order of importance by socio-economic background (measured by parents' occupational background) and gender. For every socioeconomic group, boys perform more poorly in literacy than girls, (although high SES boys perform better than low SES girls) and the gender gap is larger for the lower SES groups. This analysis also suggests, however, that the extent of the impact of socio-economic status appears to have diminished over time. In 1975 and 1989, 20 percent more students from professional-managerial background attained mastery compared to

students from semi-skilled and unskilled background. By 1995 this gap had narrowed to about 12 percent.

Locality and rurality also impinge upon the development of literacy. Data prepared by ACER for DETYA about the literacy and numeracy levels of Year 9 students suggests that both male and female students in non-metropolitan areas have slightly lower literacy and numeracy levels than their counterparts in metropolitan areas. As with Year 12 completion rates, the gap between female students in the different kinds of area is smaller than the gap between male students.

Another set of factors associated with literacy achievement are males' and females' patterns of extracurricular activity and use of leisure time. Indeed, differences in reading habits may be the cause, or the effect, of differences in literacy. Millard (1997) for example, found that boys aged eight to fourteen mainly only read in school while girls do most of their reading at home.

The *Gender and School Education* project (1996) funded by DEETYA surveyed 408 schools and also sheds some light on boys' and girls' activities. It found that in secondary schools, a larger proportion of girls than boys have taken part in non-competitive fitness activities, in arts performances and displays, and most markedly, in social service and caring activities through their school. A larger proportion of boys than girls take part in competitive sport.

Out of school, a similar pattern is reflected in leisure activities. For both males and females, watching television is the most popular recreational activity. For primary and secondary boys, sport is the next most popular activity, whereas for primary school girls the second most popular activity is reading.

More primary and secondary school girls put time into reading, the arts, and music than boys. They also appear to put more time into household chores, and at Year 10, put more time into paid work. The data from this study give the impression that overall many boys confine their out-of-school activities to TV, sport, and, for about half, playing with a home computer (DEETYA, 1996: 89-98).

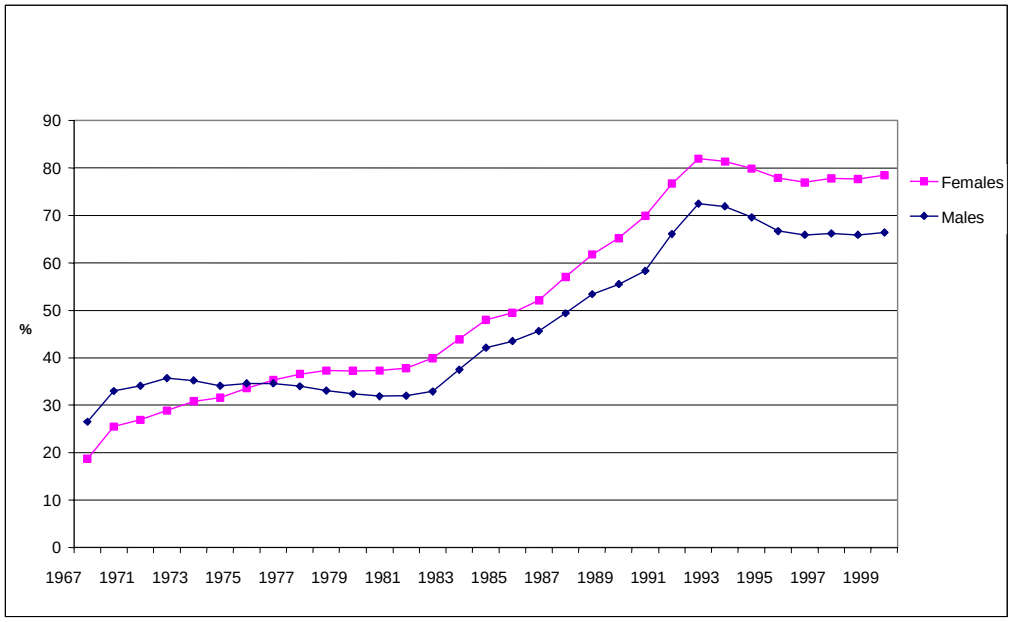
Some commentators are also concerned with boys' concepts of masculinity, and the way traditional or dominant cultural concepts are reinforced in peer group settings. Boys may cope with uncertainty, for example, by being 'tough' and mixing in certain

groups. In schools, this culture can include aggressive and dangerous behaviour, and an anti-academic and anti-success attitude. This has particular implications for literacy. English and literacy studies are often labelled as feminine, and being good at English can make a male student a target for homophobic bullying by 'macho' males in schools (Gilbert; Martino).

Boys and School Completion

Another area of concern is that more females than males complete school and have done so for more than 20 years. Apparent retention rates show the number of students who remain in Year 12 as a percentage of the number in that cohort who started secondary school the relevant number of years previously.

Chart 4 Apparent retention rates from the commencement of secondary schooling to Year 12 (%) 1967-1999



Sources: Australian Bureau of Statistics, Schools Australia, various years; Commonwealth Department of Education; Department of Employment, Education and Training (1991) Retention and Participation in Australian Schools, 1967 to 1990, AGPS, Canberra.

Chart 4 (above) show two features of gender interest in this data. One is the faltering of the upward creep in boys' retention from 1973 to 1982 while girls' retention continued to rise slowly. The second is the widening gap between the sexes from 1987 to 1990.

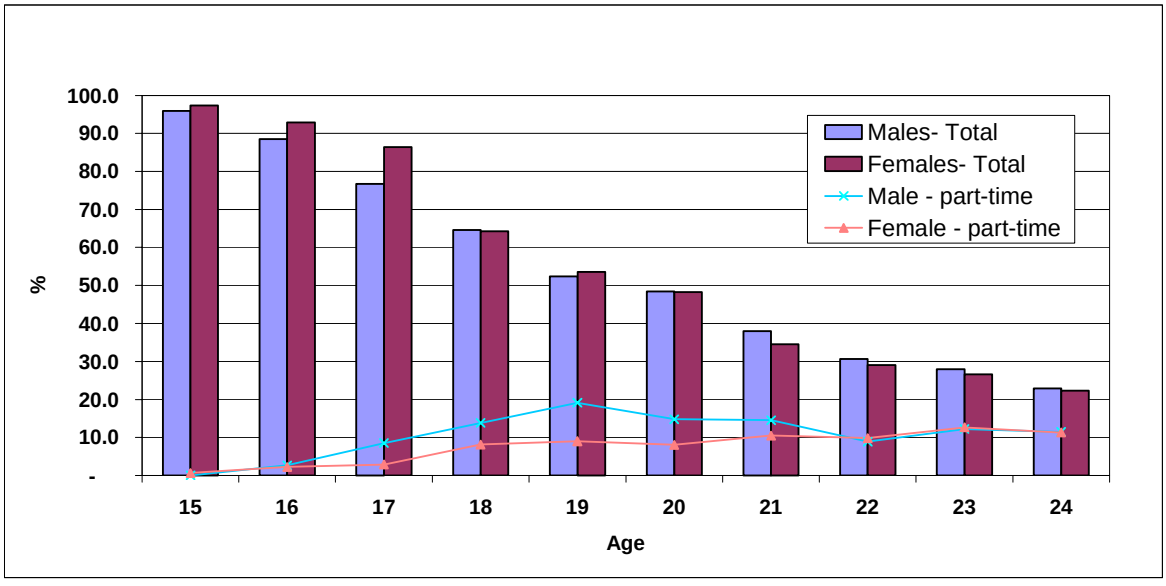
After reaching their respective peaks in 1992, retention rates fell for both males and females in the following four years before stabilising in the last three years. In 1999, the retention rate from the beginning of high school to Year 12 was 78.5 percent for females but only 66.4 percent for males, a difference of 12.1 percentage points.

Rates of participation in education

School retention and completion rates, to some extent, blur the issue, because people may participate in education in other ways. If we broaden our enquiry to consider males' and females' overall participation in education (in school, vocational education and training (VET), university or private college) through their youth, there appears to be less of a gap.

Chart 5 (below) shows that while there is a gender gap for those aged 16-17, the proportion of boys participating in education (full and part time) at age 18 is even for males and females. Whereas males are less likely than females to participate in full time education to the age of 21, they are more likely to participate in part time education. In their twenties, for both full and part time education, males are slightly more likely to be participating.

Chart 5: Proportion of Young People Participating in Education by Age and Gender,



1999

Source: ABS Cat. No. 6272.0

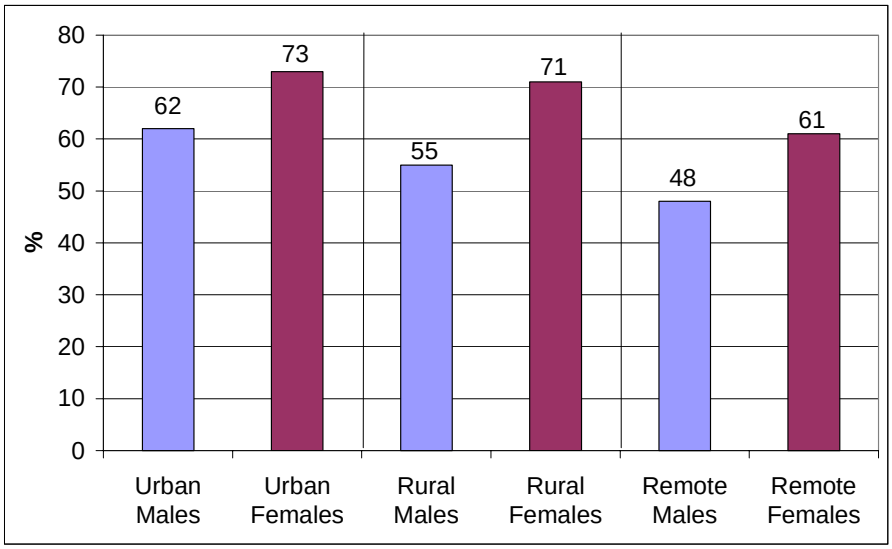
Which boys are less likely to complete Year 12?

While we need to look at overall participation to obtain an accurate picture of how young people are doing in education, those who leave school early tend to be more vulnerable to unsuccessful transition to work than those who complete Year 12. Expanded access to tertiary education over the last ten years and the growing importance of qualifications to meet the demands of a changing labour market appear to put many young people who leave school early at a considerable disadvantage.

While many males who do not complete Year 12 do achieve successful pathways to full-time employment through apprenticeship training, as a group early leavers do less well in the labour market than those who complete Year 12. One of the main factors contributing to early school leaving is low school achievement in the early and middle years of schooling. One study shows that fewer than 50 percent of very low achievers in numeracy and literacy complete school (Marks and Ainley). Conversely, almost 90 percent of very high achievers complete school. Being a low achiever in numeracy decreases the chances of completing Year 12 by 20 percentage points compared with average achievers. Failure to achieve average literacy skills significantly reduces the likelihood of remaining to Year 12 by 13.5 percentage points for very low achievers (Lamb 6-7).

In addition to low achievement, locality exerts a major impact on boys' likelihood of leaving school. Boys in rural and remote locations are considerably more likely to leave school early than both rural and remote girls and their urban counterparts (see Chart 4). Socioeconomic status is also an important predictor in early school leaving for both males and females. LSAY data (Lamb and Rumberger) shows that in 1994 those from low SES backgrounds (with parents in the lower groups of occupation, education and income) are more likely not to complete Year 12 than those from higher SES backgrounds.

Chart 6: Year 12 completion rates by location and gender, 1998



Source: National Report on Schooling 1999

Year 12 performance

Boys are consistently performing more poorly than girls in Year 12 across Australia. In Year 12 assessments, the average scores for girls are higher than those for boys in more subjects than vice versa, and girls take out the highest number of university admissions.

For example, in the NSW 1999 HSC, of the 67 subjects which had 100 or more students (and at least 30 members of the minority gender) the girls' average mark exceeded the boys' in 64 subjects, by up to 10.8 percentage points (for Aboriginal studies). Boys average marks were better in 3 subjects– geology, 3 unit music, and 4 unit science (Board of Studies). However, in these subjects their average exceeded girls' by only 2.4 percentage points at most. A similar pattern can be seen for the last few years and in other states and territories.

Indeed, one recent study suggests that females in NSW have performed proportionately better than males in more matriculation subjects for at least the last 100 years (Kamperos). However, other data shows that in recent years the difference in performance has increased (MacCann). This analysis shows that the difference between boys' and girls' average Tertiary Entrance Score (TES) in NSW increased from 0.6 marks in 1981 to 19.4 marks in 1996.

A pedagogical explanation for boys' poorer performance in Year 12 include that some groups of boys and girls may have different learning styles. Traditional schooling tends to favour passive learning which may not suit certain boys who prefer interactive,

experiential learning styles. Boys tend to do better in providing short answers, at providing explanations for effects, and with practical tests. Girls tend to do better with extended writing, and at looking at an issue from a variety of perspectives (Head).

Some commentators argue that assessment methods may implicitly disadvantage males, because these may favour students with high order literacy skills, particularly in the later years of schooling. This line of reasoning draws on the idea that assessment of subjects is becoming more dependent on students' mastery of literacy rather than specific subject knowledge, and so boys with low levels of literacy demonstrate poor outcomes when essay writing and assignments are the principle measures of achievement. Changes in the way that performance is measured may contribute to some of the changes that we see although this is not necessarily an argument against the validity of the assessment methods.

The subject choices of males and females

Year 12 performance is also linked to the different subject choices of males and females. Boys tend to group in a narrower range of high pay off and / or traditional subjects where there is a higher risk of poor performance, whereas girls tend to spread over a wider range of subjects. This is supported by research in the United Kingdom which points out that although girls are increasingly prepared to participate in male dominated subjects, many boys still are reluctant to participate in traditional girls' subjects (Arnot et al).

A recent study (Ainley and Fullarton) shows that of Australian Year 12 students in 1998, males clearly predominated in technical studies (80% of enrolments) computer studies (65% of enrolments), physical education (67% of enrolments) and agriculture (75% of enrolments). However, each of these subjects accounts for only a relatively small proportion of total enrolments. In Year 12 science, there is not a significant difference in the proportions of males and females enrolled. However, there is some segregation between the biological (60% female) and physical sciences (62% male). Females accounted for a high proportion of enrolments in home science (71% of enrolments), languages other than English (68%), and health (63%). This carries

through to a similar gender segregation by field of study in vocational education and training (VET) and in higher education.

VET is fairly even in terms of total male and female enrolments, however there is some gender segregation between the different areas of study in VET (NCVER 12). Architecture, building, engineering, surveying, and land and marine resources, and animal husbandry are over 70 percent male. Science, law and legal studies are just over fifty percent male. The most strongly female dominated courses are veterinary science, health and community services, art, humanities and social sciences, and education. Segregation by qualification level appears to be negligible, with only a slight under-representation of women enrolled at Australian Qualifications Framework (AQF) III level and above.

The gender breakdown of higher education fields of study (DETYA, 2000) shows that there is similar segregation by subject. The most strongly male dominated areas are architecture, building, science, and agriculture. Males strongly dominate IT&T courses, making up 81% of enrolments in 1998 compared with 45% of higher education enrolments overall. The most strongly female dominated areas are education, health, arts, humanities and social sciences.

A point of concern relating to this data is how boys' subject choices continue to reflect a traditional view of work. While this clearly benefits some boys, it will limit others by not providing the flexibility required to thrive in the 'new' economy, where work requires a greater degree of skill in what are typically seen as 'feminine' skills, such as team work and communicating complex ideas.

Post-School Destinations

The extent to which the different patterns of participation and achievement of males and females in education translate into their relative labour market experiences and status is debateable.

Australian Bureau of Statistics (ABS) data on the transition from education to work from May 1999 (see Table 2 below) shows that of those who left school the previous year, more females than males were in tertiary education altogether (64% of females compared with 59% of males); in Higher Education (37% of females compared with 29%

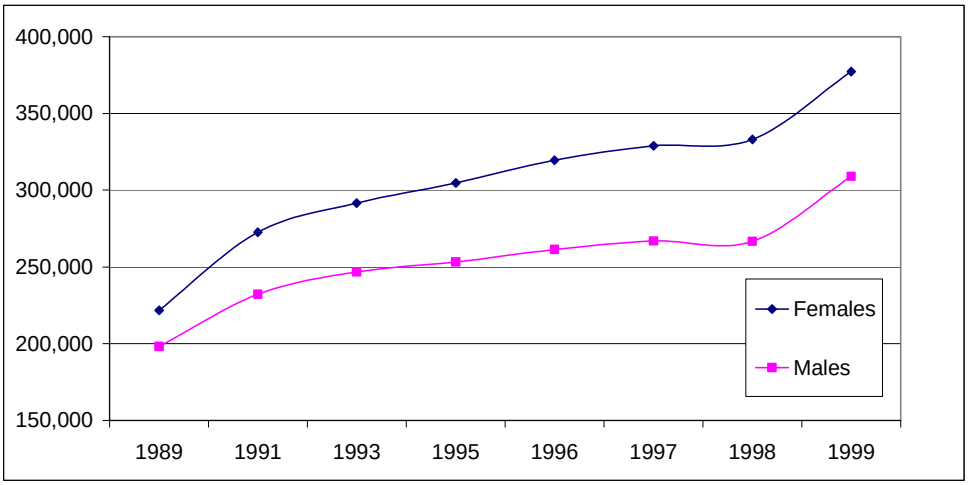
of males); and in part-time work (13% of females compared with 8% of males). More males were in 'Other Tertiary' which is mostly comprised of VET (30% of males and 27% of females); full time employment (17% of males / 12% of females); and unemployment (10% of males compared with 6% of females). In this particular survey the proportions of males and females not in the labour force were both around 5%. These equal proportions may be due to sampling error as other data shows that females are significantly more likely to be not in the labour force.

Table 2 Activities of 1998 School Leavers in May 1999

	Males (%)	Females (%)
Higher Education	29	37
Other Full Time Education	30	27
Employed Full Time	17	12
Employed Part Time	8	13
Unemployed	10	6
Not in the Labour Force	5	5

Chart 7 (below) shows confirms that fewer males than females enrol in higher education with statistics collected by universities (DETYA, 2000).

Chart 7: Enrolment in Higher Education by Gender, 1989 to 1999



Source: Higher Education Statistical Collection, DETYA.

Although the gender gap in higher education grew through the 1990s, it now appears to be easing off, with females accounting for 55.6% of commencements in 1999. The main reasons for the under-representation of males amongst those commencing higher education is that a greater percentage of males than females leave school without a Year 12 qualification, and for Year 12 completers males are more likely to enter the labour market or undertake vocational education and training.

This higher education data, along with the ABS transition survey (ABS) and other labour force and earnings data, implies that even though indicators are better for females than males in education, this advantage is not necessarily translated into benefits for females in the labour market and throughout their working lives. Indeed, the earnings gap in favour of males has persisted despite the improving educational outcomes of females over the last thirty years. This is often explained by men's and women's differing labour market patterns, including the persistence of gender segregation across industries and occupations, the impact of women's childbearing and rearing responsibilities on their participation in paid work, and the concentration of women in part time and casual positions.

Explanations for educational differences between males and females

Overall school under-achievement, failure and drop out have been attributed to a range of factors including: the cognitive abilities, motivation and personality of an individual; peer acceptance and influence; family practices and relationships; community attitudes and support for learning, and community economic status; and the characteristics of the school setting, including structure, curriculum, student-teacher relationships and peer interactions (Lerner and Galambos). Consequently, explanations for the poorer performance of boys range from the purely physical to the purely social. The next section of this paper considers some of the more influential explanations before concluding by considering the policy approaches in Australia and overseas.

Family Structure

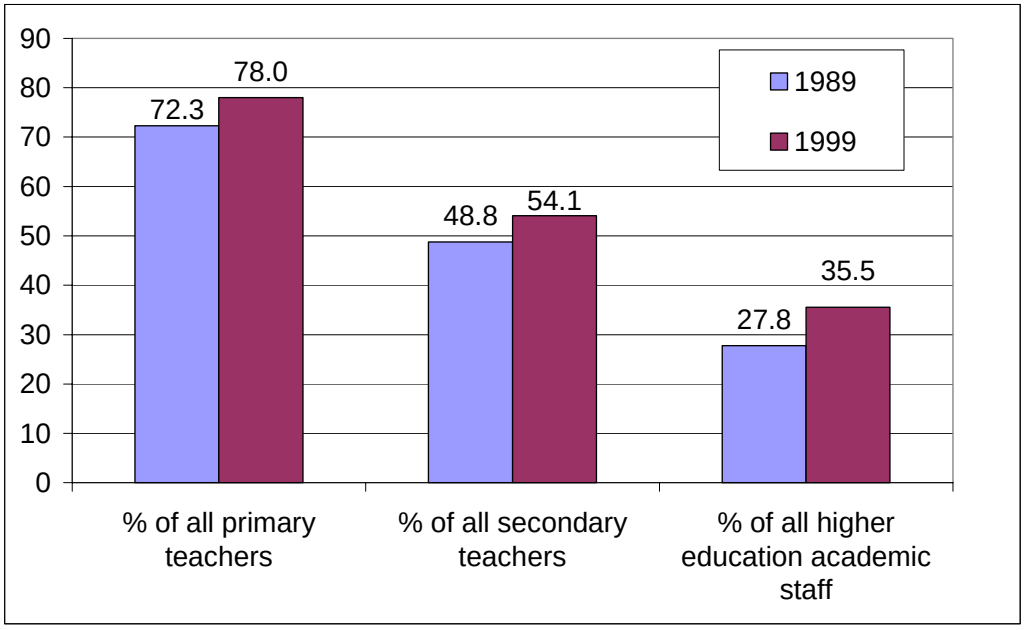
A lack of male role models in sole parent families has been suggested as a reason for the poorer performance of boys. Some research shows that boys are more vulnerable during divorce and that boys' educational attainment is adversely affected by single

mother families (Buckingham 42-43). Against this, the latest research suggests that children in sole parent families do as well as in two parent families and boys may perform better academically with their mother, and girls with their father (Smart). Supporting this point, the research of Breen et al, (1994: 37) confirmed the significant role of mothers in home literacy practices. The study found that there were different roles taken by mothers and fathers in relation to their children's schoolwork, with mothers participating more in a child's homework, reading and learning in the home.

The Teaching Profession

Some commentators have linked boys' poorer performance to a 'feminisation' of schooling, as an increasing proportion of females have come to comprise the teaching profession, particularly in primary school (Buckingham). Indeed, the concentration of women at all levels has increased over the past decade (see Chart 8 below).

Chart 8: Females as a Proportion of teachers, 1989 and 1999



Source: ABS *Australian Social Trends 2000* Catalogue No. 4102.0

This gender breakdown shows most obviously the small proportion of male teachers at the primary level, and that this proportion has fallen over the past decade. Indeed, the small proportion of male primary teachers tend to be densely clustered in leadership positions and teaching the later years, and are least represented in early years

classrooms (ASPA, Submission). At both primary and secondary schools, men tend to be clustered into roles that emphasise authority and discipline whereas women dominate in areas of student welfare and support. Notwithstanding, the secondary level is more equal while males clearly dominate teaching in higher education.

Although attracting more males to the teaching profession at the school level is often put forward as a strategy through which boys can be provided with male role models, there is little data to substantiate any linkage between the gender of the teacher and the skill acquisition of students. In itself, attracting more male teachers is not necessarily the answer. The *Gender and School Education* report (Collins et al) for example, found that male teachers are less likely to implement gender-inclusive strategies and are less attentive to the needs of 'at risk' boys. However, the English Minister for Schools has recently called for more male teachers in primary school as a way of tackling the long term underachievement of boys (BBC).

Single sex schooling

Both boys and girls may benefit from single sex schooling, but the gender composition of schooling is unlikely to be the most important factor impacting on educational outcomes. Rowe (2000) has found that both girls and boys in single-sex settings in Australia perform better and report more positive experiences of schooling than their counterparts in co-education environments – especially during the middle and senior years of schooling. However, he found that single sex schooling is not as important a factor as is the quality of teaching in influencing outcomes.

A New Zealand longitudinal study (Fergusson and Horwood) of gender differences in a birth cohort of over 1,000 children found that for both boys and girls, single sex schools tend to produce higher examination results than co-educational schools. This found that the effect is independent of students' socio-economic background.

A UK report (OFSTED and EOC) noted that, although comparisons between single-sex and mixed schools are complex, girls' schools tend to have the highest levels of performance, followed by mixed schools and then boys' schools. However, the report stated that levels of performance tended to relate to the socio-economic context of the school and the ability profiles of the pupils. Another UK report (Sukhnandan et al, 2000) found that single sex classes can improve classroom confidence for girls, and can

improve relationships between teachers and boys. However, single sex classes mean that pupils miss out on the opportunity to gain the perspective of the opposite sex, which is particularly detrimental for English lessons.

Overseas Strategies

International research on the education of boys and their status in relation to girls both confirms that these concerns are not unique to this country, and suggests some possible policy approaches. Studies from New Zealand (ERO, 1999; ERO 2000), the United States (NCES, 1997) and the United Kingdom (Sukhandan, 1999; Sukhnandan, 2000; OFSTED and EOC) for example, have also focused policy attention on the need to develop strategies to ensure that boys reach their full potential in the early and middle years of schooling, particularly in literacy.

The New Zealand Education Review Office (2000) has gone some way in summarising common factors which have a positive impact on boys performance. For the first time in 1999, in its regular review of schools, it also collected data on awareness of the issues relating to boys' underachievement, systems for identifying underachievement, and programmes in place to encourage underachieving students to achieve their full potential. Collecting this data has both helped in identifying levels of awareness and successful programmes, and in placing pressure on schools to step up their evaluations and monitoring of their own programmes and assessment systems.

Like New Zealand, the UK has developed its research program and policy responses to address boys' underachievement. Initiatives include surveying local educational authorities about the strategies they were employing and obtaining examples of best practice. For secondary schools, the most common strategies being implemented were staff training, single sex groupings, role modelling and mentoring. For primary schools specifically, the most common strategies were new teaching methods and forms of parental involvement (Sukhnandan, 1999). Sukhnandan et al (2000) uses nineteen case studies to investigate more closely the way that single sex classes, mentoring, and literacy intervention have been adopted and implemented. The findings emphasise the need for strategies to be the most appropriate for the social circumstances and ethos of the school.

Approaches in Australia

Here in Australia the policy objective is to promote the interests of both girls and boys. At the national level, the focus is on ensuring that all students meet the *National Goals for Schooling in the Twentieth Century*[2], and in so doing, to achieve real improvements in students' acquisition of basic literacy and numeracy skills. The centrepiece of current initiatives is the *National Literacy and Numeracy Plan*[3], which focuses on the assessment of students against national benchmarks, and national reporting by education systems.

Another strategy has been to expand subjects available so as to effectively integrate the acquisition of practical and academic skills. One means of doing so has been promoting vocational education and training in schools including structured workplace training. Transition programs for at risk young people are also useful for boys and girls at risk of under-achieving. Indeed, this set of initiatives would indicate that Australia can address the issues associated with boys underperformance from within the existing policy framework while allowing significant flexibility to the education and training system to cater for the needs of individual students.

At the school level, a number of strategies are also under trial. These include single sex groupings, particularly for literacy lessons, and various mentoring and staff development initiatives. However, more does need to be known about the success of these initiatives and the reasons underlying the differences in boys' performance across the states and territories, both in the aggregate and in the areas where differences are most marked. We also need to look more closely at these different approaches and strategies underlying the more successful outcomes and devise ways to apply them more broadly.

[2] http://www.detya.gov.au/schools/adelaide/adelaide.htm
[3] http://www.detya.gov.au/schools/literacynumeracy/goals_plan.htm

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