SUBMISSION TO THE PARLIAMENTARY INQUIRY INTO THE EDUCATION OF BOYS JULY, 2000

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TERMS OF REFERENCE:

The social, cultural and educational factors affecting the education of boys in Australian schools, particularly in relation to

their literacy needs and socialisation skills in early and middle years of schooling.

Note: This submission is an extract from the education chapter of *Boy Troubles: Understanding Rising Suicide, Rising Crime and Educational Failure*, published by The Centre for Independent Studies. Some of the statistics have been updated in this version.

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SYNOPSIS

The declining standard of boys' school performance in the last decade is great cause for concern. Although research has attempted to explain this trend, lack of empirical evidence has precluded conclusions to date, and tends to raise more questions than it answers. The decline is represented in a combination of three notable developments:

- 1. deteriorating comparative performance of boys in literacy and English;
- 2. improving performance of girls in maths and the physical sciences; and
- 3. recent changes in curriculum and assessment that have exacerbated these effects.

A key question is *why* boys' literacy skills and subsequent English performance are inferior and deteriorating. The main factors implicated in the gender gap in English and literacy performance are:

• biological differences

This does not explain why the gender gap is increasing.

• gender biases and expectations

This does not shed any light on the deterioration in boys' English performance, nor does it offer any explanation as to the genesis of these biases.

• teaching and curricula

This does not explain why boys learn differently.

• socio-economic status

It does seem that socio-economic status has the strongest link with boys' school performance. However, lack of empirical evidence prevents a conclusive assessment.

Although income does play a role, the most important elements are parental education and family stability. How specific attributes of broken families—such as father-absence—affect boys more than girls is yet to be established. Other questions are whether teaching methods and school curricula differentially disadvantage boys, and, if so, how, are yet to be answered.

Access to information held by Departments of Education would be very valuable in addressing these issues. Without it, research possibilities are limited, and the educational outcomes of boys remain uncertain.

THE PUZZLE OF BOYS' EDUCATIONAL DECLINE

There has been a marked deterioration in the school performance of boys in the last decade. Up until the early 1990s, the average school performance of boys and girls was close to equal. Since then, the gender gap favouring girls has widened each year. This discrepancy has been the focus of a great deal of attention in recent years. Boys are now said to be 'disadvantaged' in relation to girls.

Whether or not there is any merit in comparing boys and girls has been the subject of considerable debate. Some claim that both boys and girls suffer from 'competitive victim syndrome' when they are constantly compared (Kenway & Willis 1997). Others argue that boys were only perceived to be disadvantaged when girls began to rival them in traditionally male-dominated subjects (Foster 1998). Notwithstanding this debate, the measurable discrepancy between boys' and girls' performance demands investigation.

Some of the statistics which highlight this discrepancy are:

- In the 1999 NSW School Certificate (Year 10), girls were overrepresented among students awarded a grade of 'A' or 'B' in 55 out of 66 subjects. In another five subjects, girls equalled boys. (NSW Board of Studies 2000).
- The difference between boys' and girls' average Tertiary Entrance Score (TES), the NSW Year 12 aggregate, increased from 0.6 marks in 1981 to 19.4 marks in 1996, with girls outperforming boys. The largest divergence in the scores occurred in 1992, when the difference increased to 12.2 from 4.4 marks the previous year (see Figure 1). (MacCann 1995; ABS 1998)
- In the 1999 NSW Higher School Certificate (Year 12), the girls' average mark exceeded the boys' in 36 out of 40 subjects, which had 100 or more students, by up to 11%. Boys' and girls' averages were equal in one further subject, 4-unit maths, and for the three subjects in which boys did better—2-unit geology, 3-unit music and 4-unit science—their average exceeded girls' by 2.5% at most (NSW Board of Studies 2000).
- Of the 99 'all-round achievers' in the 1998 NSW Higher School Certificate, who were named by the NSW Board of Studies, only one in three were boys (*Sydney Morning Herald* 4/1/99). The top 10% of HSC students comprised 58% girls and 42% boys (*Sydney Morning Herald* 19/7/99).
- In Queensland in 1998, there was a greater proportion of girls than boys in the top performance bands in 36 out of 45 subjects in Year 12 (Queensland Board of Senior Secondary School Studies 1999).
- In South Australia in 1998, girls were overrepresented in the top performance bands in 27 out of 34 subjects in Year 12 (Senior Secondary Assessment Board of South Australia 1998).

These statistics are predominantly from NSW due to ease of access, but evidence from other states is consistent with these trends. They provide strong evidence that the educational performance of boys is cause for concern, but they do not build a picture of the trends underlying the averages. It is not simply a case of all girls performing better than all boys. There are important underlying patterns behind the declining performance of boys.



Source: MacCann (1995); ABS (1998)

The distribution of results for boys and girls is very different. Boys' scores are concentrated at the extremes of the scale—they tend to do very well or very poorly. Girls' scores tend to be closer to the middle of the scale, with fewer at the extremes. These gender-specific distributions are consistently found in school performance, as well as in IQ tests.

The divergence in the average scores appears to have resulted from a major shift in the proportion of boys at the extreme ends of the performance scale. For example, in 1984 the predominance of boys in the top TES band was 65%, compared with 55% in the lowest TES band. In 1994, the position was reversed. The predominance of boys in the top TES band was reduced to 53%, with a subsequent greater proportion in the lowest TES band (64%).

Although there were still slightly more boys among the top performing students in 1994, this was outweighed by the increase in the number of boys among the poorest performing students. Hence, the average score for boys was much lower. More recent statistics show that boys are no longer in the majority among the top students, so their average has dropped even further.





Source: MacCann (1995)

It is becoming increasingly clear that one of the key contributors to the decline in boys' overall school performance is their particularly poor performance in literacy and school English. This is one of three related developments that have combined to produce the afforded These 'disadvantaged' status now to boys. three developments are:

- 1. boys' poor performance in literacy and English;
- 2. girls' improving performance in maths and science; and
- 3. recent changes to curriculum and assessment that have exacerbated the discrepancies.

Boys' poor performance in literacy and English

'Literacy', as measured by standardised tests in schools, is defined by the Commonwealth Department of Education, Training and Youth Affairs as the ability to 'read, write and spell at an appropriate level' (Masters & Forster 1997: 3). The appropriate level is determined by school year. *The National School English Literacy Survey* (NSELS) in 1996 assessed reading and writing by the following criteria:

- Reading: 1. Ability to read and interpret a range of fiction and nonfiction texts with a degree of critical awareness.
 - 2. Ability to understand main themes, ideas and points of

view.

3. Appreciation of the writer's craft.

4. Awareness of the relationship between the communication medium and the message in written texts.

Writing: 1. Quality of thought (eg. cohesiveness and creativity).

- 2. Language control (eg. spelling and grammar).
 - 3. Sense of purpose and audience.

'English performance' is understood as students' results in either public- or school-assessed examinations of the high school subject of English. The curriculum of English is determined by the Boards of Studies in the relevant States, and is generally a study of English literature, such as novels, plays and poetry.

- In the 1996 New South Wales *Basic Skills Tests*, boys underperformed in literacy compared to girls, in both Year 3 and Year 5 (Steering Committee for the Review of Commonwealth/State Service Provision 1999).
- In the 1996 *National School English Literacy Survey* (Years 3 and 5), fewer boys than girls achieved the benchmark in each mode tested: reading, writing, listening, speaking and viewing (Masters & Forster 1997).
- According to the *Longitudinal Surveys of Australian Youth*, the proportion of 14 year old boys who were illiterate in 1995 was 35%, as compared to 27% of 14 year old girls. This proportion has increased from 30% and 25% respectively in 1975 (Kemp 1996).
- In the 1999 School Certificate, girls were overrepresented among students awarded an 'A' in English, at a ratio of 2:1 (NSW Board of Studies 2000)
- Year 12 performance data from Western Australia, South Australia and Queensland show stronger average English results for girls, with more girls than boys in the highest achievement band, and more boys than girls in the lowest (Teese et al. 1995; Senior Secondary Assessment Board of South Australia 1998).
- In the 1997 NSW Higher School Certificate, the ratio of girls to boys in the top 25% of English students was 2 to 1 (*Sydney Morning Herald* 4/1/99).

Girls' improving performance in maths and science

Before the early 1990s, the gender gap in average school performance was small. This balance was maintained by the high scaling of maths (physics and chemistry). and the physical sciences Boys' comparatively poor performance in English was offset by their stronger performance and highly scaled results in maths and science. There was a slight difference in average score during the 1980s, favouring girls. This was probably due to the increasing participation, and improving performance, of girls in maths and science, which added to their already strong performance in English and the humanities.

Changes to curriculum and assessment

In 1992, boys lost their advantage when the scaling of HSC results became more equalised across subjects. The improved performance of girls across the board, and boys' poor English performance, combined to increase the gender gap in average performance three-fold.

When the compulsory inclusion of one unit of English in calculating the NSW HSC aggregate mark was introduced in 1995, boys' overall school results continued to deteriorate. Although there are subjects in which girls are comparatively weaker, such as computer studies, these subjects are elective. Therefore, if girls do not take computer studies, it will not affect their overall performance.

Some argue that this amounts to an unfair bias against boys, and that it will adversely affect their post-school outcomes (McGaw 1999). Although this may be true, others argue that boys' inferior performance in English is in itself cause for concern.

WHY ARE BOYS' PERFORMING BADLY IN LITERACY AND ENGLISH?

If boys' poor performance in English is a major aspect of their educational disadvantage, what is causing this disparity?

Psychologists, educationists and sociologists have identified a number of factors which may influence boys' ability to use and understand English. They include:

- 1. biological differences between the sexes affecting capacities and interests;
- 2. gender biases which define certain activities or skills as 'not masculine', or which underplay the role of masculine models in encouraging certain activities or skills;
- 3. teaching, curricula and assessment;
- 4. socio-economic factors, including family income, family structure and parental education.

Each of these factors go some way to explaining the observed discrepancy between boys' and girls' English performance. To date, however, research has not provided conclusive evidence of the reasons for enduring gender differences, or for the *increasing* gap in English performance.

Biological differences

Some claim that boys' inferiority in school performance is innate and biologically determined. Moir and Jessel (1989) and, more recently, Biddulph (1997) have cited neurological evidence that boys' brains are different from girls', essentially in the capacity to process linguistic information. They claim that because of this difference, boys are naturally less competent in literacy and English. The evidence for this has been gathered through experiments with rodents and monkeys, and from observation of people who have suffered either brain damage or some kind of defect in brain development. As a result of these studies, it is believed that the sex or gender of a brain is determined by the presence or absence of specific hormones before birth.

The brain is divided into two hemispheres, left and right. These perform specialised functions. The left is primarily involved in verbal abilities, and processing details and organised information. The right is primarily involved in more concrete, object-related information processing. Research has shown that there are fewer connections between the left and right hemispheres in male brains, but that male brains have more neurological connections *within* the right hemisphere.

For this reason, some believe that brain functions are more 'specific' in males, and more 'diffuse' in females. In other words, females are more capable of using both their left and right hemispheres to complete a task, whereas males' abilities are more concentrated in the right hemisphere's capacities. This translates to a restriction of boys' language abilities (literacy and English), and enhancement of their visual-spatial abilities (maths and science).

Several studies have failed to show sex differences in brain structure (see Gilbert & Gilbert 1998). At this stage, however, the accumulated evidence for sex differences in brain structure and function is still quite persuasive.

Yet, although biological brain differences might explain enduring differences between boys' and girls' literacy skills and English performance, they do not explain the *increasing* gender difference in these areas.

Gender biases and expectations

The problem of boys and literacy is sociological, according to some educationists. They argue that behavioural differences between boys and girls arise from different expectations, and that these gender biases in turn influence educational outcomes. Some claim that conventional conceptions of masculinity and narrow stereotypes are restrictive and damaging to both boys and girls, if in different ways.

This view construes boys' inferiority in literacy as the result of a socialised aversion, rather than an innate deficiency. For instance, boys are equally as capable of reading as girls (Shaywitz et al. 1990; Flynn & Rahbar 1994). But the widely discussed and accepted view is that boys do not like to read. Apparently they think reading is 'uncool', and something that girls do. This seems to apply in particular to fiction (Brown & Fletcher 1995). Some claim that boys prefer physical activities, and if they do read, it is more likely to be magazines or manuals. This may strike a chord of truth with many, but the evidence is largely anecdotal and observational.

Part of the problem may stem from the definition and measurement of literacy and performance in English. Different tests of boys' literacy skills have been proposed on the grounds that boys are capable of the mechanics of reading, but are disadvantaged by the subjective, introspective nature of the approach to English literature in schools. The *Boys and Literacy Project* (Martino 1995), for instance, claimed that the emotional element of English at school is in direct conflict with dominant conceptions of masculinity, and is therefore unacceptable to most boys. It is possible that the introduction of reading material that is more compatible with boys' likes and interests would be beneficial.

Angela Phillips (1993) suggests that boys associate reading with femininity, because of the predominance of female teachers in early schooling. This then leads boys to reject reading, as they try to establish their masculinity. So although boys are capable of reading, they supposedly choose not to because it is at odds with what they perceive to be acceptable behaviour. Put simply, boys' literacy problems arise from a gendered aversion to reading. If this were true, however, the same aversion should occur for mathematics, which boys also first experience in primary school. This does not seem to be so.

In any case, this would not shed any light on the *deterioration* of boys' English performance. We still await convincing explanation for both their relative, and deteriorating, underperformance.

Teaching and curricula

In this area, two factors may be combining to weaken boys' literacy performance: the way that reading and writing is taught, and the way that literacy is assessed. A possible gender bias in school culture has also been implicated.

As discussed, for biological reasons of brain structure, boys may have a slight advantage in dealing with 'structured' subjects. A major change has occurred in literacy instruction which bears upon this difference and which may have affected boys' literacy and hence their overall school performance. The method of teaching reading has undergone a transformation since the 1960s, from a structured 'phonics' approach with rules and grammar, to a 'whole word' method where children are encouraged to recognise whole words. The methodical approach to teaching writing—using copy books, writing on lines, etc.—has also been abandoned.

There is some evidence that a more structured approach to literacy teaching has a beneficial effect on boys' performance (Victoria DET 1998; West 1995). Boys perform better in literacy when their instruction and assessment are more highly structured; for example, if they are told what is expected and how their work will be marked. Also, boys' writing style is generally more economical and less flamboyant. It is not known whether this is due to innate biological differences, or whether it is a result of their preference for reading material of the same nature, prescribed by gender expectations.

It is well established that girls mature, both mentally and physically, earlier than boys. Children who fail to learn to read in the early stages of their schooling may never catch up (Harrison & Zollner 1993). Therefore, by not allowing for boys' developmental delay (Cratty 1986; Vann 1991), boys may be disadvantaged, especially those who do not have support for reading at home. Such a disadvantage could seriously affect boys' subsequent performance in English.

The 'feminisation' of schools manifest in the high number of female teachers, the increasingly large proportion of girls in secondary schools, and the campaign to encourage girls to take male-dominated subjects suggests that the school culture and curriculum has resulted in a bias in favour of girls, and that this has alienated boys. This is conjecture rather than fact, although there is some confirmation of this theory in departmental documents about gender equity in education.

A related development has been the widespread introduction of coeducation. Fifteen years ago, discussion about coeducation focussed on girls' school performance. It was apparently taken for granted that boys were academically superior, and that they would probably dominate the classroom (Arnot 1984). The idea behind coeducation economic incentives aside—was that proximity would lead to equality. And so coeducation was promoted, despite British research which had already shown that boys receive more negative attention in mixed classrooms (Delamont 1980; Lowenstein 1980), and despite the fact that boys' and girls' subject choices were more polarised into gendertraditional categories in coeducational schools than in single-sex schools (UK Department for Education and Science 1975).

With the benefit of hindsight, it might have been prudent to take the step toward coeducation in Australia more tentatively. Again, there is a distinct lack of empirical research on the advantages and disadvantages of coeducation and single-sex schools. Most related research looks at the effect sex-segregated classrooms have on the performance of girls in mathematics (Keeves & Stacey 1999), although one NSW study has shown that the merging of two single-sex high schools into two coeducational high schools had no effect on the performance of either boys or girls in the short-term (Smith 1996).

In sum, boys may have been disadvantaged by a combination of several almost simultaneous developments in school education. Methods of teaching and assessment may well affect boys' literacy skills and English performance, but this does not explain *why* boys learn differently.

Socio-economic status

Literacy/English and socio-economic status

There is a strong relationship between the socio-economic status of parents and the educational performance of their children. Socioeconomic status is determined by household or parental income, family structure, and parental education. The higher the socioeconomic status of parents, the higher, on average, the literacy and English performance of their children, both boys and girls.

The performance indicators showing a gender gap (Figure 1) must therefore be seen in the context of socio-economic status. The gap between boys and girls varies with their socio-economic circumstances. High socio-economic status boys outperform low socio-economic status girls. However, the gender gap between boys' and girls' performance persists within each socio-economic level.

Extensive research by Richard Teese et al. (1995) has demonstrated the influence of this factor. In an analysis of Victorian Year 12 exam results (VCE), he found that school performance varied with socioeconomic status for both boys and girls, with girls nevertheless outperforming boys in each socio-economic category.

Alloway and Gilbert (1997) found comparable results in Year 3 students in NSW. When comparing girls and boys with the same socio-economic ranking, girls still did better. At the bottom of the socio-economic scale, both boys and girls exhibited the worst results for their gender, with boys performing worst of all.

The 1996 National Schools English Literacy Survey (NSELS) also found that boys and girls in higher socio-economic groups obtained better literacy results. The performance gap between socio-economic groups widened from Year 3 to Year 5 (Table 1). Thus, socio-economic status influences the English performance of both girls and boys.

Of particular interest is the fact that higher socio-economic status has an moderating effect on boys' performance relative to girls; in short, the gender gap is smaller in high socio-economic groups. Results fall faster for boys than for girls with progression down the socioeconomic scale. (Teese et al. 1995). Socio-economic status appears to mediate English performance specifically, and hence school performance generally, by either enlarging or reducing the gender gap.

<u>Table 1</u>. Per cent of students *not* meeting standards in reading and writing, 1996, by Year of schooling, gender and socio-economic status (SES)

	READING	WRITING
	% not meeting standard	% not meeting standard
YEAR 3		
Boys	34	35
Girls	23	19

High SES	12	10	
Medium SES	28	27	
Low SES	38	30	
YEAR 5			
Boys	35	41	
Girls	24	26	
High SES	13	19	
Medium SES	29	33	
Low SES	53	43	

Source: Masters and Forster (1997).

Maths and socio-economic status

Year 12 results show that maths participation and performance also differ with socio-economic status. But the gender divide between participation and performance in maths is not comparable to that for English. Boys are about twice as likely to enrol in advanced maths courses, and are overrepresented in the top performance bands, but they are also more likely to fail (MacCann 1995; Teese et al. 1995). Consequently, girls' average in maths now exceeds boys' except in the most advanced course, where they are equal (NSW Board of Studies 1999; Ludowyke & Scanlon, 1997).

Maths is traditionally a male course of study, and until this decade, boys dominated in participation and performance. This is less the case now. Teese et al. (1995) claim that there is increased participation and performance by girls from the higher socio-economic groups, and decreased participation and performance by boys from the lower socio-economic groups.

So, there has been a shift whereby girls in the higher socio-economic groups are overcoming the traditional gender barriers, and are exceeding the performance of boys in the lower socio-economic groups. This has created the illusion that all girls have made significant improvements in their educational outcomes. In fact, a subset of socio-economically advantaged girls has improved and a subset of socio-economically disadvantaged boys has deteriorated. The discrepancies in their performance in key aspects of education have been intensified by the recent changes in assessment described earlier.

It is now widely accepted, based on conclusive empirical evidence, that the family environment has a strong influence on school attainment. For example, an Australian study found that the family's socioeconomic status was positively related to cognitive scores, and that family factors accounted for variations in children's educational performance, even after controlling for intellectual ability (Marjoribanks 1987). Why socio-economic status affects English performance, school performance generally and the gender gap specifically, is less clear. Two aspects of socio-economic status, however, stand out in research findings: family income and family structure.

Family income

Does a lack of financial resources in low socio-economic families account for lower school performance? The Western Australian Child Health Survey (Zubrick et al. 1997) showed a relationship between household income and school performance. It found that as income declined, overall academic competence declined. However, these results do not take into account other variables associated with differences in economic circumstances, such as family structure and parental education. Further, financial disadvantage would presumably affect both boys and girls equally, and this does seem to be the case. If socio-economic status is relevant to the growing gender gap, there is presumably an aspect of low socio-economic status families, other than low income, which affects boys more than girls.

Family structure

It has been found that divorce leads to a fall in socio-economic status, and that this adversely effects children's educational outcomes (Demo & Acock 1988; National Health Strategy 1992). The Western Australian Child Health Survey also provides evidence of a relationship between family structure and school attainment: the proportion of children with low academic competence was almost twice as high for sole parent families as for couple families—30% and 17% respectively (Zubrick et al. 1997).

Even after controlling for income it has been found that children whose parents are divorced or separated have lower levels of educational attainment than children from intact families (Guidubaldi et al. 1983; Spruijt & de Goede 1997). If economic hardship were the main predictor of school performance, there would presumably be no difference between children in step-families and children in intact families, where both received similar incomes. Yet children in stepfamilies still generally perform less well, according to research (Amato & Keith 1991).

A custodial parent's remarriage also appears to have differential effects on boys and girls. The presence of a stepfather has been associated with the greater well-being of boys who have a custodial mother, but not girls (Amato & Keith 1991; Hetherington et al. 1985). Paul Amato and Bruce Keith (1991) found that for a variety of outcomes, there is an interaction between the gender of the child and the gender of the custodial parent. Boys seem to be better off with their fathers, and girls better off with their mothers. These findings provide more support for a parental absence or socialisation theory of child well-being, including educational outcomes. One of the strongest predictors of low socio-economic status is sole parenthood, which in turn is a predictor of lower average school performance. Nearly 90 per cent of sole parent families are headed by mothers. Since the majority of these mothers have poorer educational attainments than mothers in general (ABS 1991), and insofar as parental education is a significant factor in children's educational performance, sole parent families, on average, are clearly a less propitious educational environment for children.

Studies have also shown that divorce has more pervasive and enduring negative consequences for boys than for girls (Guidubaldi et al. 1986), and that time spent in single mother families has a significantly stronger, adverse effect on boys' educational attainment than girls' (Krein & Beller 1988). This might be because boys in sole parent families frequently lack a male role model and miss the discipline exercised by most fathers. However, we lack substantial supporting evidence for such a view.

The importance of the family environment

The fact remains that some circumstances of low socio-economic status families adversely affect boys more than girls. Without discounting the stresses and strains for parents with a low family income, when we look more closely at the correlation between socio-economic status and school performance, family income *per se* declines in importance, and family structure, parental competence and parental influence come to the fore.

SUMMARY

- Against a background of poor standards of literacy in both boys and girls, the general school achievement levels of boys are declining in comparison with girls.
- The notable features of this significant and increasing discrepancy are boys' more serious literacy problems and subsequent poor performance in English.
- Biological differences, possibly involving hormonal and brain structure differences, may play a part by influencing capacities, interests and motivations, and thus yielding advantages for boys in certain subjects, and for girls in others. The research evidence so far is inconclusive. But if significant innate gender differences do exist, any recent changes in curricula, instruction and assessment that are comparatively less congruent with boys' capabilities and interests, could be a factor in boys' declining performance.
- The socio-economic backgrounds of children are strong predictors of their literacy skills and school performance. For boys' English performance, the relationship is particularly salient in that the gender gap increases with decreasing socio-economic status. What matters most is not parental income, but rather parental

education, general competence, and family stability. More broken families also entail the more frequent absence of a father from children's home life. A vital question is whether this disadvantages boys' education more than girls'.

IMPLICATIONS AND RECOMMENDATIONS

The declining educational achievement of boys is associated not only with subsequent unemployment, and an impoverished intellectual and social life, but also with the genesis of delinquency and crime (Kercher 1988; Gottfredson & Hirschi 1990). For these reasons alone, it is critical that the problem of boys' education be addressed in a systematic way.

The research evidence so far does not allow us to identify causes of the gender gap in performance with any confidence, but it does highlight areas where further research is and urgently needed. Is the increasing absence of a father at home more salient for boys than for girls? Are gender-specific role models important? Are there 'gender biases' in curricula, instruction and assessment, and, if so, how do they work and should they be reformed?

Ready access to data collected by Departments of Education about performance of students and schools is vital to further research. Departments have been reluctant to release such information, presumably to protect poorly performing schools and teachers, and inappropriate teaching methods, from critical scrutiny. This data, however, combined with demographic data from other sources, could make an important contribution to understanding boys' declining educational achievement.

Key recommendation 1: That a wide-scale, possibly longitudinal, study using data held, or capable of being collected, by the Departments of Education or other government agencies, be commissioned to look into the effect of familial and environmental variables on both boys' and girls' educational performance in general, and literacy skills specifically.

Key recommendation 2: That methods of literacy instruction and assessment be critically examined and reviewed in light of the evidence that boys may not respond as well to the current methods.

The intrinsic worth of education and its impact on quality of life attracts far less attention than the vocational outcomes of education. But what about the less tangible rewards of education, such as enjoyment of learning, the great satisfaction to be found in reading, and the ability to appreciate the arts? These neglected benefits seem to be regarded as the privilege of girls, and of children in socially advantaged families. Educationally disadvantaged boys, who tend to come from socially disadvantaged families, should have equal access to the intrinsic value of education as well as its vocational outcomes. The success of feminist programs in promoting gender equity in schools has been evident for some time. Girls are now participating in education to a greater extent, widening their choice of subjects, and achieving comparable outcomes. Now the focus has shifted to boys. The NSW Government's Report on Boys' Education (O'Doherty 1994) emphasises 'gender equity' programmes as its key recommendation.

There is, however, danger in placing too much emphasis on gender. Gender equity strategies should attempt to minimise the importance of gender, rather than make it a central issue. Schools should question how their methods of teaching and assessment are unwittingly handicapping less resilient boys from an early age, instead of focussing on whether boys' and girls' subject choices in high school are polarised on the basis of gender identity.

Key recommendation 3: That strategies which promote gender equity be extended so that they target the obstacles to equal educational opportunities and enjoyment for boys and girls earlier rather than later, both in terms of curricula and gender biases.

Inconclusive empirical evidence and speculative opinion are hampering the search for a solution to the puzzle of boys' educational decline. Until this situation changes, possibilities for reform are limited, and the educational outcomes for boys will remain uncertain.

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