

What the experts say

**A summary of the key findings on the
benefits of girls' schools**



Introduction

This document aims to bring together key information on girls' schools under the headings listed below. Each section includes introductory points, references to relevant literature, including both positive and negative views, and selected quotations.

- Introduction and background information
 - Academic performance
 - Subject choice
 - Brain research
 - Teenage years and social aspects
 - Preparing girls for future world and careers
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1. Introduction and Background Information

Single-sex education has a long history in Britain. The majority of schools in both the state and independent sectors were single-sex until comparatively recently. In the state sector, co-education came with the new comprehensive schools of the 1960s and a view that it was more 'natural' for girls and boys to be educated together. In the independent sector the move to co-education has largely arisen from girls being admitted to boys' schools, first at sixth form level and then throughout the school, or from the merging of neighbouring schools, often for economic reasons. Very few girls' schools have taken the step of admitting boys.

The debate about whether girls and boys achieve more or are more successful in a single-sex environment by whatever measure you use, continues to rage and professionals with similar backgrounds take opposing sides with equal fervour. For example, Leonard Sax, an American psychologist and family doctor and founder and executive director of the National Association for Single Sex Public Education (NASSPE - www.singlesexschools.org) has carried out extensive research including the publication of a book, *Why Gender Matters* in 2005. In Dr Sax's view,

"Schools should stop being gender-blind and teach girls and boys separately."

In addition to NASSPE in America, and the Girls' Schools Association in Britain a number of other organisations also campaign for and promote single-sex education including the National Coalition of Girls' Schools in America (www.ncsg.org) and the comparatively recently formed, European Association for Single-Sex Education (www.easse.org)

It is in the USA particularly that single-sex education for both girls and boys has seen a recent surge of interest. Co-education has always been the norm, with relatively few exceptions. However a number of recent studies have provoked highly-charged public debate and ultimately led to legislative changes which make it easier to start single-sex schools. Consequently new girls' schools are starting to open across the States for girls of all backgrounds and ability levels. Two recent books by Ilana de Bare and Diana Meehan describe in some detail the challenges and rewards of starting up new girls' schools. Both make compelling reading and are persuasive in their arguments that girls really do thrive in the single-sex environment.

As Diana Meehan puts it in *Learning Like a Girl*,

"Girls' schools are good for girls. What's good about them is they are totally and exclusively dedicated to girls. The research about how girls learn urges us to find a place they can "own" which only occurs in single-sex space; where their values, community, and connection are honored; and where their ways of knowing are respected and their hearts engaged."

These personal accounts are complemented by the broader academic perspective of Rosemary Salomone who in her authoritative *Same, Different, Equal: Rethinking Single-Sex Schooling* sums up the difficulties inherent in promoting the benefits of single-sex education,

“Informed parents, some of them understandably skeptical, demand evidence that single-sex schooling produces academic and social benefits for their children. What seems to get lost in the rush for definitive proof is that the exact nature of the benefits is highly contextual. It depends in large part on the individual students and their particular backgrounds, abilities and needs. It also depends on what the stakeholders are looking for in the end.”

But after a thorough review of the available literature she sums up in favour of single-sex education by saying that the research is, *“Mildly and qualifiedly supportive, though by no means conclusive.”*

Meanwhile a recent review of research by Alan Smithers and Pamela Robinson of the University of Buckingham, commissioned by HMC whose member schools are predominantly co-educational, also concluded that there is *“an emerging consensus both in this country and elsewhere that there are no striking advantages to either single-sex or co-education”*. But their report has been cited as supporting co-education simply because in their view firm evidence in favour of single-sex education is lacking. Smithers and Robinson pinpoint a fundamental problem in this area of research: *“The paradox of single-sex and co-education is that the beliefs are so strong and the evidence is so weak.”* - on both sides of the debate.

It is therefore not by quoting academic research into single-sex and co-education that parents and their daughters will be persuaded to choose one type of school or another. It is by looking closely at what parents ideally want for their daughters during these all-important teenage years and demonstrating just how well a school can deliver these requirements. Jackson & Bisset (2005) conclude that the majority of parents are looking in the first instance for a good school regardless of whether it is single-sex or coeducational. However, as David Reisman, Professor of Social Science at Harvard University observes, girls' schools offer an enviable model.

“Girls' schools redefine competitiveness and collaboration, autonomy and connectedness. They present a model that other schools would do well to emulate.”

2. Academic Performance

It is a recognized fact that girls generally perform better than boys in public examinations at ages 16 and 18 and therefore one might reasonably expect girls' schools to gain better results overall. Critics are also quick to point out that the independent girls' schools that 'top the tables' do so merely because they are highly academically selective and they tend to draw pupils from affluent and supportive homes. However, when the performance of girls at single-sex and co-educational independent schools is compared directly, those attending single-sex schools gain a higher percentage of A grades.

- At A level, girls in independent girls' schools achieve on average nearly 8% more grade As across all subjects than girls in independent coeducational schools.
- At GCSE, girls in independent girls' schools achieve on average nearly 13% more grade As and A*s in all subjects than girls in independent coeducational schools.
- In mathematics and sciences the average differential is over 8% at A level.

[Click here to see exam statistics hyperlink to be added](#)

It is not only at A Level that benefits have been identified. A 2004 report by Daly and Defty looks specifically at girls' performance in mathematics in both single-sex and co-educational schools and finds clear evidence that, after other factors have been controlled, girls' results are better in the single-sex environment than in the co-educational one. These findings are supported by recent research on GCSE performance at independent schools from the Curriculum, Evaluation and Management (CEM) Centre at Durham University which confirms that *"Almost without exception, when ability variation is taken into account the average performance of pupils of both genders in single-sex schools is better than the average performance of their counterparts in mixed schools by a significant margin."*

Recent research by the American economist Thomas Dee, who is based at the National Bureau of Economic Research in Cambridge, Massachusetts adds another dimension. His work has shown that *"girls learn better from women; boys from men...Children are natural emulators. Boys and girls absorb information differently from men and women and they need role models."* This evidence has been used to highlight the need for greater numbers of men in the classroom, particularly at primary level, but it can also be inferred that teaching may be more effective if both girls and boys are taught in single-sex groups.

3. Subject Choice

Anecdotal evidence abounds that girls are more likely to feel able to choose the subjects they really wish to study in a single-sex environment and that there is less chance of them being restricted by stereotypical assumptions.

The main longitudinal study of single-sex and co-educational schooling in Britain published in 2006/7 by Leonard, Joshi and Sullivan, gives valuable information on how attendance at a particular type of school has affected individuals in later life and lends authority to this view. Indeed the authors

“found support for the hypothesis that single-sex schooling moderated the effect of gender stereotyping in terms of self-concept and choices of fields of study.”

In addition, the following observations are made:

- Girls who attended girls’ schools are more positive about their own abilities in maths and sciences.
- Gender differentiation in academic disciplines is much greater in mixed schools.
- Girls who attended girls’ schools went on to gain higher wages than those attending co-ed schools*

* This was the finding that attracted most attention, especially in the media, when a press release was issued in 2006. However, it must be borne in mind that the two cohorts of subjects under examination in this study were born in 1958 and 1970 respectively and owing to a certain amount of data loss it is the 1958 data which are more reliable. At age 16, 25% of the 1958 cohort were attending single-sex schools, compared with 13% of the 1970 group. A high proportion of these schools were academically selective. It is therefore unsurprising that those attending girls’ schools were observed to earn more in later life as this group had the higher levels of prior attainment.

“Single-sex schools seem more likely to encourage students to pursue academic paths according to their talents rather than their gender whereas more gender-stereotyped choices were made in co-educational schools.” - Alice Sullivan, Institute of Education's Centre for Longitudinal Studies

Other studies have reached similar conclusions. Elwood and Gipps (1999) found that *“Subject choices are more polarized in co-educational environments with maths and science undoubtedly enjoying greater popularity among girls in single-sex schools than with their co-educated counterparts.”*

Francis, Hutchings and Read (2004) found that girls have a different approach to science which can be more specifically addressed in an all-girls’ context. They also report that the Equal Opportunities Commission and the DTI have also identified that the relatively small number of women pursuing science to a higher level contributes to the gender pay gap since many jobs that require advanced qualifications in science are comparatively well paid. It therefore makes sense to give as many girls as possible the opportunity to study in an environment which maximises the likelihood of them studying science to advanced level. One eminent scientist who benefited from a girls’ school education puts it this way,

“In our school, the assumption that science is for boys simply didn't exist. Science and arts subjects were equally valued, and it was because of this that I chose a mixture of science and arts A-levels. This mixture has been a great benefit to me as a scientist because, as well as designing and carrying out experiments, science involves regularly having to read, evaluate and write papers.”

Dr Sarah-Jayne Blakemore, Royal Society Dorothy Hodgkin Research Fellow, Reader in Cognitive Neuroscience, Institute of Cognitive Neuroscience, University College London.

4. Brain Research

Psychologist Dr JoAnn Deak, author of *Girls will be Girls: Raising Confident and Courageous Daughters* asserts that “boys and girls are as different from the neck up as they are from the neck down.” She and many other researchers benefiting from recent strides in brain research have been able to study male and female brains in real time, watching how they perform tasks and absorb and process information.

Whilst there are naturally exceptions and fine distinctions to be made, it is generally agreed that female brains will find it easier to acquire linguistic, auditory and fine motor skills and exhibit attention to detail. The female brain is both more decentralized and more integrated and typically uses a greater variety of parts or locations than the male for a single task. This is due in part to the *corpus callosum*, the bridge between the left and right brain hemispheres, generally being more highly developed in female brains. Women have 11% more hearing neurons than men and are therefore much more likely to think someone is shouting when a man hearing the same voice would take a different view: another difference which has implications for boys and girls in the co-educational classroom.

In her groundbreaking study, *The Female Brain*, Dr Louann Brizendine observes that “male and female brain operating systems are mostly compatible and adept but they perform and accomplish the same goals and tasks using different circuits.” This has implications for learning styles and the ways in which girls can be most effectively taught.

These new insights have led many experts to conclude that single-sex teaching offers the best opportunity for the preferred learning styles of both boys and girls to be accommodated. Dr Brenda Despontin, Headmistress of Haberdashers’ School for Girls, Monmouth comments, “Intrinsic underlying differences between boys and girls mean that their learning needs differ to such an extent that they can only be met effectively when taught separately. Different levels of physical, psychological and emotional maturity mean that boys and girls are ready for different types of learning at different stages.”

Dr Rosalind Barnett of Brandeis University, Massachusetts supports this view, “Studies increasingly argue that boys and girls should be taught separately because of fundamental biological differences.”

However, an opposing view comes from the clinical psychologist Stephen Briers. In a recent article in the TES he responds to recent research showing significant differences in the development and functioning of the male and female brain. His position is that while these differences undoubtedly exist, the similarities are much greater and the “innate flexibility of the brain” is more than capable of overriding the differences. He argues passionately in favour of co-education on the grounds that boys need to be exposed to environments in which the capabilities which come more naturally to girls such as “moral reasoning, verbal sophistication and self-regulation” are actively promoted. The reverse situation is not suggested: which are the boys’ capabilities and attributes from

which girls will learn? Again, this leads to the conclusion that boys may benefit much more from co-education than girls.

5. Teenage years and social aspects

This recent brain research has also helped to confirm what parents and teachers of teenagers already knew. The different developmental stages of male and female brains are triggered by hormones and coincide with the onset of puberty and that on average the female brain matures two to three years earlier than the male.

Ken Rowe of the Australian Council for Educational Research finds that *“Co-educational settings are limited in their capacity to accommodate large differences in cognitive, social and developmental growth rates of girls and boys. Evidence suggests that single-sex settings better accommodate the specific developmental needs of students.”* He is echoed by another Australian commentator, educational psychologist, Steve Biddulph, author of *Raising Boys, Boys and girls aged between 12 and 15 do not learn well together. The reasons are developmental. There is an almost two-year difference in the onset of puberty so girls leap ahead physically and emotionally.”*

In her chapter entitled *Teen Girl Brain*, Louann Brizendine is controversially clear about the implications of these developmental changes for young women,

“The teen girl’s brain is sprouting, reorganizing and pruning neuronal circuits that drive the way she thinks, feels and acts - and obsesses over her looks. Her brain is unfolding ancient instructions on how to be a woman. During puberty, a girl’s biological raison d’être is to become sexually desirable. She begins judging herself against her peers and media images of other attractive females. This brain state is created by the surge of new hormones on top of the ancient female genetic blueprint.”

Small wonder then that girls can be put off contributing fully to discussions in co-educational environments, that they become much more self-conscious and unwilling to risk getting things wrong or appearing foolish. As Diana Meehan puts it,

“Free from the judgment of boys, girls are active, not reactive. They’re not distracted, wondering What do the boys think of this?”

or as Bernice McCabe, Headmistress of North London Collegiate School was quoted saying in *The Evening Standard* in September 2006,

“The atmosphere of girls’ schools enables girls to have the freedom to concentrate on their studies. There’s no distraction for them in considering how they may be seen by boys, there’s no worry that something will affect their image if they are seen to be clever.”

Journalist Cristina Odone is more forthright,

“Study after study has shown that girls in mixed classrooms refrain from speaking up and answering questions. Parents must be allowed to keep their children away from the distractions and distortions inherent in mixed classes.”

Girls' schools offer a challenging and supportive environment in which girls are free to take risks and master new skills. They can assess and confront the ways in which women are portrayed in the media. When all the positions of leadership are held by girls, positive role models abound encouraging the aspirations of the younger girls. In their 1999 study, Elwood & Gipps found support for these views,

“Parents of girls choose single-sex schools for confidence, female role-models and to avoid subject stereotyping...There is evidence that single-sex schools and classes do much for the promotion of girls' confidence and self-esteem and allow girls to get a clearer picture of their own abilities.”

MP Diane Abbott, herself educated at an all-girls' schools is candid about the benefits,

“Maybe the absence of boys means there is less subliminal pressure to conform to a feminine stereotype. And in today's hyper-sexualised raunch culture, school can provide a respite from the unremitting pressure on young women to win male approval. I have never regretted going to an all girls' school. A lifetime spent in professions dominated by men has taught me more about them than I ever needed to know. My school taught me to be glad to be a girl.”

6. Preparing girls for future world and careers

Girls' school alumnae are full of praise for the preparation that their school gave them for their further education and future career. Whilst detractors will argue that girls who attended girls' schools are ill-equipped for a co-educational life at university, there seems to be no evidence for this. University tutors are consistently impressed with their confidence and ability to adapt.

'Female students from single-sex schools typically have a social assurance and maturity that enables them to deal effectively with the transition from school to university. These attributes also enable them to form personal relationships with male students that are convivial as well as professional.' Dr David Wyn Jones, Reader in Music, Undergraduate Admissions Tutor (Music), University of Cardiff

They often have a can-do attitude and are more willing to take risks than their co-educated counterparts, having been encouraged to do so in the supportive but challenging environment of their school.

“The evidence is that girls' schools provide role models which mean anything is possible and failure is not shameful. These are important lessons to learn at a formative stage.” Esther Rantzen

And as the Centre for Longitudinal Studies research cited above shows,
“Attending a girls' school makes a much stronger link with higher-than-average earnings.”

Diana Leonard, Institute of Education's Centre for Longitudinal Studies

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