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Single-sex and co-educational secondary schooling: what are the social and family outcomes, in the short and longer term?

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Abstract

This paper considers the question of whether attending a single-sex or co-educational secondary school made any difference to a range of social outcomes for girls and boys at school, and for men and women as they progressed through the life course. We examine these questions using data from a large and nationally representative sample of British respondents born in 1958. The outcomes examined include whether or not the participants liked school; their histories of partnership formation and dissolution; childbearing; attitudes to gender roles; and well-being. Among the minority of outcomes showing a significant link to attending a single sex school were lower truancy, and for males, dislike of school, divorce, and malaise at 42 (if they had been to private or grammar schools).

Introduction

The vast majority of research papers which have been published on the question of the respective merits of single-sex and co-educational schooling have focussed primarily on aspects of academic attainment. This paper seeks to redress the imbalance by asking whether single-sex and co-educational secondary schooling were linked to a range of social outcomes, both during adolescence, and later in the life course.

The UK has a long history of single-sex education, and of debates around the issue of whether mixed or single-sex schooling is better. Traditionally, British secondary schools were single-sex. However, the progressive school movement in the early 20th century and Dale's later influential work (Dale 1969, Dale 1971, Dale 1974) both stressed the advantages of boys being educated with girls. Dale argued that boys did better academically in mixed schools, because girls' greater industriousness was communicated to them, and boys were spurred on by competition with the girls. However, academic attainment was not Dale's only, or perhaps even his central, concern. He was interested in relationships between the sexes, and in promoting what he saw as 'healthy' relationships. In Dale's view, mixed-sex schooling was more 'natural' and provided protection against homosexuality. He presented evidence suggesting that boys and girls in mixed schools had more positive and friendly attitudes towards one another, and that as adults they were more likely to believe in the equality of the sexes and to have happier marriages than graduates of single-sex schools. Much of this evidence was based on selected open-ended responses and there was no claim that the survey was representative. A study by Atherton (1973), using retrospective data, also suggested that men and women who had attended co-educational schools had happier marriages.

While we do not share Dale's 'normalising' of heterosexuality and denigration of singlehood and child-free living, his work does suggest interesting areas to explore regarding the effects of co-education in encouraging more friendly and egalitarian attitudes between the sexes and in terms of 'successful family formation', as does other work on the history of concern with single-sex schooling and homosexuality (see Faraday 1989). Dale's focus on happiness and relationships within the school is also something that could usefully be revived by researchers.

In the current policy context, both in the UK and in other Anglophone countries, there has been a revival of interest in single-sex groupings within mixed schools, largely driven by the moral panic about boys' 'underperformance' compared to girls in terms of academic attainment (Warrington and Younger 2003, Younger and Warrington 2006). There is an interesting tension between the perception that girls and girl-friendly pedagogy are holding boys back, and therefore boys would be better off being taught separately, and the familiar view that girls are a 'civilising influence' to be exploited for the benefit of the boys (Ivinson and Murphy 2007). At the same time, girls' schools continue to be relatively popular with parents, while boys' schools are struggling to survive in the quasi-market within the state system, and many boys' schools within the private sector are going mixed. Parents who choose single-sex schooling for their daughters invoke a range of discourses, and raise diverse issues including equal opportunities and anxieties regarding female sexuality, while the parents of boys often perceive co-educational schooling as a positive socialising force (Ball and Gewirtz, 1997). The social, rather than purely academic, aims of schooling are often invoked both by the supporters and by the opponents of single-sex schooling, yet this is an area where strong opinions thrive in the absence of much evidence.

Literature

A few studies have examined students' attitudes towards school and delinquency at school (Brutsaert 2006, Caspi 1995, Caspi et al 1993, Lee and Bryk 1986, Marsh 1989, Marsh 1991). However, no clear consensus emerges from this literature, partly because of the diverse range of outcome variables considered. As far as we are aware, no previous studies have examined the general well-being or mental health of children at single-sex or co-educational schools, or of adults, according to whether they attended single-sex or co-educational schools.

Family formation is another area that has been neglected by researchers. This is surprising in that family formation is often central to the arguments used by both sides in the single-sex debate. In particular, religious adherents of single-sex schooling, whether Catholic, Muslim, or from other traditions, are often concerned with (female) purity, and link the danger of promiscuity and teenage pregnancy to co-educational schooling. Feminists have also been troubled by the toleration of sexual harassment within co-educational schools. Conversely, proponents of co-educational schooling have hinted darkly that single-sex schooling promotes homosexuality; though this is linked particularly to the elite boarding schools (Lambert and Millham 1968). Yet reviews of studies of single-sex and co-educational schooling have found an absence of studies addressing the issues of teenage pregnancy or childbearing at any age, sexuality, partnerships and marriage (Mael et al 2005, Mael 1998).

It has been suggested that attitudes to gender equality may be affected by single-sex schooling. This can be argued either way. Co-educational schooling may lead to more egalitarian relationships, as argued by Dale. Alternatively, boys may assert their dominance in co-educational settings, perhaps with lasting consequences for the confidence of the girls (Spender and Sarah 1980). Feminists have also argued that girls in single-sex schools are exposed to more women in positions of leadership, which may affect their attitudes to gender roles. Yet we are not aware of any studies which examine adult attitudes to gender roles, or the quality of relationships between the sexes, although one past study in the US examines the incidence of divorce, and found no difference in the likelihood of remaining married to the first spouse for either men or women according to whether they had attended single-sex high schools (Riordan 1990).

This article reports on a wide-ranging study into the lifecourse consequences of single-sex schooling. Elsewhere, we have reported on the educational and

economic consequences of single-sex schooling (Sullivan 2009, Sullivan, Joshi and Leonard 2010, Sullivan, Joshi and Leonard 2011). In the current paper, we seek to make a substantial contribution to the neglected question of whether there are social consequences for individuals of attending single-sex or co-educational schools. As such, we cover a large amount of ground, summarising results regarding a range of outcomes, rather than restricting our focus to a particular area or age-range.

The dataset used in the current study has important advantages in addressing these questions. First of all, it allows us to address the issue of comparing like with like. Single-sex schooling was quite common for the British cohort born in 1958, rather than being the preserve of a particular social or religious group. In addition, our rich longitudinal data allows us to control for a wide range of characteristics of the children prior to their entry to secondary school. Furthermore, we are able to examine the responses of this cohort, not only during their school years, but also into their middle-age.

Research Questions

We examine whether single-sex or co-educational schooling is linked to a wide range of outcomes both during adolescence and later in life.

1. **Liking for school, behaviour and well-being during adolescence**
   a. Students' responses on whether or not they liked school: Dale's work (1969, 1971, 1974) suggests the hypothesis that boys and girls should prefer co-educational schooling.
   b. Self-reported truancy rates: traditional pro-single-sex arguments suggest that single-sex schools have an advantage in terms of discipline, which suggests the hypothesis that truanting should be less common at single-sex schools.
   c. Psycho-social adjustment at 16: advocates of co-educational schooling suggest that single-sex schooling can cause psychological damage, which suggests the hypothesis that behaviour problems should be worse at single-sex schools.
2. **Mental health in adulthood**
   Respondents' scores on Rutter's malaise inventory (Rutter et al 1970): advocates of co-educational schooling suggest that single-sex schooling can cause psychological damage, which suggests the hypothesis that people who have attended single-sex schools should have higher malaise scores. We look at the self-reported measure taken at age 42.
3. **Family formation and relationships**
   a. Having a child at all (by age 42): if co-educational schooling facilitates relationships between the sexes, this suggests the hypothesis that childbearing should be less likely for people who attended single-sex schools.
   b. Teenage childbearing: some advocates of single-sex schooling argue that co-educational schooling encourages early sexual activity. This suggests the hypothesis that the risk of teenage childbearing should be lower at single-sex schools.
   c. Age at first birth: as per 3a, this suggests the hypothesis that childbearing should be delayed for people who have attended single-sex schools.
   d. Marriage: opponents of single-sex schooling have suggested that it makes it more difficult for people to form relationships with the opposite sex. This suggests the hypothesis that marriage should be less likely for people who attended single-sex schools.
   e. Self-reported rating of quality of partnerships: following from the hypothesis above regarding marriage, this suggests that partnership quality should be lower for graduates of single-sex schools, which would be reflected in self-reported partnership quality.
   f. Responses regarding whether the respondent would choose the same partner again: as above, we hypothesize that respondents from single-sex schools should be less likely to say they would choose the same partner if they had their time again.

g. Divorce: following from the hypotheses above, we hypothesize that graduates of single-sex schools should be more likely to divorce.

4. Gender role attitudes and behaviour

a. Attitudes to women's employment: competing hypotheses have been put forward in this area. Advocates of co-educational schooling have suggested that it leads to more egalitarian attitudes, whereas advocates of single-sex schooling for girls have suggested that single-sex schooling gives girls more confidence in their equality with men.
b. Domestic division of labour: competing hypotheses apply here as above.

Data and Methods

The National Child Development Study (NCDS) is a longitudinal study of a single cohort born in Britain in a week of March 1958. The cohort members have been followed-up throughout their lives, most recently in 2008 when they were 50 years old.

The initial sample was designed to be nationally representative of all children in Britain, and achieved a sample size of 17,414 (Shepherd 1995). By the third follow up (sweep 3), when the children were aged sixteen, 14,761 respondents remained in the study. Hawkes and Plewis' (2006) examination of attrition and non-response in the NCDS finds few significant predictors of attrition, wave non-response, and missing education data, thus supporting the assumption of ignorable non-response. Neither parental education nor social class were significant predictors of non-response. The distribution of educational qualifications gained by the cohort members by age 33 was closely in line with other data sources (Dale and Egerton 1997).

Schools attended by the NCDS cohort

The NCDS cohort experienced a state secondary education system that was in transition from the tripartite system to the comprehensive system. Under the tripartite system, children sat an exam at age 11 (called the eleven-plus) which determined whether they would attend an academically selective Grammar or Technical school, or a Secondary Modern school, designed for the majority of students. Comprehensive schools, which were being introduced during the 1960s and 1970s, were intended to replace this selective system with all-ability schools. 58% of the NCDS respondents attended Comprehensive schools, but 11% still attended Grammar and Technical schools, 22% attended Secondary Modern schools, and 6% attended Private and Direct Grant schools. Private schools are fee-paying schools. Direct Grant schools were fee-paying, but had a proportion of state-funded places. Henceforth, we refer to Grammar and Technical schools as 'Grammar schools', and Private and Direct Grant schools as 'Private schools'. We exclude from our analyses the 26 students who attended schools classified as special or 'other'[i]. We also exclude respondents lacking in information on the sex composition or sector of school at age 16, leaving us with a sample of 12,320. Single-sex schooling was far more common than it is today. The proportion of students at single-sex schools ranged from 78% at Private schools to 13% at Comprehensives. Taken as a whole, a quarter of the cohort attended single-sex schools at age 16. This provides an advantage for our analysis, as, in school systems where single-sex schooling has become the preserve of a small minority, this makes it very difficult to compare like with like (Baker, Riordan and Schaub 1995).

It should be noted that, although we have both individual-level and school-level data, we are not able to identify whether students attended the same school as other members of the sample. The sample is not clustered, with students being sampled within schools. Instead, the sample consists of all children born in Britain in the relevant week. It is very likely therefore that many schools would be represented by a single sample member. It is therefore neither possible nor necessary to apply a multi-level statistical model to these data. A further limitation is that, due to the small numbers of ethnic minority individuals included in the NCDS, it is not possible to conduct analyses according to ethnic group.

Outcome Variables

Our analyses address the following outcome variables.

1. Liking school (age 16): cohort members were asked to respond to the statement 'I do not like

school' on a 5-point scale ranging from 'Not true at all' to 'Very true'.

2. Truancy (age 16): cohort members were asked whether they had stayed away from school at all that year when they should have been there (Yes/No).
3. Psycho-social adjustment (age 16): as an indicator of socio-emotional adjustment at age 16, we take the mother-reported version of the Rutter Child Scale (Rutter, Tizard and Whitmore 1970), summarised into externalising/aggression and internalising/anxiety scales after exploratory factor analysis (Joshi and Verropoulou 2000, McCulloch et al 2000).
4. Malaise (age 42): the Malaise Inventory is a 24-item scale designed to assess the tendency to depression or low mood (Rutter, Tizard and Whitmore 1970). The items in this scale range from relatively minor symptoms, e.g. 'Do you often have bad headaches?' to severe problems, e.g. 'Have you ever had a nervous breakdown?'
5. Childbearing: a. Child by 42; b. Child by 18; c. Age at first birth.
6. Marriage (by age 42)
7. Relationship quality 1 (age 42): cohort members who were married or cohabiting at 42 were asked to rate the quality of their relationship from 1 (extremely happy) to 7 (extremely unhappy).
8. Relationship quality 2 (age 42): cohort members who had a partner at 42 were also asked whether they ever regretted marrying/cohabiting with their partner, and whether they would marry/cohabit with the same person if they could have their time again. Response categories included: marry (or live with) current partner/ marry (or live with) a different partner/ not marry (or live as a couple) at all/ don't know.
9. Divorce (or separation) by age 42
10. Household division of labour (age 33). Cohort members who were married or cohabiting at age 33 were asked whether they or their partner most often carried out a range of household tasks including:
    - Preparing and cooking the main meal
    - Doing the shopping
    - Cleaning the home
    - Laundry and ironing

    Response categories included: I do most of it/ my partner does most of it/ we share more or less equally/ someone else does it.

11. Attitudes to women's employment (age 33). Cohort members responded to the following Likert scale items:

    I. There should be more women bosses in important jobs in business and industry.
    II. If a child is ill and both parents are working, it should usually be the mother who takes time off to look after the child.
    III. Being a housewife is just as fulfilling as working for pay.
    IV. Women should have the same chance as men to get some training or have a career.
    V. Men and women should do the same jobs around the house.
    VI. When both partners work full-time, the man should take an equal share of the domestic chores.
    VII. I would not want a woman to be my boss.
    VIII. It is less important for a woman to go out to work than it is for a man.
    IX. Wives who don't have to work should not do so.

A scale was constructed from these items (Cronbach's alpha=0.741), with higher scores corresponding to a more egalitarian attitude.

Control Variables

Previous studies of the effects of single-sex schooling have been criticised for inadequate controls for prior attainment and family background. Given the concentration of single-sex schools in the private and selective sectors, it is important to control for such sources of selectivity. The NCDS gives exceptionally rich information on various aspects of the respondents, their schools and their parents, allowing crucial confounding variables to be controlled. The parents were interviewed at the first three data collection exercises of the study, providing information on social background, age when parents left full-time education, and other characteristics.

Data were also collected directly from the children through tests and questionnaires administered at school at the ages of 7, 11 and 16. Extensive information on examination results was collected directly from the schools. From the age of 16 onwards, the respondents themselves were interviewed.

Our regression analyses include the following variables. The distribution of the control variables across single-sex and co-educational schools is shown in the appendix.

- Sex composition of school at age 16 (single-sex or co-educational).
- School sector at 16: (private, and selective and non-selective state schools). This is crucial, as it is linked to co-education.
- Region – data collected at age 16. This is included as a control variable, as it is a predictor of attending a single-sex school. This region variable is based on the Registrar General's Standard Region prior to 1965 (Elliott, Johnson and Shepherd 2009).
- Father's social class – age 11. Seven category version of the Hope-Goldthorpe scale. In the case of missing values on this variable (2,278 cases) we imputed the value from information on the father's social class at the two previous sweeps of the study, which left us with 355 cases with missing information on this variable. Missingness on this variable often predicts equally negative or even more negative outcomes than even the lowest social class category, therefore it is likely that data is missing 'Not at Random' (Rothon 2007). These cases are treated as a separate category.
- Parental educational level – age at which parent left full-time education, mothers' or fathers' age, whichever is highest. 2,657 missing values are treated as a separate category.
- Family structure (from 0-16), number of siblings (at 16) and position in the birth order.
- Test scores at age 7 and 11 (combined giving each component equal weight and transformed into Z scores). The NCDS cohort took a range of tests at ages 7 and 11 (Steedman 1980, 1983a, 1983b), listed below.

Age 7:

- Southgate Reading Test (Southgate, 1962) - a test of word recognition and comprehension.
- Copying Designs Test - an assessment of perceptuo-motor ability.
- Drawing-A-Man Test (Goodenough 1926) – designed to test general mental and perceptual ability.
- Problem Arithmetic Test (Pringle, Butler and Davie 1966).

Age 11:

- General Ability Test (Douglas 1964) - containing verbal and non-verbal sub-scales.
- Reading Comprehension Test - constructed by the National Foundation for Educational Research in England and Wales (NFER).
- Arithmetic/Mathematics Test - constructed by NFER.
- Teacher Assessments at 7 and 11 (combined giving each component equal weight and transformed into Z scores). The cohort members' primary school teachers were asked to give their assessment of the children at ages 7 and 11. Teachers' assessments may provide a source of information on aspects of students' abilities which are not measured by the survey test scores. Abilities were rated on a five point scale from 'exceptional' to 'very limited'. At age 7, children were rated on: reading, oral ability, creativity and number. At 11 they were rated on: number, book use and general knowledge.

Analysis Strategy

All regression analyses were run separately for men and women, and, due to the large number of regressions, null findings regarding the single-sex schooling variable are reported in the overall summary of results (Table 1) but not in full detail.

Table 1. Summary of single-sex coefficients from regression analyses

	Men				Women			
	B	**S.E.**	**sig**	**N**	**B**	**S.E.**	**sig**	**N**
Liking school	-0.188	0.078	**0.016**	5,794	-0.079	0.077	0.302	5, 590
Truancy	-0.154	0.078	**0.048**	5,888	-0.195	0.077	**0.011**	5, 665
Aggression (Rutter) age 16	0.087	0.095	0.358	4,952	0.079	0.101	0.437	4,811
Anxiety (Rutter) age 16	0.125	0.092	0.174	4,952	0.119	0.083	0.150	4,810
Malaise at 42	-0.391	0.23	0.089	4,227	0.091	0.152	0.55	4, 477
Child by 42	-0.026	0.098	0.792	4,843	-0.063	0.103	0.539	5,077
Child by 18	0.381	0.294	0.194	3,733	-0.043	0.155	0.782	4,208
Age of first birth	0.09	0.244	0.712	3,732	0.076	0.211	0.72	4,207
Marriage by age 42	-0.152	0.091	0.095	4,273	0.062	0.085	0.468	4,503
Ever wish never married	-0.028	0.101	0.779	3,430	-0.092	0.093	0.325	3,614
Relationship extremely happy	-0.025	0.11	0.82	2,851	-0.194	0.099	**0.050**	3,204
Divorce by 42	0.232	0.106	**0.028**	3,702	-0.514	0.241	0.033	4,036
Attitudes to gender equity age 33	0.011	0.245	0.965	4,031	0.059	0.204	0.772	4,372
Housework (I do most)	-0.089	0.716	0.902	3,279	0.069	0.093	0.46	3,629
Housework (partner does most)	0.001	0.104	0.994	3,279	1.101	1.622	0.497	3,629

Note. All regressions reported in Table 1 are binary logistic regressions, with the exception of the regressions on malaise at 42, age at first birth and attitudes to gender equity, which are linear regressions (OLS). B: Unstandardized B coefficient. S.E.: Standard Error

We tested for interactions between single-sex schooling and other variables in all models, and these interactions are reported where significant.

While regression analysis is a powerful tool, we would nevertheless caution the reader that, given a large enough number of independent significance tests carried out at the 0.05 level, some spurious 'significant' results are always possible. This paper reports on a large number of analyses, and we have reported (albeit in summary form) on a large number of null results, where we found no statistically significant impact of single-sex schooling on the outcome. We take the view that the null results are equally as important as the positive findings in their own right, and also that the presence of the null results puts the positive findings in context, given that we report here on analyses examining fifteen separate outcomes.

Results

In preliminary analyses, the predictors of attendance at a single-sex school have been modelled, and little difference was found in the prior characteristics of students at single-sex and co-educational schools within each school sector (Comprehensive, Grammar, Secondary Modern and Private). The only other important predictor of single-sex schooling is region. This suggests that the danger of spurious results due to differences between the pupil populations of single-sex and co-educational schools is minimal, provided that school sector and region are controlled. This finding may seem surprising, but makes sense in the context of schooling at the time, long before the 'parental choice', school diversity and accountability agendas arrived in Britain. Catchment area rules were strong during this period, and there was therefore relatively little scope for parents to choose schools within the

state sector. In principle, they could have movedhome in order to be near the school of their choice.Although this is a recognized practice now (Gewirtz, Ball and Bowe 1995, Gibbons and Machin 2006), the N

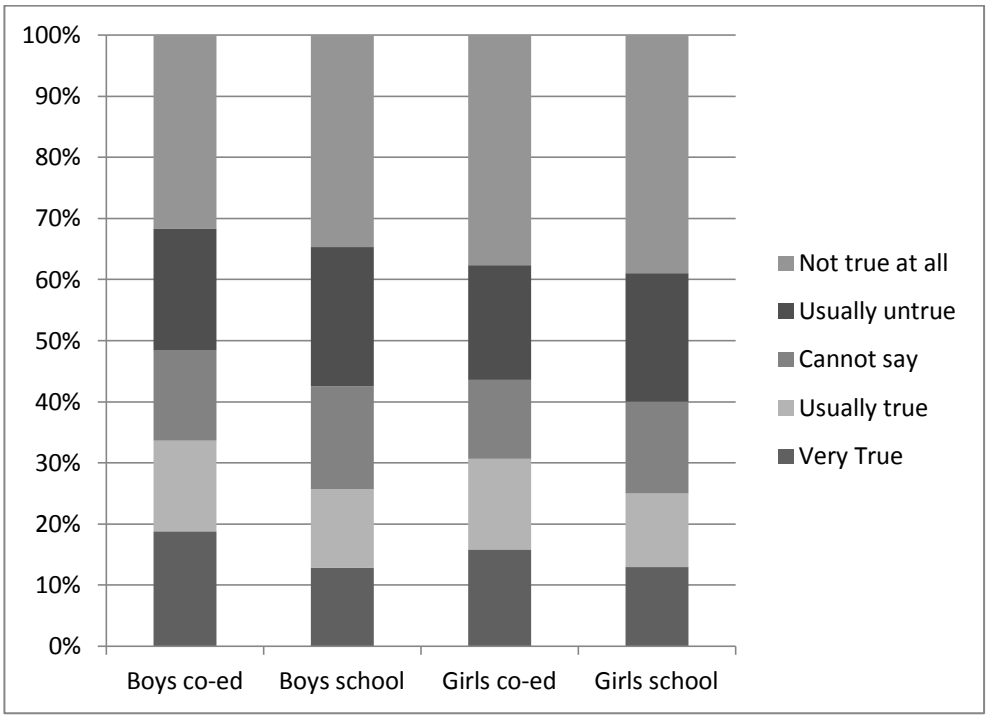
CDS children started secondary school in 1969, in a very different context. There were no 'league tables'of school examination results at this time, and school quality was not perceived to be very variable within each school sector. In addition, only 46% of the cohort members were living in owner-occupied properties in 1969, and 42% were in council housing, and therefore would not have been able to move easily.

1. Liking for school and behaviour during adolescence

Whether pupils liked school

Figure 1 shows a breakdown of cohort members' reported liking for school at age 16 according to the student's sex and whether they attended a single-sex or co-educational school.

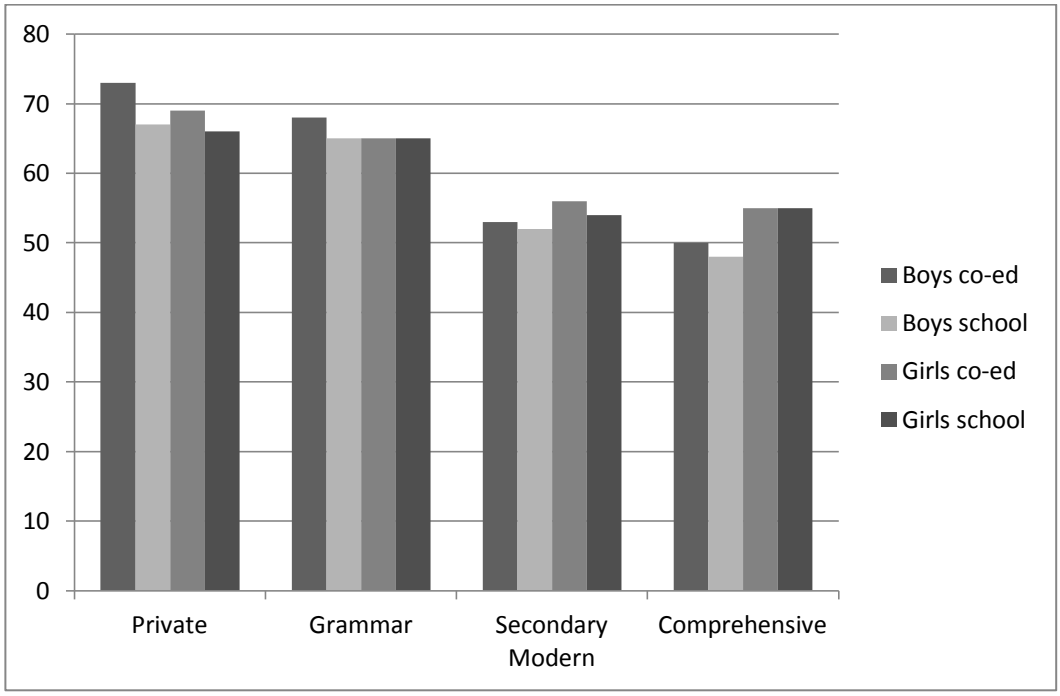
Figure 1. Students' responses to 'I do not like school', at age 16 (1974)



N = 11,688

Figure 1 appears to show that students were happier in single-sex schools. However, this is misleading because students in private and grammar schools were more likely to say that they liked school. Figure 2 below shows the proportions of students responding 'usually untrue' or 'not true at all' to the statement 'I do not like school' (i.e. those who generally liked school) by type of school.

Figure 2. Percentage liking school at age 16 by type of school (1974)



N = 11, 688

Students at private and grammar schools were most likely to say that they liked school, and students at comprehensives were slightly less likely to like school than students at secondary moderns. Girls liked school more than boys at comprehensives, but this was not true at private and grammar schools.

Within each school sector, there was therefore a slight tendency for students at co-ed schools to be more positive about school. This is in line with Dale's findings from his various surveys of grammar and former grammar school pupils. However, we found the differences to be slight in each sector and we did not find that girls were 'decidedly happier' in mixed schools (cf. Dale 1971).

Binary logistic regression analysis (Table 2) shows that, conditioning on background controls, the link between liking school and being at a single-sex school was statistically significant for boys, but not for girls. Boys who attended single-sex schools had 0.8 the odds of liking school of those who attended co-educational schools (an odds ratio of 1 represents parity). In addition, there were statistically significant school sector differences for boys but not for girls. Boys were more likely to like school within the private and grammar schools, and also within the secondary modern schools, as compared to comprehensives. This is an aspect of comprehensivisation which has not been uncovered by previous researchers, and it is certainly an intriguing finding. However, we can only speculate as to the reasons for boys' relative unhappiness within the comprehensive schools – the reasons may include such diverse factors as pedagogy and school size. Among the other variables for which we control in our model, being the first-born child was positively linked to liking school for both sexes, as were higher social class status, test scores and teachers' assessments. For boys, there was also regional variation, but this was not apparent for girls. Note that, in all the regressions reported here, missing values due to item non-response on regressors are included as dummy variables, but not shown unless the coefficient is statistically significant.

Table 2. Liking school, binary logistic regression

	Boys				Girls			
	B	**S.E.**	**Sig.**	**Exp(B)**	**B**	**S.E.**	**Sig.**	**Exp(B)**
Single-sex school	-0.188	0.078	**0.016**	0.828	-0.079	0.077	0.302	0.924
School sector			**0.003**				0.339	
Private	0.386	0.135	**0.004**	1.472	0.086	0.14	0.537	1.09
Grammar/Tech	0.22	0.109	**0.044**	1.247	-0.041	0.104	0.695	0.96
Secondary Modern	0.198	0.071	**0.005**	1.219	0.114	0.073	0.119	1.121
Region			0.126				0.771	
North Western	0.329	0.118	**0.005**	1.39	0.031	0.116	0.787	1.032
North	0.139	0.132	0.294	1.149	-0.125	0.134	0.35	0.882
Ridings	0.217	0.122	0.076	1.242	0.028	0.129	0.827	1.029
North Midlands	0.313	0.13	**0.016**	1.367	0.169	0.132	0.203	1.184
East	0.255	0.126	**0.043**	1.291	-0.114	0.128	0.371	0.892
London and South East	0.335	0.113	**0.003**	1.398	-0.05	0.115	0.661	0.951
South	0.341	0.141	**0.016**	1.406	0.022	0.141	0.876	1.022
South West	0.337	0.136	**0.013**	1.401	0.037	0.137	0.785	1.038
Midlands	0.128	0.122	0.297	1.136	-0.015	0.121	0.902	0.985
Wales	0.187	0.139	0.179	1.206	-0.034	0.143	0.812	0.966
Father's class			**0.002**				0.039	
Emp, manag 1	0.442	0.173	**0.011**	1.556	0.527	0.175	**0.003**	1.693
Emp, manag 2	0.229	0.115	**0.045**	1.258	0.154	0.117	0.19	1.166
Professional	0.374	0.156	**0.016**	1.453	0.275	0.163	0.092	1.317
Own account	-0.217	0.158	0.171	0.805	0.285	0.168	0.089	1.33
Non-manual	0.355	0.108	**0.001**	1.426	0.131	0.109	0.226	1.141
Skilled manual	0.148	0.083	0.076	1.159	0.018	0.083	0.83	1.018
Parents' age left FT education			0.121				0.028	
19+	0.249	0.12	0.038	1.283	0.26	0.12	0.03	1.297
17-18	0.096	0.088	0.276	1.1	0.178	0.091	0.051	1.195
16	-0.017	0.077	0.831	0.984	-0.034	0.077	0.655	0.966
Family structure			0.325				0.01	
Not 2 original parents	-0.149	0.1	0.134	0.861	-0.255	0.097	0.009	0.775
Siblings			0.293				0.061	
Only child	0.278	0.152	0.067	1.321	0.314	0.149	0.035	1.369
1 sib	0.019	0.101	0.849	1.02	0.141	0.1	0.159	1.152
2 sibs	-0.05	0.1	0.615	0.951	0.086	0.1	0.39	1.089
3 sibs	-0.053	0.105	0.609	0.948	-0.057	0.104	0.58	0.944
Position in birth order			**0.000**				**0.021**	
first born	0.469	0.131	**0.000**	1.598	0.329	0.125	**0.009**	1.39
2	0.28	0.129	**0.030**	1.323	0.141	0.124	0.258	1.151
3	0.117	0.138	0.396	1.124	0.111	0.133	0.406	1.117
Test score 7 (z score)	-0.035	0.037	0.349	0.966	-0.019	0.038	0.617	0.981
Teacher assessment 7 (z score)	0.11	0.039	**0.005**	1.117	0.054	0.041	0.182	1.056
Test score 11 (z score)	0.198	0.046	**0.000**	1.218	0.126	0.049	**0.010**	1.135
Teacher assessment 11 (z score)	0.077	0.044	0.081	1.08	0.149	0.047	**0.001**	1.161
Constant	-0.287	0.187	0.126	0.751	0.146	0.191	0.445	1.157
Chi-square	416.1				267.9			
N	5794				5590			

Truancy

16 year-olds were asked whether they had truanted at all during the last year. Both boys and girls were less likely to report truanting from private and grammar schools, and single-sex schooling too was significantly associated with a lower likelihood of reported truanting, conditioning on school sector and other background controls (Table 3). There was regional variability in the level of truanting for both sexes. Both boys and girls were less likely to truant in London and the South-East (compared to Scotland), and for girls, several other regions also had lower relative levels of truanting. Both girls and boys from professional social class backgrounds and with parents who had stayed in education beyond the age of 16 were less likely to truant. Girls from single parent or divorced families were more likely to truant, but this was not significant for boys. Smaller numbers of siblings and a higher position in the birth order were protective for both sexes. Surprisingly, girls with high test scores at age seven had an increased risk of truancy, while those with high test scores at age eleven had a reduced risk of truancy. For boys, a positive teacher assessment at age seven was linked to a lower risk of truancy.

Table 3. Truancy, binary logistic regression

	Boys				Girls			
	B	**S.E.**	**Sig.**	**Exp(B)**	**B**	**S.E.**	**Sig.**	**Exp(B)**
Single-sex	-0.154	0.078	**0.048**	0.857	-0.195	0.077	**0.011**	0.823
School			**0.000**				**0.000**	
Private	-1.005	0.142	**0.000**	0.366	-0.922	0.146	**0.000**	0.398
Grammar/Tech	-0.463	0.108	**0.000**	0.630	-0.477	0.103	**0.000**	0.621
Secondary Modern	-0.095	0.071	0.181	0.910	-0.095	0.073	0.194	0.910
Region			**0.010**				**0.000**	
North Western	0.111	0.118	0.348	1.117	0.460	0.117	**0.000**	1.585
North	-0.119	0.132	0.364	0.888	0.144	0.134	0.282	1.155
Ridings	-0.162	0.122	0.183	0.850	0.098	0.128	0.444	1.103
North Midlands	-0.053	0.129	0.685	0.949	0.085	0.131	0.518	1.088
East	-0.025	0.126	0.843	0.975	0.515	0.128	**0.000**	1.674
London and South East	0.302	0.113	**0.007**	1.353	0.584	0.115	**0.000**	1.794
South	-0.020	0.140	0.885	0.980	0.451	0.141	**0.001**	1.570
South West	-0.045	0.135	0.741	0.956	0.502	0.137	**0.000**	1.653
Midlands	0.052	0.122	0.672	1.053	0.415	0.122	**0.001**	1.514
Wales	0.067	0.139	0.631	1.069	0.535	0.144	**0.000**	1.707
Father's class			**0.000**				**0.004**	
Missing	0.342	0.174	**0.050**	1.407	-0.024	0.182	0.894	0.976
Emp, manag 1	-0.353	0.172	0.040	0.702	-0.335	0.168	0.046	0.715
Emp, manag 2	-0.217	0.114	0.057	0.805	-0.226	0.117	0.053	0.797
Professional	-0.544	0.157	**0.001**	0.580	-0.418	0.164	**0.011**	0.658
Own account	0.217	0.161	0.177	1.243	-0.280	0.166	0.092	0.756
Non-manual	-0.365	0.107	**0.001**	0.694	-0.177	0.109	0.103	0.838
Skilled manual	-0.142	0.083	0.088	0.868	0.064	0.084	0.449	1.066
Parents' age left FT education			**0.031**				**0.000**	
19+	-0.287	0.119	**0.016**	0.750	-0.377	0.118	**0.001**	0.686
17-18	-0.202	0.087	**0.021**	0.817	-0.329	0.090	**0.000**	0.719
16	0.007	0.077	0.929	1.007	-0.022	0.077	0.778	0.978

(Table 3 cont'd)

Family structure			0.066				**0.000**	
Missing	0.105	0.107	0.328	1.111	0.359	0.116	**0.002**	1.432
Not 2 original parents	0.226	0.100	**0.024**	1.254	0.329	0.098	**0.001**	1.390
Siblings			**0.007**				**0.000**	
Only child	-0.274	0.148	0.064	0.761	-0.448	0.146	**0.002**	0.639
1 sib	-0.239	0.100	**0.018**	0.788	-0.425	0.101	**0.000**	0.654
2 sibs	-0.068	0.100	0.493	0.934	-0.235	0.100	**0.019**	0.791
3 sibs	0.092	0.105	0.379	1.097	-0.017	0.106	0.875	0.984
Position in birth order			**0.001**				**0.041**	
missing	-0.811	0.217	**0.000**	0.445	-0.304	0.223	0.172	0.738
first born	-0.478	0.133	**0.000**	0.620	-0.344	0.129	**0.008**	0.709
2	-0.403	0.131	**0.002**	0.668	-0.207	0.128	0.107	0.813
3	-0.254	0.140	0.069	0.775	-0.132	0.137	0.338	0.877
Test score 7 (z score)	0.069	0.037	0.063	1.071	0.173	0.038	**0.000**	1.189
Teacher assessment 7 (z score)	-0.111	0.039	**0.004**	0.895	-0.036	0.041	0.372	0.964
Test score 11 (z score)	-0.088	0.046	0.055	0.916	-0.141	0.049	**0.004**	0.869
Teacher assessment 11 (z score)	-0.062	0.044	0.160	0.940	-0.034	0.047	0.471	0.967
Constant	0.391	0.188	0.038	1.478	0.306	0.194	0.115	1.357
Chi-square	513.839		0.000		475.685		0.000	
N	5, 888				5, 665			

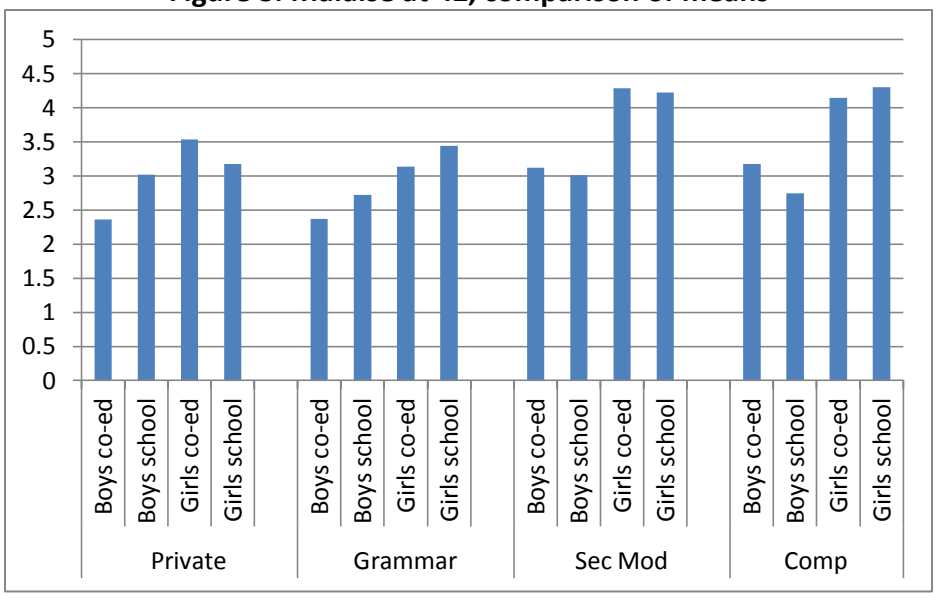
Psycho-social adjustment

As Table 1 shows, we found no impact of single-sex schooling on parent ratings of cohort members' anxiety or aggression at age 16.

2. Mental health in adulthood

Figure 3 shows that mean scores on the Malaise Inventory (range 0-24) at age 42 were higher for women than for men. Women from comprehensive and secondary modern schools had higher scores than those from private and grammar schools, but there was little variability according to whether the school attended had been single-sex or co-educational. However, for men from the private and grammar sectors, Malaise scores were higher if they had been to the single-sex schools.

Figure 3. Malaise at 42, comparison of means



Linear regression analysis (Table 4) of the Malaise scores at 42 showed that, conditioning on background controls, there was a significant interaction between school sector and single-sex schooling, ie men who had attended single-sex boys' schools in the private and grammar sectors suffered from slight (1.2 points and 0.8 points for private and grammar school boys respectively on a 19 point scale) but statistically significantly higher levels of low mood than their peers from comprehensive schools. It should be noted that there was no main effect of single-sex schooling for either sex – i.e. single-sex schooling did not predict either higher or lower levels of Malaise scores overall. The interaction between school sector and school sex for men is intriguing, and suggests that different **school** cultures and practices within the boys' private and grammar schools must be implicated in this small effect, rather than just single-sex schooling per se.

For women, father's social class status was highly significant, as fathers with higher social class occupations were predictive of a lower risk of Malaise at age 42 for daughters. In contrast, father's social class had no significant effect on this outcome for men. For women, but not for men, higher test scores at age eleven were a significantly protective factor. For men living with the same two parents to age 16, and being an only child were protective, but these factors were not significant for women.

Table 4. Malaise at age 42, linear regression, ordinary least squares (OLS)

	Men			**Women**		
Parameter	**B**	**Std. Error**	**Sig.**	**B**	**Std. Error**	**Sig.**
Single-sex	-0.391	0.23	0.089	0.091	0.152	0.55
Private	-0.548	0.41	0.182	-0.432	0.269	0.108
Grammar/tech	-0.325	0.277	0.24	-0.168	0.203	0.407
Secondary Modern	-0.132	0.149	0.376	-0.002	0.146	0.991
Private SS	1.243	0.507	**0.014**			
Private co-ed	0					
Grammar SS	0.777	0.387	**0.045**			
Grammar co-ed	0		.			
Sec mod. SS	0.317	0.349	0.364			
Sec mod co-ed	0					
Comp boys	0					
Comp co-ed	0					
Region						
North Western	-0.198	0.223	0.374	0.085	0.235	0.717
North	-0.007	0.246	0.977	-0.084	0.269	0.756
Ridings	-0.035	0.23	0.88	0.165	0.26	0.525
North Midlands	-0.027	0.238	0.911	0.021	0.265	0.936
East	-0.158	0.23	0.493	-0.06	0.257	0.816
London and South East	-0.129	0.211	0.541	0.138	0.23	0.547
South	-0.283	0.257	0.272	-0.144	0.282	0.611
South West	-0.138	0.249	0.581	-0.198	0.271	0.463
Midlands	0.031	0.231	0.892	-0.124	0.248	0.616
Wales	0.103	0.254	0.684	0.139	0.283	0.623
Father's class						
Emp, manag 1	-0.366	0.302	0.225	-0.484	0.321	0.132
Emp, manag 2	-0.042	0.211	0.844	-0.909	0.231	**0.000**

(Table 4 cont'd)

Professional	0.141	0.272	0.603	-0.869	0.312	**0.005**
Own account	-0.032	0.301	0.916	-0.706	0.325	**0.030**
Non-manual	-0.116	0.199	0.56	-0.655	0.214	**0.002**
Skilled manual	-0.041	0.155	0.789	-0.447	0.167	**0.007**
Parents' age left FT education						
19+	-0.128	0.215	0.552	-0.038	0.23	0.869
17-18	0.016	0.163	0.922	-0.213	0.179	0.234
16	0.167	0.146	0.25	-0.061	0.154	0.691
Family structure						
Not 2 original parents	0.61	0.188	**0.001**	0.249	0.191	0.192
Siblings						
Only child	-0.611	0.27	**0.024**	0.248	0.287	0.387
1 sib	-0.234	0.19	0.219	-0.2	0.201	0.322
2 sibs	-0.13	0.189	0.49	-0.099	0.2	0.619
3 sibs	-0.002	0.196	0.991	0.034	0.21	0.873
Position in birth order						
first born	-0.247	0.249	0.32	-0.135	0.249	0.589
2	-0.137	0.244	0.573	0.188	0.248	0.449
3	0.402	0.261	0.123	0.133	0.266	0.617
Teacher assessment 11 (z score)	-0.141	0.081	0.081	-0.065	0.092	0.479
Test score 11 (z score)	-0.098	0.086	0.251	-0.382	0.097	**0.000**
Test score 7 (z score)	-0.029	0.069	0.672	0.003	0.076	0.966
Teacher assessment 7 (z score)	-0.064	0.072	0.380	-0.032	0.081	0.692
Constant	3.774	0.366	0.000	5.2	0.392	0
R2	0.029			0.039		
N	4, 227			4, 477		

3. Family formation and relationships

Childbearing

Regression analyses (summarised in Table 1) on outcomes for men and women show no link between single-sex schooling and either the chance of having a child by age 42, or age of first childbearing (for details of these variables see Kneale 2010. Despite the views of religious opponents of mixed schooling for adolescents, we found no significant deterrent effect of single-sex schooling on teenage parenthood for either girls or boys.

Marriage

In the 1958 cohort, the vast majority of those who formed any partnership eventually married. We found no link between single-sex schooling and the chances of marriage by the ages of 33 or 42 (see Table 1).

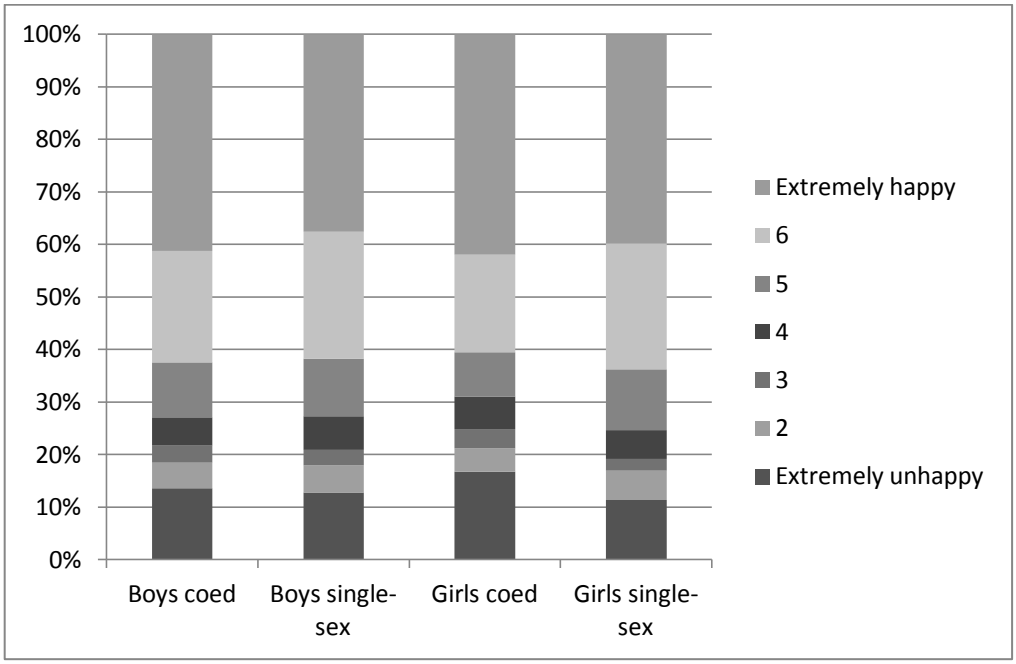
We looked for evidence of same-sex relationships in household composition, but such cases were far too rare - only 21 men and 22 women reported living with same-sex partners at age 42 - to be a reliable indicator of sexual orientation, let alone a basis for analysis. We are therefore unable to comment on whether co-education did provide the 'clean, healthy natural atmosphere' so commended by its early advocates (see (Dyhouse 1985) on the Progressive Education Movement).

Relationship quality

Cohort members who were married or cohabiting at 42 were asked to rate the quality of their current relationship. 47% of both men and women reported that their relationship was extremely happy. Figure 4 shows these responses according to whether the

respondent had attended a single-sex school. Men and women who had attended single-sex schools were fractionally more likely to say that they were extremely happy in their relationship. However, we modelled this outcome using binary logistic regression (modelling 'extremely happy' in contrast to any other response) and found that the coefficient for single sex schooling was negative for both sexes, but not statistically significant for men. For women, it just achieved statistical significance at the 0.05 level (see Table 1).

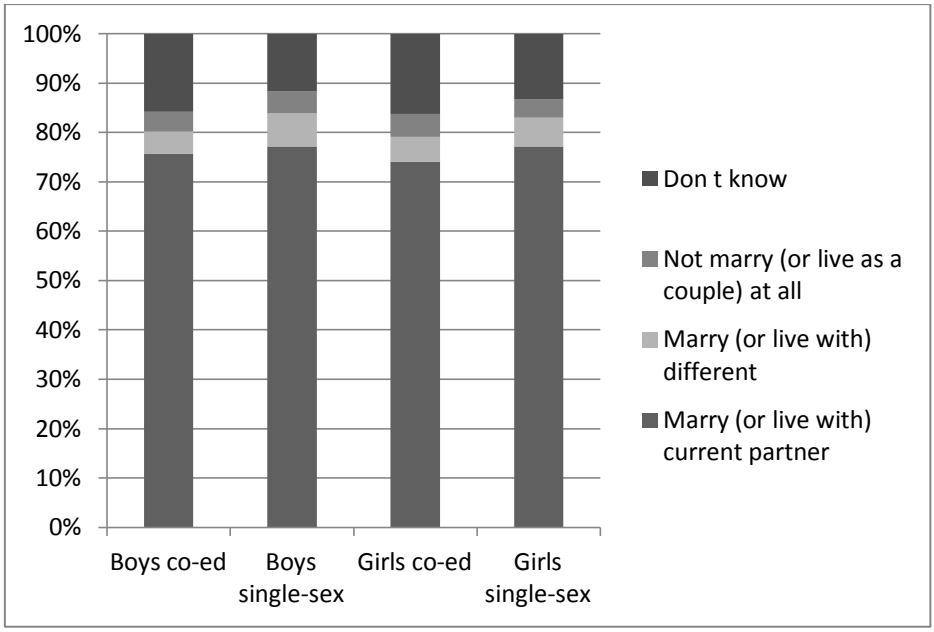
Figure 4. How happy is your relationship? Age 42 (2000).



N = 7,165

Respondents who had a partner at 42 were also asked whether they ever regretted marrying/cohabiting with their partner, and whether they would marry/cohabit with the same person if they could have their time again. The responses to this question are shown in figure 5. Around three quarters of the respondents said that, if they had their time again, they would marry or cohabit with their current partner. Positive responses were slightly higher for men and women who had attended single-sex schools. However, when we modelled the outcome using binary logistic regression, we found that there was no statistically significant link in the responses between single-sex schooling and the quality of partnerships as measured in this way - hence no support on this measure for co-education improving the relationship between spouses (see Table 1).

Figure 5: 'If you could live your life again, which would you do…?' Age 42 (2000)



N = 7,166.

Divorce

When we examined the risk of divorce or separation by age 42 for those who had ever been married, men who had been to single-sex schools appeared to be somewhat more likely to have divorced or separated, except in the private sector (Figure 6).

Figure 6. Divorce by 42 (of those ever married)

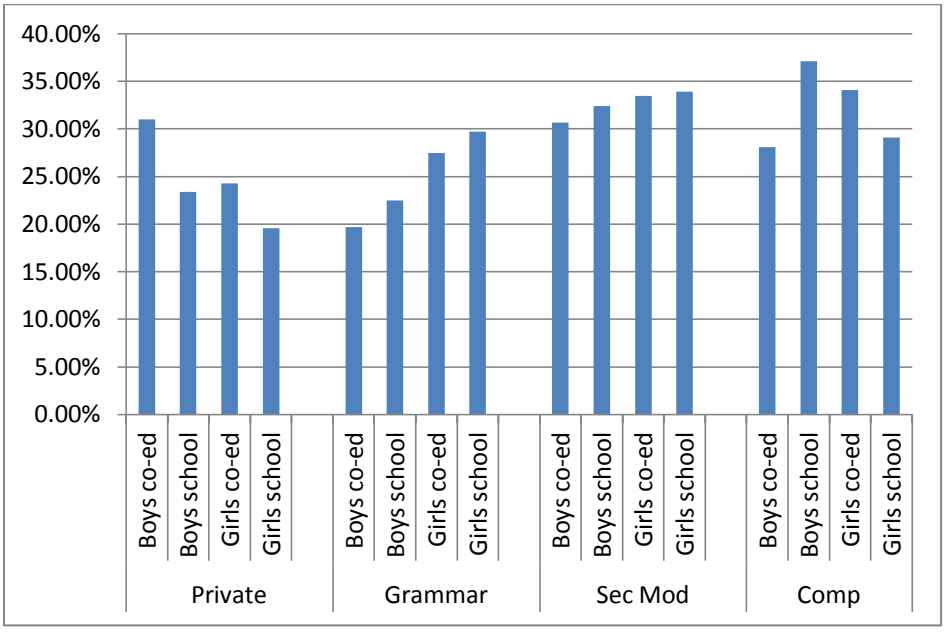


Table 5. Divorce by age 42, Binary logistic regression.

	Men				Women			
	B	**S.E.**	**Sig.**	**Exp(B)**	**B**	**S.E.**	**Sig.**	**Exp(B)**
Single-sex	0.232	0.106	**0.028**	1.261	-0.09	0.095	0.346	0.914
School sector			0.654				**0.045**	
Private	-0.135	0.184	0.463	0.873	-0.512	0.189	**0.007**	0.6
Grammar/tech	-0.182	0.15	0.226	0.834	0.005	0.129	0.971	1.005
Secondary Modern	-0.044	0.096	0.651	0.957	-0.021	0.088	0.808	0.979
Region			**0.000**				0.290	
North Western	0.442	0.165	**0.008**	1.555	0.056	0.148	0.707	1.057
North	0.072	0.188	0.702	1.074	-0.13	0.17	0.444	0.878
Ridings	0.314	0.172	0.068	1.369	0.248	0.159	0.119	1.282
North Midlands	0.738	0.171	**0.000**	2.092	0.177	0.165	0.282	1.194
East	0.357	0.173	**0.039**	1.429	0.327	0.158	**0.039**	1.387
London and South East	0.252	0.16	0.115	1.287	0.073	0.145	0.617	1.076
South	0.272	0.195	0.162	1.312	0.098	0.177	0.580	1.103
South West	0.686	0.181	**0.000**	1.986	0.268	0.167	0.109	1.307
Midlands	0.338	0.171	**0.048**	1.402	0.051	0.155	0.744	1.052
Wales	0.578	0.183	**0.002**	1.783	0.063	0.177	0.721	1.065
Father's class			0.149				0.059	
Emp, manag 1	0.031	0.215	0.886	1.031	0.002	0.199	0.990	1.002
Emp, manag 2	-0.434	0.158	0.006	0.648	-0.288	0.145	**0.047**	0.749
Professional	-0.26	0.208	0.211	0.771	-0.525	0.217	**0.015**	0.592
Own account	0.001	0.214	0.998	1.001	-0.34	0.205	0.098	0.712
Non-manual	-0.247	0.145	0.088	0.781	-0.043	0.129	0.739	0.958
Skilled manual	-0.083	0.108	0.442	0.92	-0.125	0.1	0.213	0.883
Parents' age left FT education			0.624				0.530	
19+	-0.083	0.165	0.616	0.92	-0.112	0.151	0.460	0.894
17-18	-0.01	0.120	0.935	0.99	0.026	0.111	0.816	1.026
16	0.093	0.104	0.367	1.098	-0.106	0.095	0.264	0.90
Family structure			0.517				0.025	
Not 2 original parents	0.153	0.134	0.253	1.166	0.307	0.114	**0.007**	1.359
Siblings			0.799				0.670	
Only child	-0.099	0.195	0.613	0.906	-0.001	0.177	0.995	0.999
1 sib	-0.158	0.137	0.248	0.854	0.078	0.125	0.534	1.081
2 sibs	-0.053	0.135	0.696	0.949	-0.014	0.125	0.909	0.986
3 sibs	-0.03	0.139	0.83	0.971	0.157	0.129	0.226	1.169
Position in birth order			0.272				0.459	
first born	0.104	0.177	0.554	1.11	0.113	0.154	0.464	1.119
2	-0.043	0.173	0.802	0.957	-0.018	0.154	0.906	0.982
3	-0.086	0.185	0.643	0.918	0.028	0.164	0.864	1.029
Test score 7 (z score)	0.09	0.051	0.077	1.094	0.037	0.047	0.427	1.038
Teacher assessment 7 (z score)	-0.063	0.054	0.24	0.939	-0.026	0.05	0.607	0.974
Test score 11 (z score)	-0.092	0.063	0.142	0.912	-0.059	0.06	0.327	0.943
Teacher assessment 11 (z score)	-0.086	0.06	0.151	0.917	-0.049	0.058	0.399	0.953
Constant	-0.888	0.262	0.001	0.411	-0.514	0.241	0.033	0.598
Chi-square	104.3		0.000		74.972		0.002	
N	3,702				4,036			

Regression analyses (Table 5) conditioning on background controls show that there was a statistically significant increased risk of divorce or separation for men from single-sex schools, but no interaction with school sector. Men who had been to boys' schools at age 16 had odds of divorce 1.26 time those of other men, all else equal. For women, however, there was no significant link. In this model, women who had attended private schools appeared less likely to get divorced (60% of the odds for those attending comprehensive schools). Higher paternal social class status was somewhat protective for both women and men. Being from a single-parent or divorced family was linked to a higher risk of divorce for women (Odds ratio =1.36), but, surprisingly, not for men.

4. Gender role attitudes and behaviour

Division of labour in the home and attitudes to women's employment

At age 33, cohort members who were married or cohabiting were asked about division of labour in the home. 45% of women reported that they did most of the work in all four key areas of household tasks (cooking the main meal, laundry, cleaning and shopping). 39% of men reported that their partner did most of the work in all of these tasks. 86% of men said that they did most of none of these tasks, and 88% of women said their partners did not do most of these tasks. We modelled the likelihood both of respondents reporting that they did most of the work on the majority of these tasks, and of the partner doing most of the work, and found no link between single-sex schooling and the domestic division of labour (Table 1).

At this age the survey members also responded to a series of nine items on gender and work, such as 'there should be more women bosses', 'men and women should do the same jobs', 'where both partners work full-time, housework should be shared equally', etc. We again found no link between single-sex schooling and attitudes to gender roles on these measures (Table 1).

Conclusions

For boys, single-sex schooling was linked to a dislike of school. The fact that school sector was linked to the likelihood of liking school for boys but not for girls, with boys less happy at comprehensive schools, is intriguing. Although we can only offer tentative explanations for this finding, it does point to the possibility that ostensibly the same school structures and practices can be experienced differently by boys and girls. Research which fails to analyse outcomes for girls and boys separately will not pick up on the intersection of gender and school structures in producing outcomes, whether these are purely academic outcomes or the wider outcomes we have considered here. It is also notable that a great deal of research was carried out on the question of the effects of comprehensivisation on academic outcomes, but, as far as we are aware, little consideration has been given by researchers to the question of pupils' liking for school within the different school sectors.

We found that both sexes were less likely to truant from single-sex schools. It seems implausible that pupils truanted from school as a direct consequence of the presence of the opposite sex. Rather, this may reflect the different cultural and disciplinary regimes prevailing within single-sex and co-educational schools at the time. It is possible that this also in turn accounts for boys' greater dislike of single-sex schools.

There was no main effect of single-sex schooling on the experience of malaise in adulthood, although, for men, there was an interaction between single-sex schooling and school sector. The higher risk of malaise was limited to boys' private and grammar schools, and suggests that different school cultures and practices within the boys' private and grammar schools must be implicated, rather than just single-sex schooling per se.

There were a large number of outcomes for which we could show no effect of attending a single-sex school. Perhaps surprisingly, teenage pregnancy was no more or less likely for respondents from single-sex schools. There was no difference in the likelihood of having children, or in the age of first childbirth, according to whether the respondent had been to a single-sex or a co educational school. Neither

attitudes to working women, nor the domestic division of labour, were linked to attendance at a single-sex school, for either men or women.

There was little link between single-sex schooling and reported relationship quality for either sex (there was a marginally significant one for women). However, for men, there was a statistically significant link between single-sex schooling and divorce. This lends some support to those who have expressed concerns about the impact of single-sex schooling on later relationships between the sexes, though it is unclear why this impact on divorce should be limited to men.

It is usually positive research findings which generate the most interest. However, it is important not to lose sight of the fact that most of our results showed no significant difference between people who had attended single-sex and co-educational schools. Overall, then, we can conclude that single-sex schooling had less impact on many of the outcomes considered here than might have been expected by either the proponents or the opponents of single-sex schooling.

Of course, our results relate to schooling in a particular historical period in Britain, and clearly both co-educational and single-sex schools have changed since the 1970s. Equally, both co-educational and single-sex schools differ in different national contexts. One major change is that many single-sex schools now have mixed 'Sixth forms' (the non-compulsory final two years of schooling, from 16 to 18). This allows students to mix with the opposite sex before leaving school, and may make future relationship difficulties less likely.

From a policy perspective, social impacts on children need to be considered alongside the academic and economic outcomes. Our previous work (Sullivan, 2009, Sullivan, Joshi and Leonard, 2010, Sullivan, Joshi and Leonard, 2011) has suggested that girls who had attended single-sex schools fared well in examinations at age 16, compared to girls who had attended co-educational schools, and that girls who had attended single-sex schools also went on to earn higher wages later in life. Also, both self-concept and participation in maths and science, English and modern languages, were more starkly gendered for boys and girls in the co-educational schools. Clearly, single-sex schooling had advantages for this cohort, especially for the girls. The difficulty is to weigh these advantages against the relatively moderate social disadvantages which are more apparent for boys than for girls, including a dislike of school and a higher risk of divorce. For a previous generation of 'progressive' educationalists, the answer to this dilemma was clear – boys' well-being trumped girls' academic attainment. However, these social disadvantages may not be an inevitable consequence of single-sex schooling. No doubt social outcomes varied on an individual school level, and it is unfortunate that our data do not allow us to investigate this variability. We are also conscious that our findings raise many questions regarding the daily lived experiences underpinning the aggregate differences that we observe here. We hope that future research will be able to take up the issues raised by our findings, and develop them using both quantitative and qualitative school-level data.

Acknowledgements

This paper is dedicated to the memory of our colleague Diana Leonard who worked with us on this project before her death in 2010. Professor of Sociology of Education and Gender at the Institute of Education, University of London, Diana Leonard, 1941-2010, was a leading international figure in feminist sociology, whose other work spanned theoretical, qualitative and practical fields. Her published books include *Sex and generation: a study of courtship and weddings* (1980), *Familiar Exploitation:* a new analysis of marriage in contemporary *western societies* (with Christine Delphy) (1992); and *A Women's Guide to Doctoral Studies* (2001). She was on the publishing collective of the radical feminist magazine *Trouble and Strife,* and an adviser on women's education in Pakistan. Her participation in the research reported here was her first venture into quantitative longitudinal studies to which she brought enthusiasm and cross-disciplinary insight.

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Endnote

[i] A third of boys attending special schools in 1974 were in single-sex establishments, compared to 11% of girls in special schools. These schools catered for children with particular disabilities, abilities or problems