

PRE-SCHOOL OPPORTUNITY AND  
SEX DIFFERENCES AS FACTORS  
AFFECTING EDUCATIONAL  
PROGRESS

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## FOREWORD

The papers reproduced here were originally prepared as part of a series of six public lectures presented by the Faculty of Education early in 1973.

Once the series was completed it became apparent that the papers which follow were even more closely linked than was originally intended, in that they all attempted to focus attention on some educational base lines. The main purpose of each paper was to stress the fact that there is a vital need to look realistically at some of the assumptions made about the pupil in school to see whether what is provided for him is really in accordance with his needs, both present and future.

The chosen assumptions vary slightly from paper to paper but the conclusions reached by all three of the contributors may be summarised as follows:

The child in school is much more, and much less, than he appears to be. It is necessary to investigate the real pupil and his circumstances, past and present, in order to be able to make effective educational provision. Such investigation must be as rigorously empirical as possible so that broad principles as well as specific difficulties may be identified. But it will be necessary sometimes to take action even before all the evidence is in, if future educational and developmental problems are to be minimised.

It is hoped, then, that this publication, while pointing, perhaps rather diffidently, at some possible answers in limited, even specialised, fields, will encourage more people to look at the educational processes, both formal and informal, and at the validity of the assumptions on which they are based in the light of present and future empirical findings.

ELIZABETH HENDRIKZ

## SEX BIAS AS A VARIABLE IN PRIMARY EDUCATION

D. J. Freer

Although brief reference will be made to studies across cultures, the main theme of this paper is concerned with differences that appear significant among children from what might reasonably be termed a Western European type of cultural background, as they apply to formal education in primary schools.

Houlton<sup>1</sup> implies that, in Rhodesia, methods in the basic subjects, textbooks in general use and the pattern of teacher education reflect prevailing United Kingdom trends. Atkinson (1973) traces this British influence back to the Report of the Fox Commission (1936).

Yet at least it made a realistic attempt to bring Southern Rhodesian educational practice closely into line with recent developments in the United Kingdom.

It seems reasonable to assume, therefore, that the organisation of Rhodesian European primary education is similar to British primary education. Such an assumption may not be made about Rhodesian African education. However, evidence is accumulating that suggests, that because of more sophisticated techniques in teaching, young African children no longer display the classroom docility apparent a few years ago. Smith<sup>2</sup> reports on the introduction of a new approach to teaching Grades One and Two and this information is reinforced by the recent introduction of textbooks by Lawton (1972) and Robson (1972) which specify lessons planned along progressive lines. Behavioural patterns and attitudes commonly observed in the European sector may soon be reflected in African primary education.

Implicit in English speaking western primary education is the assumption that boys and girls possess essentially similar skills and attitudes towards learning. Co-educational primary schools are the norm both in U.K. and Rhodesia within the public sector of education. The Department of Education and Science (1967) notes the change in policy in 1926 which gradually leads from a sex segregated policy to an almost total acceptance of co-education in British primary schools. In Rhodesia, the most recent single sex Government primary school dates back to 1932. Conversely within the private sector, segregated primary schools outnumber co-educational ones, indicating perhaps, a parental preference for single sex schools among persons in the higher income groups.

Is government policy in United Kingdom and Rhodesia towards co-education justified? The Department of Education and Science (1967) surveys research that clearly indicates that girls achieve puberty two years earlier than boys and comments that in terms of physical development, implications arise for co-education. In both countries

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<sup>1</sup>In Rhodesian Government (1971) Report of Secretary for Education, Salisbury, Government Printer.

<sup>2</sup>In Rhodesian Government (1973) Report of Secretary for African Education, Salisbury, Government Printer.

specific arrangements are made for differences in athletic interests and capabilities. However, in the formal learning situation of the classroom, there is little evidence of allowances made for sex differences. Boys and girls tend to be treated as if intellectual, social and emotional patterns of development are virtually identical. There may be a denial of evolving sex rôles and personality traits in this apparent assumption of sex equality.

At an international level, cross-cultural studies note behavioural differences between the sexes which occur in early childhood. Whiting (1963) reports on observations made in six different societies.

In each of these societies girls behave in a way that we have called "Domures". A factor analysis of the behaviour shows three things: dominance, nurturance and responsibility; and this combination is essentially the definition of what a mother is to her children. She must be dominant, she nurtures and does the care taking and she is responsible.

He goes on to state that girls exhibit this so-called responsibility at an earlier age than boys. Conversely, in each of the six culture-groups boys are characterized by more physical attack, and more physical aggression than are girls.

In Britain an extensive longitudinal survey has been in progress for several years. Pringle and others (1966) are seeking to:

explore the constancy and change in the pattern of children's development, longitudinally, and to investigate the associated educational, environmental and physical factors.

The sample of children, chosen in the survey is drawn from all over Britain and is composed of all the children born in one week of March, 1958. Thus every socio-economic group is included. It is interesting to note sex differences that emerge in such a large scale survey. A picture develops in which, both emotionally and intellectually, girls tend to be almost the pace setters in the British educational system up to the age of eight. After their first three months at school at the age of five years, about 25 per cent. of the children are judged by their teachers to be still unsettled. Of these a significantly larger number are boys — something in the ratio of 2:1. It is difficult to be certain of the cause of this but later evidence suggests that girls have a more docile and accepting attitude to school.

The early tendency for girls to exhibit what might be termed "school stability" is supported by evidence that, at a later stage, serious maladjustment occurs far more frequently among boys than among girls. Among the group of 11 000 at the age of seven years, about 13 per cent. of the children indicated some form of maladjustment, as measured on the Bristol Social Adjustment Guide (Stott). Of this 13 per cent., two-thirds were boys. In attempting to establish the cause of this difficulty it is worth noting that many English and American researchers have noted the high incidence of boys compared with girls who are poor readers at this stage. If reading skill is taken as an index of school performance among young children, then it is difficult to establish which is cause and which is effect. Does poor reading ability or slowness in

learning to read lead to a feeling of failure, inadequacy and consequently a tendency to maladjustment? Alternatively, does maladjustment lead to learning difficulties and consequently a poorer school performance? At this stage all that is certain is that a relationship does appear to exist. Which is the causal factor is open to the usual conjecture, though of course at five years of age, the British study indicates a very strong tendency for boys to be more unsettled at school than girls. Does this instability accumulate?

Morris (1966), in a survey of children in primary schools in Kent, finds that girls' reading skill is significantly better than boys' by the age of eight. However, by the age of 11 this dominance has diminished to statistically insignificant proportions. There is a danger here. If long term predictions are made and utilised into some sort of selection procedure in the early years when sex differences in attainment are significant, it may be that a number of boys with high latent ability will be grouped or streamed below their potential. The Department of Education and Science (1967) maintains that homogeneous streaming may penalise boys and supports the contention that there may be a wastage of human talent merely because male children are slower to achieve maturity rather than because of lack of potential ability.

In a limited longitudinal survey of a group of boys and girls in a Rhodesian Primary School during the first five years of their school careers, Freer (1972) suggests that certain trends in cognitive development and school organisation emerge:

- (i) Girls as a group are better readers than boys at a similar early age.
- (ii) Teachers tend to favour girls in selecting them for "A" stream places, even if intelligence and performance are held constant.

The only comprehensive survey of attainment in Rhodesian primary schools took place in 1952. Dowley (1952) tested the performance of all 10½-11½ year-olds in both the private and public sectors of the non-African educational system. The children were subjected to a battery of intelligence and attainment tests, the following results emerging:

	<i>n</i>	<i>I.Q. means</i>	<i>s.d.</i>
Boys	1094	98,52	13,8
Girls	1035	99,95	11,95

Girls show a slightly higher I.Q. score of 99,95 over the boys' 98,52 (a difference in means of 1,4). An interesting trend that emerges, is the tendency for the girls to group more closely about the mean than the boys. This replicates a finding of MacMeeker (1939) in Scotland. In Scotland and Rhodesia, girls as a group score slightly higher than the boys, but the former also cluster more closely around a central score. The boys are much more spread out, more having very high and very low scores. This difference in the spread of intelligence scores is also reflected in Mathematics and English attainments, the boys showing a greater spread than the girls in both these areas. However, in Arithmetic the boys' mean is marginally better than the girls'. In English the reverse is true, the girls scoring marginally better than the boys.



This trend for a greater spread of ability in boys, with girls conforming more to a stereotyped pattern, appears to be consistent. Is it due to genetic factors, or is it that the girlish characteristic of conformity and stability in school produces a tendency to group more closely around the mean? Butcher (1968) surveys research in Western Europe and U.S.A., which comes to the conclusion that in primary schools, it is not standards but the atmosphere that sets up some degree of rôle-conflict. Thus it may be that the more docile conformist attitude of women teachers reinforces the desired school behaviour pattern more commonly exhibited by little girls. Male children are of a different mould and this, coupled with the greater success of girls in early intellectual skills such as reading, possibly causes the abilities of boys to be further under-rated and possibly depressed.

Lee (1973) comments on a growing body of research which seeks to examine the effects of feminine dominated attitudes at the lower end of the primary school. Since the time of Froebel, the "mother substitute" has traditionally been the desirable norm in Western European primary schools for children in the age range of five-eight years. Perhaps this should be the subject of investigation and experiment to see if a "father substitute" is not equally necessary and a more acceptable rôle model for little boys. Certainly some challenge to the present practice of only accepting women infant teachers might be investigated.

Butcher (1968) contrasts this briefly with the situation in Japan, where 50 per cent. of primary teachers are men. Interestingly enough, in Japan there is not an imbalance of boys with reading disabilities. Is it due to equivalent male/female adult models in the school situation? It may be, of course, peculiar to and as a result of Japanese cultural styles and rôles. However, there are other pointers to culture patterns accentuating differences in performance between the sexes. Anastasi and D'Angelo (1952) find that, in matched samples of five-year-old American white and negro children, differences are reversed in the two cultural groups. Among the white children, girls are significantly better at language skills than the boys. Among the negro group the boys are significantly better than the girls. The researchers conclude that this difference and reversal is probably due to the different rôles played by negro women and girls and white women and girls in their respective societies. Both the Japanese and the American negro conclusions imply that it may be wrong to attribute sex differences in attainment to purely maturational factors. Considerations involving rôle-models of masculine and feminine attitudes to extrovert behaviour may not only affect learning but possibly also produce subjective attitudes towards attainments. In the writer's own limited study a curious tendency emerges. Girls who do not change schools during their primary years have a much greater chance of remaining in or moving to the "A" stream of a three stream school than have boys of similar intelligence who have also spent similar time spans at the same school, or than have children of similar intelligence who enter the school after Standard I. It seems that there is a continuing increment for good behaviour over a period of time for members of the female sex.

Wisenthal (1965) finds that several researchers report male intolerance of uninteresting lessons and a picture emerges of boys refusing to be passively submissive in a basically restrictive classroom situation, expressing what is generally regarded as the typical male characteristic of extroversion. Girls exhibiting a docile acceptance of the classroom situation are rewarded with academic success and approval by their teachers. Wisenthal (*op. cit.*) reviews research in the U.S.A. in which a large sample of teachers show an apparent bias in assigning grades to girls. In the normal classroom situation, girls seem to earn a considerable marking increment for "good behaviour" traits. This marking increment is given both by men and women teachers. A panel of neutral and independent judges who did not know the sexes of the individuals in the group marked the work objectively, as a result of which no significant sex differences in performance emerge.

To summarise, it seems that girls enjoy certain advantages in the early years. The cause of these advantages, particularly in a scholastic skill such as reading, may be due to physiological factors but there is a growing body of information which suggests a cultural and a social influence. Because they are more compliant, girls are easier for teachers to handle and consequently their achievements tend to be perhaps over-valued. It may be that the ethos of infant and lower junior schools is peculiarly feminine and anti-masculine and that this sets up some sort of rôle-conflict producing consequent antagonistic extrovert behaviour in young boys.

It would be wrong to interpret this line of reasoning as a plea for single-sex education. Beyond the primary school there are suggestions that co-education has more advantages than disadvantages. For instance, Dale (1968) finds consistent evidence that boys educated in co-educational schools at the High School level obtain superior attainments to boys educated in single sex schools. He goes on to say:

There is no evidence whatsoever for the hoary argument that a mixed school is bad for a boy.

He further hypothesises:

Perhaps friendly rivalry between the sexes and the example set by the greater conscientiousness of the girls more than compensates for distractions and attractions of the opposite sex.

For girls it is found that there is very little difference in performance, whether they are educated at co-educational schools or single-sex ones. From such varied evidence certain tentative recommendations appear justified.

In the early years it seems imperative that teachers should not expect the same behaviour from both sexes and should make allowance for the greater exuberance and slower learning rate of many boys. Possibly if homogeneous ability streaming is utilised in the primary school there is a strong case for equivalent sex streaming, especially as streaming on ability and attainment scores would seem to favour girls as a group. Thus in a typical three-stream school an approach is advocated in which 50 per cent. of the places in each class would be given to boys and 50 per cent. to girls. The existing pattern often produces an "A"

stream with 20 places going to girls and 14 to boys with a consequent reversal of numbers in the "C" stream. A limited educational objective would appear to be to encourage the sexes to learn to live together in harmony by providing for similar numbers in the composition of classes.

Co-education at all levels is relatively new in British-based education. It would be a retrograde step if differences in developmental patterns were used as a basis for a return to single-sex education. What appears to be necessary is comprehensive understanding of the differences between boys and girls in their early years. Separate education for the sexes is not advocated. What is required is a more realistic appraisal of differing behavioural characteristics and rates of development when boys and girls are grouped together in the same classroom.

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