The practice of streaming and setting in UK primary schools: Evidence from the Millennium Cohort Study

Samantha Parsons, Research Officer and Sue Hallam, Dean of the Faculty of Policy and Society, Institute of Education

Findings from the Millennium Cohort Study (MCS) show that the controversial practice of streaming and setting is more prevalent in UK primary schools than previously thought, with children being streamed or set as early as age seven.

Streamed pupils stay in a group of children with similar ability for all lessons, and set pupils are placed in an ability group only for certain lessons. While we know that the practice of grouping primary school children according to their ability rather than their age has come in and out of use over previous decades, there is little recent research exploring the prevalence or impact of this practice today. A forthcoming study funded by the Institute of Education on the predictors of children’s placement has found streaming and setting occurring at a very early stage in some children’s education. As these children grow older, MCS data will allow researchers to examine if and how children’s future educational outcomes are determined by their stream and set placements at such an early age.

Our study identifies whether cohort children aged seven were in streamed or set classes, whether specific groups of children were over-represented in particular streams or sets, and which factors best predicted children’s placement. The study analysed questionnaires from 5,364 teachers and 8,875 children from 3,981 schools across the UK and found the prevalence of streaming and setting was similar in England, Scotland, Wales and Northern Ireland (see Table 1 for a continued on page 2
MRC National Survey of Health and Development 1946-2011
Celebrating 65 years of research into the health and lives of British people

Diana Kuh, Director of MRC Unit for Lifelong Health and Ageing, Director of MRC National Survey of Health and Development, Principal Investigator for HALCyon

The Medical Research Council National Survey of Health and Development (NSHD), Britain’s oldest birth cohort study, celebrated its 65th birthday in March 2011. This pioneering study has followed the lives of 5,362 men and women from England, Scotland and Wales since their birth in one week in March 1946.1 To celebrate the 65th birthday, the Medical Research Council (MRC) has set up an exhibition entitled The Douglas Children, which was launched at a birthday party at the British Library attended by study members and is now touring Britain.2 The exhibition showcases the contribution of NSHD to science and policy, as well as its role in understanding the health and lives of this post-war generation. Celebrating the lifelong contribution of study members who made this research possible, the exhibition also shows the importance of public participation in medical research to improve health and quality of life.

The NSHD represents a generation born into the austere circumstances that followed the Second World War where food, clothes and fuel were still rationed. But the country anticipated a better future. The society it would rebuild after the war was expected to provide a better and fairer life for all. This spirit of optimism was reflected in the flurry of legislation at that time to establish the NHS, and improve education and housing. The study was a barometer on changing post-war conditions and life chances, and showed persisting inequality of opportunity and waste of talent. Information from the NSHD shed light on factors associated with the care of mothers in pregnancy and childbirth, childhood health and development, educational progress and opportunities for social mobility, and the chance of a healthy adult life. The study’s key findings are that childhood health and home background matter for many aspects of adult health, including blood pressure, obesity, respiratory health, and physical and cognitive capability. This evidence influenced scientific and popular thinking about the importance of early life. Health and educational professionals and policymakers have relied on NSHD evidence to argue for the short- and long-term benefits of greater investment in children’s services.

March 2011 also marked the end of the latest, and most intensive, round of data collection.3 As these post-war baby boomers reach retirement, these new data will allow researchers to determine how healthy participants are, and estimate the prevalence of health problems such as diabetes, high blood pressure, obesity and osteoporosis. This research will be crucial for planning and delivering social and health care services to an ageing population where one in ten may reach their 100th birthday. Researchers plan to investigate who remains healthy and why, and how this is linked to prior health and life experiences. These new data can also be used to predict how well this generation will continue to age, so that possibilities for early intervention for the most vulnerable can be assessed.

Increasingly, researchers are comparing data from the NSHD and other cohort studies to determine whether the relationships between risk factors, later health and ageing differ between generations. In one example, the Healthy Ageing across the Life Course (HALCyon) programme, (funded by the New Dynamics of Ageing research programme), brings together nine UK cohorts to study lifetime determinants of healthy ageing (www.halcyon.ac.uk). The NSHD also forms part of a well-respected collection of British birth cohort studies. Comparative research across the 1946, 1958, 1970, Millennium and the recently announced study can assess how individual health and social trajectories have altered with changes in social context, and test whether the effects of childhood experience on adult health and quality of life have remained the same or not.4

The success of the NSHD is due to the lifelong commitment of the study members and the ability of the study team to focus the NSHD on the scientific and policy questions relevant to people’s lives.

As one study member put it: ‘The National Survey has never gone away. Like a lifetime friend, it’s always been in touch. I really hope the data continues to benefit all’. Others look forward to continuing the study in the future: ‘I am SO looking forward to the tests on our 80th birthday!’

References

Visit www.nshd.mrc.ac.uk.


breakdown by country). The age seven MCS survey in 2008 provided information about the children’s perceived ability, test scores and behaviour, and whether the child was streamed or set.

What predicts placement

Streaming

Some 16.4 per cent of children in the study were streamed, 64.3 per cent of whom were also set for literacy, and 69.5 per cent for mathematics. Children at schools with mixed-year groups and those attending larger primary schools were more likely to be streamed than their peers in smaller primary schools.

Particular groups were found to be over-represented in certain streams. Children in the bottom stream had experienced more consistent poverty and were more likely to have behavioural problems and mothers with fewer qualifications. Girls were over-represented in the middle streams, boys in the bottom stream. Autumn born children were over-represented in the top stream, summer born in the middle and bottom streams. Pakistani and Bangladeshi children were most likely to be at schools that streamed – 24.2 per cent compared with 16 per cent of white children – but ethnicity was not significantly related to stream placement.

Logistic regression analysis showed that the best predictors of being in the top stream were assessed cognitive ability, being born in the autumn or winter, and parents’ home ownership. Being in the bottom stream was best predicted by being a boy, being born in spring or summer, having a behavioural problem, being in a lone parent family and low assessed cognitive ability.

Setting

The analyses of setting focused on literacy and mathematics, and included all children, regardless of their streaming status. Nearly 26 per cent of children were set for both literacy and maths, and 11.2 per cent were set for only maths (8.2 per cent) or literacy (3.0 per cent). Sixty-three per cent of children aged seven were not set for either.

Children in ‘mainstream’, larger, mixed-sex, non-faith, non-fee paying schools were significantly more likely to be set than children in small, independent, single-sex or faith schools. Clearly, small schools have more limited scope for setting and streaming, and schools with a more homogenous intake of pupils have less need for setting or streaming. Autumn or winter born children were more likely to be placed in the top set for either literacy or maths. Boys were more likely than girls to be in the bottom set for literacy, but there was no significant gender difference for mathematics. Children with behaviour difficulties were more likely to be in the bottom sets for both. There was also evidence that the difference in average scores for children in the top and bottom sets increased between the ages of five and seven, suggesting the need to investigate whether setting contributes to a growing test-score gap over time.

The findings from this study will be presented at the September 2011 British Educational Research Association (BERA) Conference at the Institute of Education.

![Figure 1: Significant odds ratios predicting a child being in top versus middle or bottom sets in Year 2](image)

![Table 1: Percentage of children in study who were streamed or set across England, Scotland, Wales and Northern Ireland](table)
Poorer children’s educational attainment: How important are attitudes and behaviour?

Claire Crawford, Programme Director for the Skills Sector, Institute for Fiscal Studies

Research using data from several British cohort studies shows that attitudes and behaviour can contribute to widening gaps in educational attainment between children from rich and poor families at different stages of their lives. It is well known that children growing up in poorer families emerge from school with substantially lower levels of educational attainment than children growing up in richer families. Such achievement gaps are a major contributing factor to patterns of social mobility.

The ways in which family circumstances can influence educational attainment are potentially very broad. In a recent study funded by the Joseph Rowntree Foundation, researchers from the Institute for Fiscal Studies and the Centre for Market and Public Organisation at the University of Bristol considered the role of attitudes and behaviours in driving achievement gaps.

The research made use of data from four large-scale longitudinal data sources: the Millennium Cohort Study (MCS), the Avon Longitudinal Study of Parents and Children (ALSPAC), the Longitudinal Study of Young People in England (LSYPE) and the 1970 British Cohort Study (BCS70). The research pieces together the picture of educational attainment gaps among children growing up in the UK, from early childhood right the way through to late adolescence.

Pre-school
Analysis of MCS data highlighted substantial differences in cognitive development between children from rich and poor backgrounds at the age of three, which widened even further by age five.

Differences in the home learning environment (such as the likelihood of being read to) had a particularly important role to play in helping to explain these gaps (a direct contribution of 16 per cent). However, a much larger proportion of the gap (33 per cent) remained unexplained. This suggests that policies to improve parenting skills and home learning environments cannot, in isolation, eliminate the gap in cognitive development between rich and poor children in the pre-school years.

Primary school
Analysis of ALSPAC suggested that the gap in attainment between children from rich and poor backgrounds, already large at age five, grows particularly fast during the primary school years.

Parental aspirations for their children’s education also vary strongly by socio-economic background, with 81 per cent of mothers from higher income households saying they hoped their nine-year-old would go to university, compared with only 37 per cent of mothers from lower income households. These lower aspirations among disadvantaged mothers are one of the most important factors associated with lower educational attainment at age eleven.

Other factors that helped to explain widening attainment gaps during primary school include:

• how far parents and children believe their own actions can affect their lives
• children’s behavioural problems.

Secondary school
While attainment gaps grow more slowly during the teenage years, findings show they are already very large at age 16. Analysis of LSYPE data shows that only 21 per cent of young people from the poorest fifth of families
managed to gain five good GCSEs (grades A-C, including English and maths), compared with 75 per cent from the richest fifth.

Even after controlling for long-term family background factors and prior attainment, young people are more likely to do well at GCSE if they:

- have a greater belief in their own ability
- find school worthwhile
- think it likely that they will apply to, and get into, university
- avoid risky behaviours such as frequent smoking, cannabis use and truancy.

Since young people growing up in poor families do less well in all these respects compared with young people growing up in rich families, this explains in part their poorer educational attainment.

**An intergenerational picture**

Analysis of BCS70 data found that children’s test scores were lowest when poverty had persisted across the generations, and highest when material advantage was long-lasting.

Parents’ cognitive abilities and other circumstances experienced by parents during their own childhoods also play an important role in explaining the gap in cognitive development between richer and poorer children today. Nearly one fifth of the gap could be explained by a direct link between the childhood cognitive ability of parents and that of their children. This link was revealed even after controlling for a wide range of environmental factors and taking into account many of the channels through which cognitive ability might operate, such as parental education.

**Policy recommendations**

These findings suggest that attitudes and behaviours may help to explain the link between socio-economic disadvantage and children’s educational attainment. The following recommendations highlight several areas in which policy could help to reduce educational inequalities.

- There is considerable emphasis on parenting programmes in the early years before schooling starts, but much less so in the primary school years and beyond. This research suggests that reaching families while children are of school age continues to be useful.
- Both research and policy to date have tended to focus on intensive programmes designed to help small numbers of children most in need. However, educational disadvantage affects a large number of children from low-income families, but with lower intensity than those at the extreme. Policy and practice interventions need to account for these children as well.
- Programmes to raise educational aspirations (such as Aim Higher) typically start in the secondary school years, while this research suggests that such interventions would be worthwhile at a younger age, for example in primary schools.

Acting on these recommendations could potentially prevent children from poor backgrounds from slipping further behind their better-off peers throughout their schooling. However, more research is needed to confirm that attitudes and behaviours can be changed, and robust trials will be necessary to firmly establish the benefits of various interventions.

For more information


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Find out who’s using cohort data, what events and conferences are coming up, and follow what’s happening in relevant policy areas like social mobility, early intervention, education and health.

**Live from the Parenting Conference**

On Tuesday 21 June we will be tweeting live from the Institute of Education’s Parenting and Child Wellbeing Conference. Britain’s birth cohort studies help us understand how parenting and childhood circumstances impact on individuals’ lives, and how families and parenting are changing over time. We’ll be covering lectures from prominent researchers on topics including the impact of parents’ mental health on parenting and child wellbeing, understanding what works in parenting interventions and parenting and policy priorities.

For more information, visit [www.ioe.ac.uk/parentingconference](http://www.ioe.ac.uk/parentingconference).
France launches Longitudinal Study of Children

Marie-Aline Charles, Head of the Elfe Unit and Henri Leridon, International Relations, Institut national d’études démographiques

The French longitudinal study of children, Elfe (Étude longitudinale française depuis l’enfance), was launched on April 1, 2011. All children born in a large and representative sample of maternity units (344 out of 540) during 22 days of 2011 (in April, July, October and December) are eligible. The study aims to recruit 20,000 children and follow them from birth to adulthood, to gain new insight into how their environments affect their development, health, socialisation and school career.

More than 90 multidisciplinary research projects based on the data have already been defined, involving almost 400 researchers. Data will also be made available to the entire scientific community.

Observation will begin at the hospital where the child is born, in the days immediately following delivery. The mother will be interviewed and medical information concerning her pregnancy and the newborn baby will be recorded. She will answer a questionnaire about her pregnancy, including eating habits, any exposure to pollutants and other factors. Biological samples will also be taken. The following stage, six to eight weeks after birth, consists of a 50 to 60 minute telephone interview with the mother and a 20 to 30 minute interview with the father. Information about the introduction of solid foods in the baby’s diet will be recorded between the ages of three to nine months. The family will be contacted again almost every year until age six. Data on health and healthcare service use will also be collected by requesting access — subject to the parents’ consent — to the social security data management system. A special feature of the Elfe cohort is the large involvement of the children’s fathers: they will be questioned as often as the mothers.

To test the feasibility and acceptability of the various stages of data collection, a pilot cohort of more than 300 families recruited in 2007 is currently under way.

The Elfe study is being run by a joint research unit of the Institut national d’études démographiques (INED) and the Institut national de la santé et de la recherche médicale (INSERM). It is supported by its two host institutions, the French Institute for Public Health Surveillance (INVS), the Institut national de la statistique et des études économiques (INSEE), three ministerial departments, and the National Family Benefits Fund (Caisse nationale des allocations familiales). Funding comes mainly from the Ministers for Research, Health and Environment.

www.elfe-france.fr

For more information

Have you got news?

This newsletter about the British birth cohort studies is produced for researchers, policymakers, journalists and others who are interested in longitudinal research.

We always welcome submissions from outside authors who wish to contribute to Kohort. So if you work with another cohort study, have published research relating to our cohorts, or have other interests related to cohort studies, and are interested in publishing an article in this newsletter, please feel free to contact us. Kohort is published three times a year and is a way of informing others about matters of shared interest in cohort studies.

Please contact Meghan Rainsberry at m.rainsberry@ioe.ac.uk or 020 7612 6530 to discuss any suggestions you may have about the content of Kohort.

Researchers using British cohort studies data

CLS would be grateful if those readers who are doing research using British cohort studies data could remember to notify us of all resulting publications. You can do this by either filling in the feedback form on the ‘Search bibliography’ page of the CLS website (www.cls.ioe.ac.uk/bibliography) or by emailing m.rainsberry@ioe.ac.uk. We need to keep the bibliography on our website up to date, not only to spread the word about your findings, but also to ensure the future of the studies. If you are not sure whether your output is already recorded, you can also check this on the ‘Search bibliography’ page.

Thanks to everyone who has already posted their publications.