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# Case study on the impact of IOE research

## The British birth cohort studies

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*"When people ask me, 'does social science evidence ever change policy?' a particular incident springs to mind... one of the Ministers present tore out one of the Strategy Unit's slides and – leaning forward to put it in front of the Prime Minister declared -- '...but what are we going to do about this?'"*

**David Halpern**, former chief analyst at the Prime Minister's Strategy Unit, describes the moment that Tony Blair was shown a graph based on British Cohort Study data that illustrated how poverty can stunt young children's prospects.

### **The birth cohort studies**

The three birth cohort studies based at the Institute of Education, University of London are managed by the Centre for Longitudinal Studies (CLS). They are the 1958 National Child Development Study, the 1970 British Cohort Study and the Millennium Cohort Study.

### **Who funds them?**

The Economic and Social Research Council funds CLS as a Resource Centre. Funding for the Millennium Cohort Study is supplemented by a consortium of government departments and devolved administrations, led by the Office for National Statistics. CLS also has other funders who support specific research projects. Additional funding comes from the Institute of Education.

### **Duration**

1958 to present day

### **About these studies**

Britain's internationally-renowned birth cohort studies have been described as the "crown jewels of social research"<sup>1</sup>. Because they track the same groups of people from birth, these studies show how histories of health, wealth, education, family and employment are interwoven for individuals and affect outcomes and achievements in later life. By comparing different generations in three cohorts, it is possible to chart social change and start to untangle the reasons behind it.

The National Child Development Study (NCDS) and the British Cohort Study (BCS) have each been tracking up to 17,000 people born in England, Scotland and Wales in a single week of 1958 and 1970 respectively<sup>2</sup>. They made contact with cohort members every few years in childhood and have surveyed them several times since they became adults. The Millennium Cohort Study (MCS) is following around 19,000 children born in the UK (Northern Ireland is included in this study) between September 2000 and January 2002. It has surveyed them at age 9 months, 3, 5 and 7 years and the intention is to follow them into adulthood too.

### **CLS staff:**

- consult on the design and content of the surveys, manage the collection of data, prepare and document raw data for analysis
- help others – in the UK and other countries – to design, conduct, evaluate and analyse longitudinal studies

### **The studies**

Based at the Institute of Education are managed by the Centre for Longitudinal Studies (CLS).

### **Funding**

The ESRC funds the CLS. Funding for the Millennium Cohort Study is supplemented by a consortium of government departments and devolved administrations, led by the Office for National Statistics. CLS also has other funders who support specific research projects. Additional funding comes from the Institute of Education.

### **Duration**

1958 to present day

- carry out research using survey data,
- disseminate survey findings via books, academic journal articles, conference presentations and media releases.

The studies' data are available free to bona fide researchers via the UK Data Archive at the University of Essex [www.esds.ac.uk/longitudinal](http://www.esds.ac.uk/longitudinal)

### The studies' findings

The three cohort studies have generated a phenomenal number of journal articles, books, or book chapters – more than 1,900 by Spring 2010<sup>3</sup>. The following list therefore contains only a very small proportion of the findings that the surveys have made possible. Furthermore, it is limited to relatively recent work undertaken by IOE researchers (research teams in many other institutions across the world use the data that CLS produces).

#### NCDS

- Children who are ambitious at age 11 often go on to enjoy greater career success than those with low aspirations, even after family background and prior attainment are taken into consideration<sup>4</sup>.
- Girls in the 1958 cohort who attended single-sex secondary schools were more likely to gain maths and science A-levels, while boys in single-sex schools were more likely to take A-levels in English and modern languages<sup>5</sup>. This suggests that the greater gender-stereotyping of subjects in mixed schools may have led to a waste of talent – even though single-sex and mixed schools produce similar exam results overall.
- Women in the 1958 cohort were less likely to lose occupational status after having children, by comparison with women in previous generations<sup>6</sup>.

#### BCS70

- Cohort members with the poorest grasp of literacy or numeracy at age 34 were twice as likely as those with very good skills to report that their physical health was “very poor” or “poor”<sup>7</sup>.
- Mothers' and fathers' interest in their children's education is a significant predictor of educational attainment -- especially their daughters<sup>8</sup>.
- Assessments of school-aged children suggest that their development is not affected by whether or not their mother worked during their first year of life<sup>9</sup>.

#### MCS

- Graduate mothers in England were four times more likely to have a paid job than mothers with no qualifications when their children were aged 9 months<sup>10</sup>.
- At age 3 many children from disadvantaged backgrounds and minority ethnic families were already up to a year behind their most privileged peers in vocabulary development and 'school readiness'<sup>11</sup>.
- Obese five-year-olds were about twice as likely not to eat breakfast as normal-weight children (child body weight and height were measured at ages 3 and 5). This apparently counter-intuitive finding suggests that a nutritious breakfast discourages snacking on unhealthy foods<sup>12</sup>.

#### Findings from cross-cohort comparisons

- People born in 1958 have a higher level of political interest and activity than members of the 1970 cohort. Fewer members of the younger cohort voted in the 1997 general election<sup>13</sup>.
- The psychological health of the 1970 cohort, when they were in their mid-20s, appears to have been less good than that of the 1958 cohort. This was particularly true of women<sup>14</sup>.
- Graduates are less depressed and



healthier than non-graduates. They also cost society less. They are less likely to require social security benefits, and their healthier lifestyle (they are, for example, less likely to smoke) means they make fewer demands on the National Health Service<sup>15</sup>.

- There is little evidence of social mobility increasing among people born in the second half of the 20th century<sup>16</sup>. Furthermore, the gap in socio-economic circumstances between children growing up in social housing and their peers is greater now than for any previous post-war generation<sup>17</sup>.
- The wage gap between women and men who worked full-time in their early thirties reduced between 1978 and 2000. However, this reflects improvements in women's education and experience rather more than a move towards equal treatment<sup>18</sup>.

## How CLS promotes cohort study findings

### Working papers, journal articles and books

IOE researchers issue a constant flow of working papers<sup>19</sup> which set out the findings derived from their analyses of cohort study data. In recent years they have also produced dozens of academic journal articles and two major collections of studies based on the Millennium Cohort Study – *Children of the 21st century: From birth to nine months, and Children of the 21st century (Volume 2): The first five years*<sup>20</sup>. Each contains chapters on vital social, educational and health issues, such as: child poverty; pre-school childcare; ethnic inequalities in child outcomes; primary school choice; and childhood overweight and obesity.

To ensure that the findings in such books reach not only academics but policy-makers and the public, CLS produces briefing papers which summarise each chapter in non-technical language. CLS researchers have also briefed senior

### Promoting findings

Working Papers  
Journal articles  
CLS Special report  
Conferences  
Media releases

politicians and are in regular contact with their civil servant advisers.

### **Other publications**

In 2008, CLS produced a special report to mark 50 years of the NCDS. *Now we are 50: Key findings from the National Child Development Study chronicles the diverse experiences of the 1958 cohort and considers their prospects as they enter their sixth decade*<sup>21</sup>. This publication also provides a summary of 50 years of social change in Britain and explains how the study's many findings have helped to shape decision-making in policy areas such as education, employment, housing and health.

CLS has also contributed to several widely-distributed ESRC publications, such as *Seven Ages of Man and Woman* (2004)<sup>22</sup> and *Seven Deadly Sins: a new look at society through an old lens* (2005)<sup>23</sup>.

### **Conferences**

CLS staff promote the cohort studies via presentations to academic and policy audiences. The Centre has also organised two successful international conferences in Oxford. More than 200 people involved in large-scale birth cohort studies that are tracking children born around the turn of the Millennium attended a conference that CLS staged in September 2006<sup>24</sup>. More recently, the Understanding Ageing conference in April 2010 brought together more than 100 researchers working in the economic, social, psychology and health fields. Among the keynote speakers at this conference was the Nobel prize-winning economist James Heckman, of the University of Chicago.

### **Media releases**

CLS issued six press releases in February 2010 to promote the latest MCS publication (Volume 2 of Children of the 21st Century). This resulted in a huge amount of national and international coverage. The Guardian carried a front-page story on one of the book's studies<sup>25</sup>, and CLS's then director, Heather Joshi, was interviewed

about the research on Radio 4's Today programme. This level of publicity is not, however, unusual for CLS which has maintained an exceptionally high public profile for several years. For example, the publication of the Centre's guide to initial findings of the second MCS survey in 2007 received blanket coverage too. That document also triggered a front-page article in the Guardian and half-hourly bulletin reports on Radio 4. This coverage prompted many responses from people seeking the full report. Significantly, the Number 10 Strategy Unit was among the first callers.

### **Impact of the cohort studies**

The studies have contributed to debates and inquiries in a wide range of policy areas. They were key sources of evidence for the Plowden Committee on Primary Education (1967), the Warnock Committee on Children with Special Educational Needs (1978), the Finer Committee on One Parent Families (1966-74), the Independent Inquiry into Inequalities in Health (1998) and the Moser Committee on Adult Basic Skills (1997-99). More recently, a study of working mothers and early child development, based on NCDS and BCS70 data, helped shift the argument for increased maternity leave<sup>26</sup>. The reports of the Milburn Inquiry<sup>27</sup>, the National Equality Panel<sup>28</sup> and the Marmot Review<sup>29</sup> of Health Inequalities also drew heavily on cohort data.

Here are some of the other ways in which the studies have affected policy and practice:

### **National Child Development Study**

#### **Health**

The first survey of the 1958 cohort informed debate about the best place to deliver babies. As a result, births in hospital were made more widely available to try to ensure that all

MCS girls were more likely than boys to be overweight at age 5 (23 per cent of girls and 19 per cent of boys)

mothers had care from experienced midwives and doctors.

The 1958 study was the first to compare Body Mass Index and height growth in a large national cohort. It showed that if children had overweight parents they were more likely to become obese adults. They also gained weight quicker from early adulthood. These findings helped to make health campaigns more efficient.

### **Gender and work**

NCDS has produced valuable information about the different work histories – and pay – of men and women and identified some of the factors that help to explain continued gender inequalities. It has also provided evidence for official commissions<sup>30</sup> concerned with pensions and equal pay which, in turn, fed into the 2010 Equalities Bill.

## **British Cohort Study**

### **Early inequality**

Evidence from BCS70 showing that many bright children from poor families were overtaken by less able children from affluent backgrounds<sup>31</sup> by age 6 was included in the Every Child Matters Green Paper in 2003 and helped to underpin the case for greater investment in pre-school provision. David Halpern, former chief analyst at the Prime Minister's Strategy Unit, has described the meeting at which this research helped to shape government thinking<sup>32</sup>.

"... one of the Ministers present tore out one of the Strategy Unit's slides and – leaning forward to put it in front of the Prime Minister declared – '...but what are we going to do about this?' The slide – now well-known and based on longitudinal data – showed how the cognitive ability of bright children from poor backgrounds appeared to be overtaken by that of much less able children from affluent backgrounds ... Within a year more than £500m was assigned to build a programme of

pre-school provision for the UK."

### **Mental health**

Researchers discovered that half of the BCS70 cohort members with mental health problems at age 26 had developed a psychiatric disorder by age 15<sup>33</sup>. Policy-makers responded to this finding with a commitment to early intervention aimed at promoting better mental health and wellbeing.

### **Careers advice**

The influential 1999 Social Exclusion Unit report, *Bridging the Gap*, which led to the creation of the Connexions service, drew on BCS70 evidence. The research showed how prolonged periods of being out of education, employment or training after leaving school have long-term negative consequences for employment and mental health.

### **Youth policy**

The government's 'Youth Matters' policy, launched in 2005 to improve local facilities for teenagers, was based partly on BCS70 evidence showing that teenagers' involvement in structured leisure activities can have lasting benefits<sup>34</sup>.

## **Millennium Cohort Study**

### **Advice for government**

MCS has made important contributions to the national evaluations of two major programmes, Sure Start and the Children's Fund, and has been the subject of several CLS reports for policy-makers – on child development<sup>35</sup>; the social and demographic profile of rural areas<sup>36</sup> and childcare<sup>37</sup>. The Welsh Assembly Government commissioned a report from the MCS team on young motherhood<sup>38</sup>, while a report for the Scottish Executive assessed the implications of the age 3 survey results for Scotland<sup>39</sup>. Another analysis of the social profile of births in Scotland based on the age 9 months MCS survey contributed to the debate about population decline in that country<sup>40</sup>.



..more than 7,300 children have worn monitors that measured the duration and intensity of their activity during the course of a week.

### **Birth weight**

The finding that non-white babies tended to have lower birth weights than children born to white mothers underscored the importance of strategies designed to encourage ethnic minority women to attend ante-natal classes<sup>41</sup>.

### **Overweight**

MCS has also confirmed that overweight and obesity are not evenly spread among the child population. MCS girls were more likely than boys to be overweight at age 5 (23 per cent of girls and 19 per cent of boys). Such statistics have strengthened the argument that anti-obesity work needs to begin in babyhood or even during pregnancy.

### **Poverty and cognitive development**

The study's findings have triggered parliamentary<sup>42</sup> and public debate on the impact of poverty on children's cognitive development. Leading politicians such as David Willetts have taken a keen interest in the Millennium study and referred to its findings in public speeches<sup>43</sup>.

### **Health services**

Health agencies are using MCS findings to improve and refine their systems and policies. For instance, MCS data showing that children from deprived areas are more likely to have an incomplete set

of immunisations in their first year have helped to shape the policy of primary care trusts<sup>44</sup>.

### **The future**

The results of the age 7 MCS survey, to be published at the end of 2010, should offer insights into the links between physical exercise and childhood obesity as more than 7,300 children have worn monitors that measured the duration and intensity of their activity during the course of a week. That survey will also yield invaluable data for bio-medical researchers in the shed milk teeth collected from many of the seven-year-olds. Researchers will, for example, be able to calculate the association between lead concentrations in the teeth and measures of early childhood intellectual development and health.

The NCDS, at the other end of the age range, also promises to tell us much about the physical and cognitive effects of ageing while BCS70 will reveal the consequences in mid-life of having grown up in an era of increasing social inequalities<sup>45</sup>.

It is therefore clear that the importance of these remarkable studies can only grow in the years ahead. ■

To find out more please visit:  
[www.cls.ioe.ac.uk](http://www.cls.ioe.ac.uk)

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3. The full list of published papers can be found at [http://www.cls.ioe.ac.uk/search\\_references.asp?searchYearFrom=&searchYearTo=&searchAuthor=&searchKeywords=&searchText=+&RIS=0&section=0001000100060002](http://www.cls.ioe.ac.uk/search_references.asp?searchYearFrom=&searchYearTo=&searchAuthor=&searchKeywords=&searchText=+&RIS=0&section=0001000100060002)
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20. These books are available from [www.policypress.co.uk/display.asp?k="9781847424754"&](http://www.policypress.co.uk/display.asp?k=)
21. Downloadable from <http://www.cls.ioe.ac.uk/news.asp?section=000100010003&item=449>
22. Downloadable from [http://www.esrc.ac.uk/ESRCInfoCentre/about/CI/CP/the\\_edge/issue16/sevenages.aspx](http://www.esrc.ac.uk/ESRCInfoCentre/about/CI/CP/the_edge/issue16/sevenages.aspx)
23. Downloadable from [http://www.esrc.ac.uk/ESRCInfoCentre/about/CI/CP/research\\_publications/seven\\_sins/](http://www.esrc.ac.uk/ESRCInfoCentre/about/CI/CP/research_publications/seven_sins/)
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