The Millennium Cohort Study

Design and Content

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Outline

- Background
- Objective
- Design
- Sample
- Content
Background

There have been four UK national longitudinal birth cohort studies

1. 1946: National Survey of Health & Development (NSHD)
2. 1958: National Child Development Study (NCDS)
3. 1970: British Cohort Study (BCS70)
4. 2000: Millennium Cohort Study (MCS)

Last three are hosted by Centre of Longitudinal Studies (http://www.cls.ioe.ac.uk)
Objective

Objective of MCS is to chart out the early years of the ‘Children of the New Century’

- Look at the initial conditions of social, economic, and health advantages and disadvantages facing the children in the new century

- Focus on children’s parents as the immediate background of the children

- Allow comparison with previous cohort studies
Design of MCS is different from other cohort studies:

- Population: includes children born over a period of **12 months**, starting in 2000
  - Unlike other studies where sample children are born in one week in the year
- Cover all four UK countries
Design

- **Over-representation** of ethnic and national minorities
  - Over-sampling...
    - ... from the smaller countries: Wales, Scotland and Northern Ireland
    - ... of ethnic minorities in England*
    - ... of children living in disadvantaged areas**
Stratum 1: Countries
Stratum 2: Electoral Wards

EM: Ethnic Minority
DA: Disadvantaged
A: Advantaged

Plewis (2007) gives technical details

Within each strata there is geographical clustering
Sample


- England and Wales: 1<sup>st</sup> September 2000 to 31<sup>st</sup> August 2001*
- Scotland and NI: 23<sup>rd</sup> November 2000 to 11<sup>th</sup> January 2002**

Children were *largely* identified from Child Benefit records
## Sample: Waves

<table>
<thead>
<tr>
<th>Wave</th>
<th>Year of survey</th>
<th>Age of the child</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (MCS1)</td>
<td>2001/02</td>
<td>9 months</td>
</tr>
<tr>
<td>2 (MCS2)</td>
<td>2003/04</td>
<td>3 years</td>
</tr>
<tr>
<td>3 (MCS3)</td>
<td>2006</td>
<td>5 years</td>
</tr>
<tr>
<td>4 (MCS4)</td>
<td>2008</td>
<td>7 years</td>
</tr>
<tr>
<td>5 (MCS5)</td>
<td>2012</td>
<td>11 years</td>
</tr>
<tr>
<td>6 (MCS6)</td>
<td>2015</td>
<td>14 years</td>
</tr>
</tbody>
</table>
### Sample: MCS1

<table>
<thead>
<tr>
<th></th>
<th>Target Sample</th>
<th>Achieved Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Families</td>
</tr>
<tr>
<td>Total UK</td>
<td>20,646</td>
<td>18,552</td>
</tr>
<tr>
<td>England</td>
<td>13,146</td>
<td>11,533</td>
</tr>
<tr>
<td>Wales</td>
<td>3,000</td>
<td>2,760</td>
</tr>
<tr>
<td>Scotland</td>
<td>2,500</td>
<td>2,336</td>
</tr>
<tr>
<td>NI</td>
<td>2,000</td>
<td>1,923</td>
</tr>
</tbody>
</table>

Plewis (2007) gives the details of the (non) response rates by different categories: country, disadvantaged area, ethnic minority.
## Sample: Other waves

<table>
<thead>
<tr>
<th>Wave</th>
<th>Target Sample</th>
<th>Achieved Sample*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Families (r.r.)</td>
</tr>
<tr>
<td>MCS2</td>
<td>18,552 (MCS1 families)</td>
<td>14,898 (80%)</td>
</tr>
<tr>
<td></td>
<td>1,389 (New families)</td>
<td>692 (50%)</td>
</tr>
<tr>
<td></td>
<td>Total = 19,941</td>
<td>15,590 (78%)</td>
</tr>
<tr>
<td>MCS3</td>
<td>18,552 (MCS1 families)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>692 (New Families)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total = 19,244</td>
<td>15,246 (79%)</td>
</tr>
<tr>
<td>MCS4</td>
<td>19,244</td>
<td>13,857 (72%)</td>
</tr>
</tbody>
</table>

r.r. = response rate
Sample: response rates

Achieved Sample

- These are *productive* interviews – data is available (if not all then some)

The gap between the target and achieved sample can be for three reasons:

1. Ineligibility
2. Uncertain eligibility
3. Unproductive
Sample: response rates

1. Ineligibility
   - death, emigration

2. Uncertain eligibility
   - away temporarily, untraced movers, not certain if eligible

3. Unproductive*
   - Refusals*, non-contacts*, non-responses, language problems, ill/incapacitated, deleted/lost data

See Hansen (2012) for details
Sample: weights

- Weight should be used in the analysis to correct for the sampling design:
  - **weight 1**: MCS weight to use on single country analyses
  - **weight 2**: MCS weight to use on whole UK analyses

- These weights correct for the stratified clustered sampling design
Sample: weights

- Weight are also available at each wave to correct for non-response bias
  - E.g:
    - `aovwt1 s1`: overall weight (inc nr adjustment) single country analysis
    - `aovwt2 s1`: overall weight (inc nr adjustment) whole uk analysis
    - `bovwt1 s2`: overall weight (inc nr adjustment) single country analysis
    - `bovwt2 s2`: overall weight (inc nr adjustment) whole uk analysis
Survey Content

Information on:
- Child’s behaviour and cognitive development
- Child and parents’ health
- Parents’ employment and education (Income and poverty)
- Parenting (for the first time focus on fathers’ involvement)
- Older siblings
- Childcare, school choice
- Housing, neighbourhood, ethnicity, etc....
Survey Content

Information obtained by:

- **Parent interviews:**
  - **MAIN** respondent: this is the mother OR the mother figure of the child
  - **PARTNER:** this is MAIN respondent's current partner, *not necessarily the father of the child*

- **Child assessment / measurement**
- **Older siblings of the child**
- **Teacher**
Survey Content

MCS 1
2001/2
9 months
Mother
Father
Child
Older Siblings
Birth records
18,552

MCS 2
2003/4
AGE 3
Mother
Father
Child
Education records
15,590

MCS 3
2005/6
AGE 5
Mother
Father
Child
Medical records
15,246

MCS 4
2008/9
AGE 7
Mother
Father
Child
Teachers
Education records
Medical records
13,857

Source: Hansen, 2012
References


Questions?