



**Northern Ireland Longitudinal Study:
Linking the Northern Ireland Longitudinal Study
to the 1981 Census**

NILS Working Paper 6.0

October 2015

NILS Research Support Unit

A background to the NILS is available in [NILS Working Paper 1](#) and the NILS Matching Methodology is available in [NILS Working Paper 3.1](#). This paper provides an overview of the linkage of 1981 Census data into the NILS.

1. NILS Census Data Integration

The foundation of the NILS data structure is based on NILS members selected from Health Card Registration Data. The 1991, 2001 and 2011 Censuses are incorporated into the NILS in the following manner.

- **2001 Census** – Linked to NILS members considered ‘Live’ in the Health Card Data from April 2001;
- **2011 Census** - Linked to NILS members considered ‘Live’ in the Health Card Data from April 2011;
- **1991 Census** – Proxy 1991 Health Card dataset created from earliest available download from April 2001:
 - linked to NILS members considered ‘Live’ in the Health Card Data from April 2001;
 - additional NILS members who were identified as having died between the 1991 and 2001 Censuses; and
 - additional NILS members identified as having emigrated between the 1991 and 2001 Censuses.

Unlike the 1991 Census, it was identified that it was not possible to create a proxy 1981 Health Card Registration ‘spine’ due to poor subject representation prior to 1991. It was decided to carry out data matching based on all NILS members having a birth date prior to the date of the 1981 Census.

2. Matching Results

Using the NILS matching methodology a total of 340,066 matches between NILS members and 1981 Census data were confirmed. As the 1981 Census data integration differs to previous Health Card to Census linkages, match rates are not directly comparable. However, comparable backward linkage rates can be calculated. These figures are drawn from NILS members identified in the 1991 Census link, who also have a link within the 1981 Census. Similar match rates have been drawn for other Health Card to Census linkages. The table below shows that the 1991-1981 Census linkage is slightly less than the 2001-1991 and 2011-2001 equivalents.

Table 1: Census Backward Linkage Comparisons

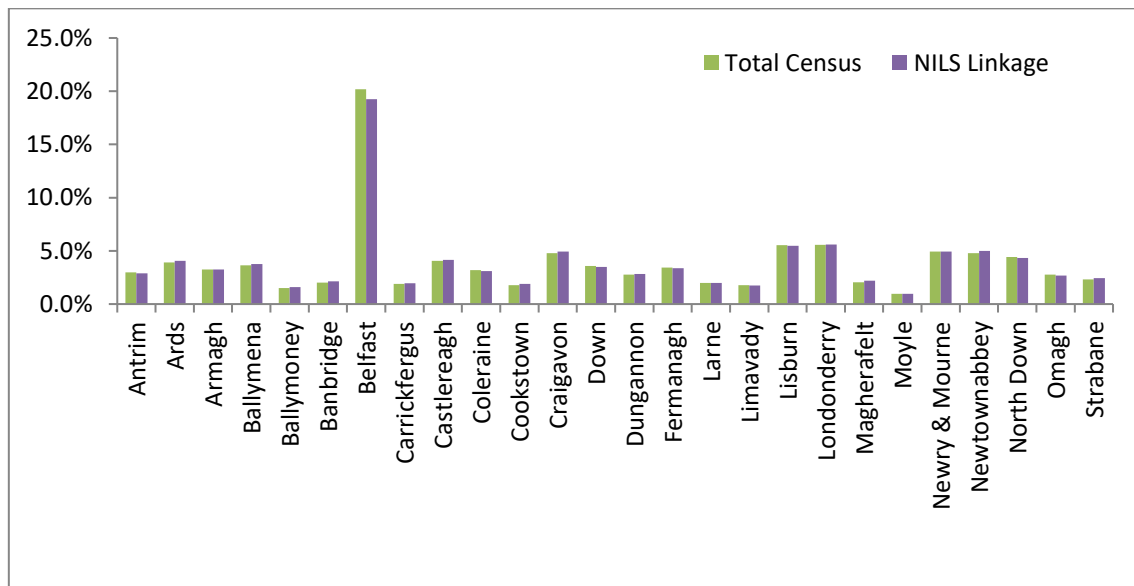
	Census Data Count	Links	%
1981 (Based on 1991 Census)	364,818	314,151	86.1%
1991 (Based on 2001 Census)	390,452	354,016	90.7%
2001 (Based on 2011 Census)	422,175	370,417	87.7%

3. NILS Census 1981 Data Comparison – Full 1981 Census

Graphs 1-4 shows a comparison of distributions between the full 1981 Census and 1981 Census data linked into the NILS by district, gender and age and religion.

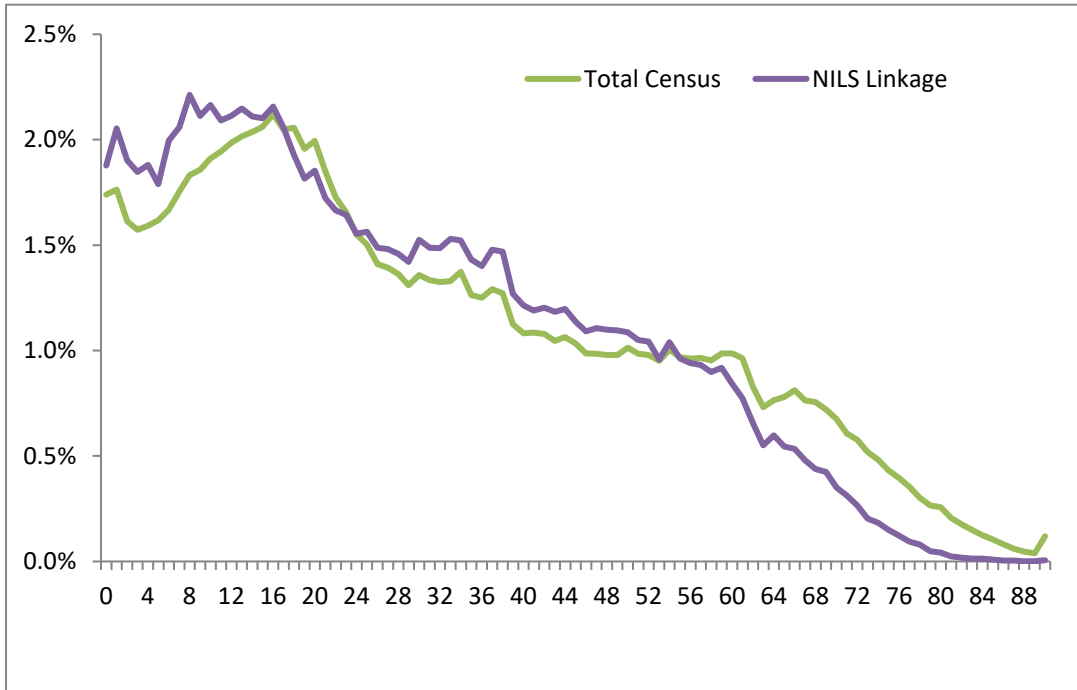
Graph 1 shows that proportions of district information are broadly similar across all areas. Belfast does show a slight under-representation with a difference of almost one percentage point.

Graph 1: Distribution of 1981 Census Data: District

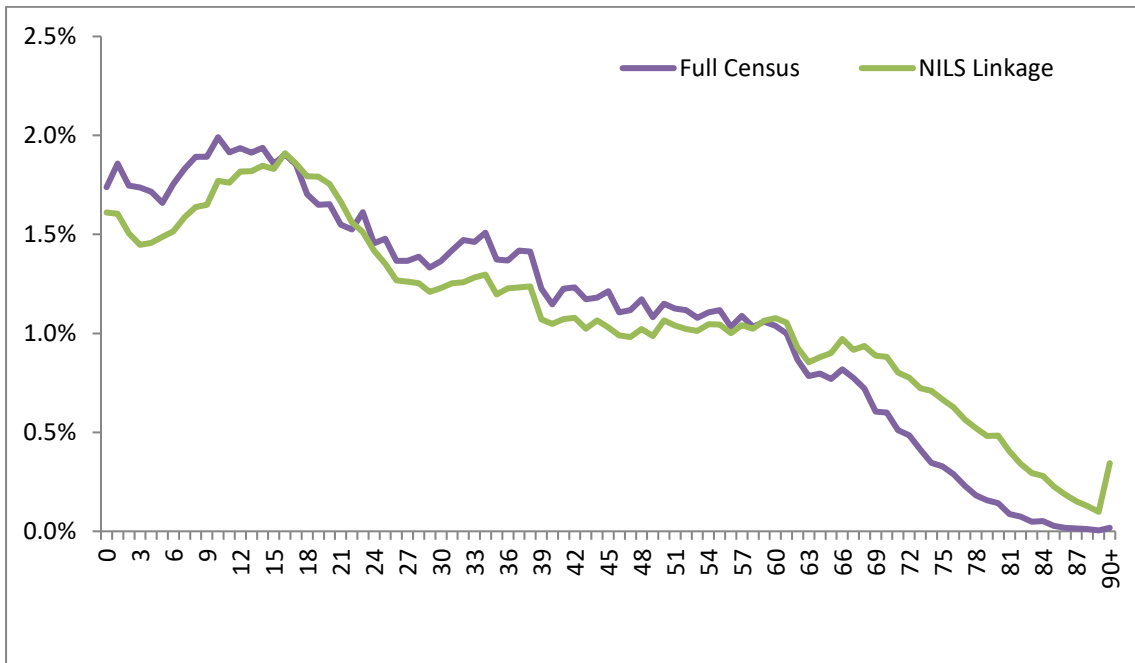


Graphs 2 and 3 showing proportion distributions by gender and single year of age indicate similar trends with under-representation evident for persons aged 60+. This can probably be explained by the higher mortality rate in this age category.

Graph 2 Distribution of 1981 Census Data: Male Single Year of Age

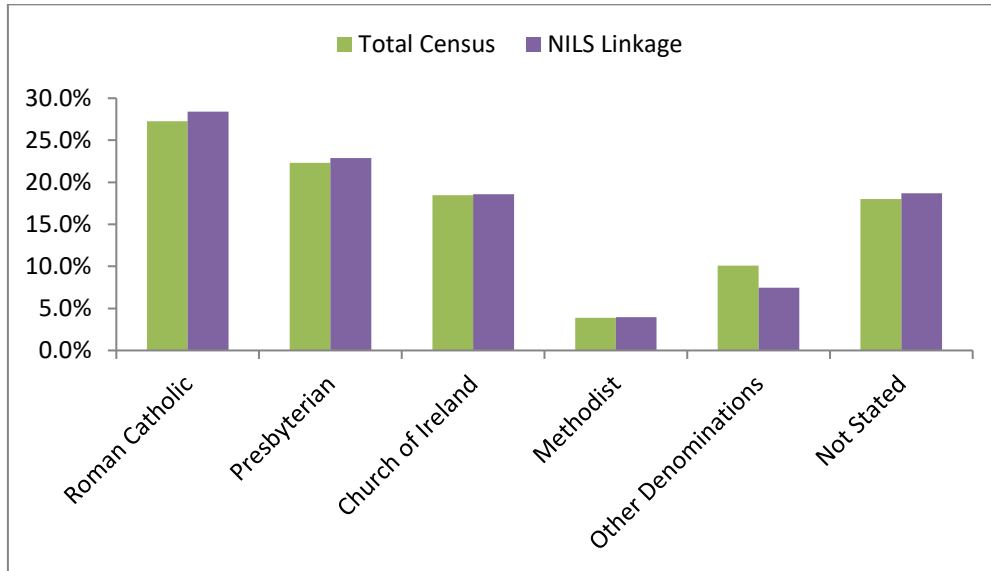


Graph 3 Distribution of 1981 Census Data: Female Single Year of Age



Graph 4 compares proportion distributions between declared religious denominations. Each category indicates a slight over-representation except for 'Other Denominations' showing a difference of around two percentage points.

Graph 4 Distribution of 1981 Census Data: Religious Denomination



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