## Supplementary Material

## Life Course Air Pollution Exposure and Cognitive Decline: Modelled Historical Air Pollution Data and the Lothian Birth Cohort 1936

Supplementary Figure 1A. Mean $\mathrm{PM}_{2.5}$ exposure for each participant at each time point for which air pollution concentration data were modelled: life course air pollution exposure and cognitive decline in the LBC1936.


Blue dotted line - mean $\mathrm{PM}_{2.5}$ value; Solid red line - WHO guidelines (annual average $\leq 10$ $\mu \mathrm{g} / \mathrm{m}^{3}$ )

Supplementary Figure 1B. Mean $\mathrm{PM}_{2.5}$ exposure for each participant at each time point for which air pollution concentration data were modelled (all plotted on the same x and y scales): life course air pollution exposure and cognitive decline in the LBC1936.


Blue dotted line - mean $\mathrm{PM}_{2.5}$ value; Solid red line - WHO guidelines (annual average $\leq 10$ $\mu \mathrm{g} / \mathrm{m}^{3}$ )

Supplementary Figure 2. Sankey diagram indicating the change in mean annual $\mathrm{PM}_{2.5}$ exposure within individuals over time: life course air pollution exposure and cognitive decline in the LBC1936


Supplementary Table 1. Correlations between $\mathrm{PM}_{2.5}$ exposure rankings at different time points: life course air pollution exposure and cognitive decline in the LBC1936

|  | 1935 | 1950 | 1970 | 1980 | 1990 | 2001 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1950 | 0.53 | - |  |  |  |  |
| 1970 | 0.13 | 0.22 | - |  |  |  |
| 1980 | 0.06 | 0.18 | 0.57 | - |  |  |
| 1990 | 0.09 | 0.19 | 0.53 | 0.82 | - |  |
| 2001 | 0.003 | 0.10 | 0.05 | 0.03 | 0.08 | - |

