This year's update features three fascinating new studies based on the information you have provided to NCDS:

- Lifelong exercise improves brain function
- How grandparents influence where you are on the social ladder
- Child poverty then and now
Exercising from a young age improves mental agility in later life, according to findings from the NCDS.

As the British population ages, helping people live healthy and independent lives for longer is a growing public health priority. Researchers, healthcare professionals and the Government are looking for ways to help keep people’s brains healthy, as well as their bodies.

Researchers at King’s College London found that NCDS cohort members performed better in mental tests at age 50 if they had taken regular, intense exercise since childhood, such as running, swimming or working out in the gym.

Those of you who were the most active were also the most mentally agile at age 50, even after taking into account family background, childhood cognitive ability, and behaviour such as smoking and drinking.

**WHAT WE ASKED YOU**

When you were 50, you completed a series of assessments that measured your memory, attention span, verbal skills and other cognitive functions. Researchers then compared your scores to what you told us about your exercise habits when you were aged 11, 16, 33, 42, 46 and 50.

**MOST OF YOU ARE TAKING LESS EXERCISE AS YOU GET OLDER**

Since you were children, there has been a steady decline in the number of men and women who exercise regularly.

When you were age 11, roughly half of boys and a third of girls took some form of exercise at least four days a week. By age 46, only about one in five of you was still exercising as regularly.

**ANY EXERCISE IS BETTER THAN NONE**

For men, any physical activity (as opposed to none) was associated with improved mental agility. For women, those who exercised at least once a week scored better on cognitive assessments than those who were less active.

**THE MORE INTENSE THE EXERCISE, THE BETTER**

Those of you who have exercised vigorously throughout your adult lives were the most mentally agile at age 50. The findings also indicate that intense but irregular physical activity may offer greater benefits than less intense but regular exercise.

The Government recommends that adults aged 19 to 64 exercise for at least 150 minutes per week. However, the King’s College study indicates that even exercising less frequently may help improve brain function.

“It’s widely acknowledged that a healthy body equals a healthy mind. However, not everyone is willing or able to take part in the recommended 150 minutes of physical activity per week,” said Dr Alexandru Dregan, the study’s lead author. “For these people, any level of physical activity may benefit their cognitive wellbeing in the long term. Setting lower exercise targets at the beginning and gradually increasing their frequency and intensity could be a more effective method for improving levels of exercise within the wider population.”

*Leisure-time physical activity over the life course and cognitive functioning in late mid-adult years: a cohort-based investigation*, by A. Dregan and M.C. Gulliford, was published by the Psychological Medicine journal in March 2013.
It has long been accepted that parents’ social standing has a strong influence on their children’s education, job prospects and earning power. However, findings from the NCDS, 1946 and 1970 British cohort studies have shown that the position of your grandparents matters too.

Researchers from the University of Oxford and Durham University found that even after taking into account parents’ influence, the chances of grandchildren going into professional or managerial occupations rather than unskilled manual jobs are at least two and a half times higher if their grandparents had professional-managerial positions.

**WHAT WE ASKED YOU**

Around the time that you were born, your parents told us about the type of work they did, and also provided information about your grandparents’ jobs. Then, as you got older, we kept track of the work you went on to do.

**GRANDPARENTS AND UPWARD AND DOWNWARD MOBILITY**

The researchers found that 80 per cent of men who had professional-managerial parents and grandparents had similarly advantaged positions themselves. However, among men whose parents were upwardly mobile (i.e. their grandparents had been unskilled manual workers, but their parents were professionals or managers), only 61 per cent managed to stay in the same occupational class as their parents. The ‘grandparents effect’ on women was less strong but still evident.

Where grandparents were from a high social class and the parents experienced downward social mobility, the ‘grandparents effect’ appeared stronger, helping to push the grandchild back up the social ladder.

One of the study’s co-authors, Dr Tak Wing Chan from the University of Oxford, said: “The ‘grandparents effect’ in social mobility is found to operate throughout society and is not restricted to the top or bottom of the social class structure in Britain.”

“It may work through a number of channels, including the inheritance of wealth and property, and may be aided by durable social institutions such as generation-skipping trusts, residential segregation and other demographic processes. Further investigation needs to be done to establish the precise mechanisms by which the ‘grandparents effect’ endures, but our study of 17,000 Britons reveals that grandparents have a substantial effect on where their grandchildren end up in the British class system.”

**GRANDPARENTS INFLUENCE WHERE YOU ARE ON THE SOCIAL LADDER**

This new research finds that the social advantages and disadvantages that are transmitted across generations are much more persistent than previously thought.

Researcher Dr Vikki Boliver from Durham University said: “Numerous studies have demonstrated that social origins strongly predict social destinations, but almost all social mobility studies to date have only examined two generations – parents and children.

This is the first time that researchers have found that an individual’s fortunes may depend on the attributes and experiences of more distant ancestors such as grandparents.”

‘The Grandparents Effect in Social Mobility: Evidence from British Birth Cohort Studies’, by Tak Wing Chan and Vikki Boliver, was published by the American Sociological Review in June 2013.
There are nearly 1.5 million more children living in poverty in the UK than there were when you were growing up, according to research based on the NCDS.

Researchers at the National Children’s Bureau compared UK children’s lives today with your experiences at age 11 in 1969. Although the number of children growing up experiencing the stark levels of absolute poverty of the kind many of you experienced as children has declined, the report shows how children today experience greater levels of relative poverty and inequality than you did almost five decades ago.

In 1969, one in seven of you was living in poverty. Today, the proportion of children defined as poor has risen to one in four.² The study also showed that growing up in disadvantage has a damaging effect on many aspects of children’s lives, from health to school performance.

HEALTH
In 1958, NCDS children from disadvantaged families were more likely to be born underweight than those from advantaged backgrounds (eight per cent compared with five per cent). This can have long-term negative effects on both health and education. When we surveyed you at age 11, those of you from poorer homes were more likely to have missed over a month of schooling in the past year due to ill health – nine per cent compared to four per cent of children from more affluent families.

Today, it is still more common for poorer children to be born underweight. They continue to be more likely to suffer from poor health, even though rates of childhood death and illness have gone down thanks to medical advances. From 2006 to 2010, school absences because of illness are a third higher for disadvantaged pupils than for other children.

SCHOOL
In 1969, disadvantaged 11-year-olds were, on average, three and a half years behind advantaged children in reading. Among those pupils whom teachers thought were doing poorly, almost three in five were from deprived backgrounds. By age 16, just over 40 per cent of poorer children hoped to continue their education after compulsory schooling, compared to more than 70 per cent of those from more affluent homes.

Today there is no evidence that this gap in educational attainment is disappearing. In 2012, 73 per cent of 11-year-olds from the most deprived neighbourhoods achieved the expected level in English and maths, compared to 89 per cent of pupils from better-off areas.

HOME AND NEIGHBOURHOOD
At age 11, around one in six of you lived in poor and overcrowded housing, compared to fewer than one in ten children today. However, the number of children living in temporary accommodation is rising rapidly – up by more than 50 per cent from 2011 to 2012. Poor housing is known to have a detrimental impact on education, health and wellbeing.

¹ In 1969, children were defined as living in poverty if they received free school meals or their family had received supplementary benefit in the previous year. In 2013 children were defined as living in poverty if they lived in a family receiving less than 60 per cent of the median income after housing costs (relative poverty).
KEEPING IN TOUCH

If you change your address or phone number, please let us know so that we can contact you in the future.

You can tell us by:

- Calling us free (from a UK landline) on 0500 600 616
- Emailing us at ncds@ioe.ac.uk
- Completing the contact form on the study website: www.ncds.info
- Or writing to us at National Child Development Study, FREEPOST KE7770, London WC1H 0BR