



The story of your lives

Celebrating the first 60 years of the
National Child Development Study

Contents

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Foreword



61 years ago, when you were born, you became part of something truly remarkable – a group of babies who would be tracked by scientists more closely than almost any before.

Today, the National Child Development Study (NCDS) is one of the most remarkable studies of human development in the world. Along with the other British birth cohort studies, it is a jewel in the crown of British research, and the envy of scientists worldwide.

I first discovered NCDS in 2011 when, working as a science journalist, I started researching a book about the British birth cohorts. Researching and writing that book – which was eventually called *The Life Project* – turned into an incredible five-year project that consumed my own life.

The findings from NCDS have been both prolific and far-reaching. At the start, the study provided detailed insights into the ways in which women gave birth. In the 1970s, it revealed the profoundly important association between smoking in pregnancy and increased rates of infant mortality. That work changed public health policy and has helped save millions of babies' lives since. NCDS has exposed the lasting impact

of divorce on children, it's shown how disadvantaged children tend to struggle more at school, and has helped us understand that our early circumstances have a profound influence on the way the rest of our lives play out.

The information you've shared over the decades has been extremely valuable for scientists and society, generating many thousands of academic papers and books. The results have fed into policies regarding pregnancy, birth, schooling, adult education and much more. They have shaped researchers' understanding of issues ranging from social mobility to chronic disease to aging. The study has touched the lives of almost every person in Britain today.

Today NCDS is going from strength to strength. The data collection is growing bigger and richer, and researchers are able to link up your study with others in Britain and worldwide. It is more valuable now than it ever has been, and part of a global scientific effort.

NCDS is absolutely dependent on your goodwill and selfless willingness to take part. You deserve enormous thanks and credit for generously sticking with the study for all these years. Your life has helped build an incredible legacy: a national database that will outlast us all.

Amazing things happen when we do something as simple as track people through their lives. When we collect information on thousands of them, we end up with valuable data which allows us to begin to understand why people's lives tend to follow particular paths. NCDS is one of Britain's greatest national treasures. And that means that every one of you is treasured too.

Helen Pearson

Science journalist, editor and author of *The Life Project*



Introduction



It's a huge privilege for me to introduce this book celebrating the first 60 years of the National Child Development Study.

I'm incredibly lucky to be the Director of NCDS. Over the last six decades, NCDS has been used by scientists the world over. It has helped us to understand better what shapes us as individuals, the reasons why some people live happy, healthy or prosperous lives, and how adversity can be overcome. The study has been a guiding hand to social policy over the years, and it continues to be so today.

I first began my own career looking at inequalities in our society, their origins and what we can do to tackle them. You had reached your early thirties, and from the information you gave, we were beginning to learn for the first time the true extent of the social mobility problem in this country, and some of its root causes.

I quickly understood just what a priceless contribution you had each made, as members of this unique and important study, not only to my own area of scientific research but to so many others, as you'll discover in this book.

The study continues to bring up new and hugely important findings, and is a true delight to research.

Recently, we've been travelling back in time to 1969, and have transcribed the essays you wrote when you were 11 years old, when we asked you to imagine your lives at the age of 25. We have been analysing them with statistical tools that would not have been imaginable back then, to discover the predictive power they held for the future. It's a fascinating project, showing the important signals that are held in language, even at an early age.

We've been developing the genetic data that you have contributed, including in the study of epigenetics, or how your environment affects how your genes are expressed.

And as you've been growing older, we are learning more about the inequalities and vulnerabilities which can develop throughout mid-life, and what policies are needed to support people to enjoy a healthy older age.

More than 60 years on, the contribution you selflessly make to

the study is more important than ever. With new scientific questions, and new technologies for collecting and analysing surveys developing apace, there's no doubt that the future of the study will be just as dazzling as its past.

I truly hope it's been a very happy 60th birthday year for all the participants in NCDS, whose contribution to the study over the years is such a precious gift to society. I hope you enjoy this book, and take pride in the tremendous contribution you have made.

Thanks to you, we are all six decades wiser.

Alissa Goodman

Director of the National Child Development Study

NCDS in a nutshell

You help us see the bigger picture

NCDS is the story of your lives. Like pieces of a mosaic, the experiences you've shared with us, from birth, through childhood and beyond, come together to create a unique picture of your generation. You are each irreplaceable, and without you the picture would be incomplete.

We're indebted to your mums, who first agreed for you to be part of the study more than 60 years ago, and of course to you for staying in the study and being so committed to it throughout your lives. After all these years, and after the thousands of questions, we're still in touch with nearly three quarters of you. That's phenomenal!

NCDS is a longitudinal birth cohort study; we've been following your lives since the very beginning, checking in with you on an ongoing basis. There aren't too many other studies like this in the world, so you are part of something very special.

You're part of our longitudinal family

Different organisations have been responsible for running NCDS at different times, including the National Children's Bureau, who were at the helm for many years. But for the past 20 years or so, the study has been part of the Centre for Longitudinal Studies (CLS), a research centre at the UCL Institute of Education.

NCDS is one of a group of studies which document the lives of different generations in Britain. At CLS we run three of these, following cohorts born in 1970, 1989-90, and 2000-1. There's no doubt you're an absolute stalwart of this longitudinal family, with an incredible 61 years' service. The longest running of the British birth cohort studies is the National Survey of Health and Development, which has been keeping track of the same group of people since they were born in a single week in March 1946.

Individually, cohort studies like NCDS give us unparalleled insight into the different ways our lives unfold and the reasons for this. Together, these studies are a powerful tool for charting and understanding changes across generations.

NCDS in numbers

17,415

The number of babies included in the first survey in 1958.

798

The number of children born overseas who joined the study after moving to Britain.

11

The number of NCDS surveys over the years.

26%

The proportion of the original cohort who have taken part in all 11 surveys.

You've shared so much with us

Including the first survey in 1958, when you were brand new to the world, there have been 11 NCDS surveys. Almost half of you have taken part in at least nine of these. On top of this, smaller groups of you have been involved in special one-off studies, focusing on very specific topics.

Over the years, you've answered questions about everything, from education and work, to relationships, health and your world views. You've completed various tasks, from drawing a picture of a man (not a woman!) when you were seven, to naming as many animals as you could in one minute when you were 50. You've even given us blood samples and allowed us to extract your DNA.

You'll have noticed that we've asked particular questions many times. This is so we can see how things may be changing over time – one of the hallmarks of a longitudinal study like NCDS.

Your contribution benefits all of us

For 60 years NCDS has answered a broad spectrum of important research questions, provided evidence to underpin public policy, and revealed new insights to help us with the choices we each make about the way we live our lives.

Every year NCDS data is downloaded by hundreds of researchers all around the world seeking to make new discoveries. Because of your generosity, we now understand so much more about how our society works and the things that influence the different aspects of our lives. This knowledge has made, and continues to make, a difference to both your own and subsequent generations.

We hope we can keep learning from you for as long as you're happy to stay in the study.

In this book we've included a snapshot of just some of the most important pieces of NCDS research. You'll find full references for each of these at the back. If you'd like to find out more about research using NCDS, you can explore the full bibliography at cls.ucl.ac.uk.

9,137

The number of you who took part in the most recent survey, when you were 55.

Over

13,000

The number of times NCDS datasets have been downloaded by researchers in the last ten years.

3,072

The number of NCDS datasets downloaded overseas in the last ten years (including 71 in Brazil and 22 in Singapore).

1,661

The number of publications using NCDS published in 2008-2017 (that we know about!).



“ In a forest of a hundred thousand trees, no two leaves are alike. And no two journeys along the same path are alike.”

Paulo Coelho





Starting life

1958-1964



For over 60 years, as you've journeyed through life, from childhood to middle age, we've never been too far away. Thanks to you, this amazing study has become one of the longest running of its kind, anywhere in the world.

Did those pioneering researchers in 1958 dare to imagine that we would still be following your lives, decades later?

In fact, the first survey that your mums took part in, during the first weeks of your lives, was intended to be a one-off. It was only later that the study became 'longitudinal', the National Child Development Study that we know today.

All about you

Soon after you were born, a vast team of midwives up and down the country set out to complete the mammoth task of surveying the mums of all babies born in a single week in March 1958. Orchestrated by Professor Neville Butler, and made possible by the NHS, it was an incredibly audacious and logistically challenging operation, and one with a heartbreaking mission at its core.

The aim was to try to shed light on what was behind the UK's high rates of infant death at that time. Scientists hoped that a large-scale study of all births across the country in one week would uncover new information to help address this deeply troubling issue.

That very first questionnaire was to be completed by the midwives who helped bring you into this world. They interviewed a staggering 98 per cent of mothers, and collected information about 17,415 babies.

There were questions about what your parents did for a living, questions about the home you were being raised in, and, of course, questions about how the pregnancy and delivery had gone. A note was made of how much you weighed when you were born as well as any illness you'd had in your first week of life.

Among the women surveyed by the midwives were those who had sadly lost their babies – the mothers of 395 babies who had been stillborn and 278 babies who had died within the first 28 days of their life. Society owes a particular debt to these brave mothers who selflessly answered the survey questions at a time of such sadness.

Question 23, a last minute addition to the survey, has its own rightful place in history. Your mums were asked if they had smoked during pregnancy, how many cigarettes they had smoked per day, and if they had changed their



smoking habits while pregnant. Thanks to the researchers who had the foresight to include these questions, and to your mums who answered them, as well as to you and the information you have given us about your lives over the years, we have learned so much about how smoking in pregnancy can affect babies – both in the early years of life and beyond this, into adulthood (see page 11).



Just under 1 in 3 of you were born at home.



On average, you weighed 7 pounds and 4 ounces when you were born.



When the study first began, it included 414 twins and 12 triplets.



Founding father

Professor Neville Butler began his career as a paediatrician before founding NCDS. A true pioneer, he went on to establish the 1970 British Cohort Study and was an ardent supporter of the Millennium Cohort Study, both of which belong to our family of longitudinal studies. Professor Butler died in 2007 at the age of 86.

Professor John Bynner tells us about this very forward thinking scientist.

“We take for granted that research following people from birth through to adulthood has value in helping to find solutions to the problems of modern life. The case for Sure Start (a government initiative aimed at giving children the best possible start in life) rested heavily on evidence from such research, and subjects as diverse as the effect of smoking in pregnancy and the origins of adults’ basic skills difficulties have been much illuminated by it. Neville Butler was one of the pioneers in this field of ‘longitudinal enquiry’. He inspired a generation of medical and social researchers to study the long-term consequences of early childhood experience and the factors that reinforce positive and negative development in people’s lives.

My first encounter with Neville was at a meeting in the National Children’s Bureau in the late 1960s when he talked about his plans for the 1970 cohort study. I was infected by his enthusiasm then and have been ever since. He was an irresistible charmer, impossible to refuse. No obstacle was ever too much to prevent progress towards what he always perceived as achievable goals.

Neville was a distinguished medical scientist whose early work was recognised through his membership of the Royal College of Obstetricians. But more than anything he exemplified for me the courage, commitment and campaigning zeal needed to move a field of science

into new dimensions of progress. His genius was recognising the power of longitudinal studies to aid understanding of the origins of human successes and failures in every area of life from health to citizenship. Even more importantly, he recognised how significant this knowledge was for shaping policy to help people move their lives in positive directions.”

This is an extract from an obituary originally published on our website.

John Bynner is Emeritus Professor of Social Sciences in Education at the UCL Institute of Education. He was previously Director of the Centre for Longitudinal Studies.

In your words

“ I always wanted to continue with the study my mother agreed to help all those years ago. I have a great interest in social history and being a part of the study means that I can say that I have helped in a small way towards the understanding of social conditions and their effects over the last 60 years.”



A thanks to your parents



The wealth of rich information we've collected about your individual lives over the years is priceless, and it will become even more valuable over time. For 60 years, researchers have used data from NCDS to make discoveries that are relevant to us all, and from which society will continue to benefit for generations to come. As you know from the updates we send you each year, your information is being used in new research all the time, deepening and extending our knowledge of what shapes our individual lives.

That's your legacy, and it's one to be proud of. And it's your parents' legacy too. It all started with them and we are in their debt – for agreeing to take part in that very first survey (when they probably had their hands pretty full with their new bundle of joy!) and the follow-up surveys throughout your childhood. We thank them too for encouraging you to continue being part of the study if you had other ideas, and for re-connecting us with you if you had flown the nest and we'd lost touch.

So to all NCDS mums and dads – a huge thank you!

Some of you shared with us your memories of what the study meant to your parents.

“ I remember my mum explaining to me the importance of taking part in the study. Sadly she died 17 years ago, so I feel a mixture of pride and emotion at being part of something she encouraged me to do.”

“ Above all I recall how proud my mother was that we were taking part. She had been a nurse during WW2 and believed everything to do with health was very important. She always encouraged me to keep taking part in the survey. Missing a bit of school occasionally was a bonus.”

“ I live in a household with 4 generations: almost 90 down to 20 months. My mother is always interested to see the birthday cards each year.”

“ I'm delighted to feel connected to my past with this thread that runs all the way back to my early childhood and connects me with my mum (now deceased) and her pregnancy. It's rather special.”

“ I remember going with my mother to Swansea on the bus just the two of us to a clinic. It was a good day as none of my siblings came and we had milkshake after.”

“ My mother and father wanted to take part in this study. My mother passed away in 1994 and my father passed away in 2000, I feel that I should carry on for as long as I can.”





“My mother felt that my being selected was vindication of her view that I was the most special baby ever!”

“As a child I used to complain bitterly about having to answer all the questions that were needed to take part. My mum wouldn't hear of me dropping out, and told me it was important, so I kept on with it.”

“I remember going to the clinic in Portsmouth to be weighed and measured with my mum, at the time I didn't realise how important this was going to be for the future. I just enjoyed going on the bus and getting a glucose orange lolly at the time.”

“I know my mum was always very interested in how I was progressing and would be pleased to know today that I am still taking part in such an important study.”

“As a teenager I really didn't want to have to do lots of 'tests' that I felt were not cool. How glad am I that my mum said that I was special and was lucky to have been chosen and be allowed to be followed all of my life to potentially help others. I think she was proud of me, bless her.”



The difference you've made

The information collected about you and your family in 1958 has led to many important discoveries that have improved lives. And by combining the findings from that first survey with other information you've given us over the years, we've been able to see how the things we experience as a tiny baby, and even before we are born, can shape the people we go on to become.

Risk factors in pregnancy

In 1963, NCDS founder Neville Butler published his first report on the results of his groundbreaking 1958 survey. The comprehensive 300 page book, which he co-authored with obstetrician and gynaecologist Dennis Bonham, examined the factors associated with high-risk pregnancies.

The survey showed, for example, that mothers were at most risk of losing their baby if it was their fifth or subsequent pregnancy and that those having their second child had the lowest risk. Being an older mum was also found to be a risk factor, with women over the age of 35 more likely to experience the loss of their baby.

The report added important evidence to the home versus hospital

delivery debate. It highlighted the importance of taking individual circumstances into account when considering the best place for a woman to have her baby, and made the case for all mothers-to-be to have access to antenatal care. Ultimately, their work helped to bring about a reduction in the rate of infant death that had been of huge concern at the time.

Hidden disabilities

In 1970, data from NCDS provided vital evidence to inform the way in which local authorities identified children with 'hidden' disabilities, so they could get the support they needed. These included hearing and sight impairment as well as special educational needs and disabilities.

Researchers examining data from the 1958 survey, and the follow-up when you were seven, identified the risk factors most closely associated with having an invisible disability. This included having experienced a difficult birth. Based on their findings, they proposed a model to help authorities decide how best to target their resources for screening children for disabilities.



Birth weight and cognitive ability

Your birth data is still important for research today. For example, using NCDS and comparable data about two of our other cohorts, those born in 1970 and 2000-01, researchers have examined the association between low birth weight and low cognitive ability. Across all generations, children born smaller had lower cognitive ability than those born a normal weight. However, the researchers found that the association was much lower among children born at the turn of the century compared to those born earlier. Their findings point towards improvements in neonatal and obstetric care, which now protect newborn babies from some of the risks of being born very small.



Smoking in pregnancy

NCDS has shown that smoking in pregnancy can have both immediate and longer term effects on children.

Today it's undisputed that smoking in pregnancy is harmful to babies. But this wasn't common knowledge back in the 1950s when your mums were pregnant with you.

Just before the 1958 survey went to print, the study team heard about research in the United States which had shown that babies whose mothers had smoked during pregnancy tended to weigh less at birth than babies whose mothers had not smoked. A question about your mums' smoking habits was hastily added to the survey, laying the foundations for some of the study's most important findings.

Researchers found that NCDS babies weighed an average of 170 grams (around 6 ounces) less if their mums had smoked while pregnant. They were also at greater risk of infant death, and this risk went up the more cigarettes their mother had smoked. Women who smoked also reported a higher rate of miscarriage. Babies of working class women were of particular concern. They were

already more likely to be smaller, and so the effects of smoking could be even more harmful.

But the study also found that if women gave up smoking before the fourth month of pregnancy, they were no more likely to lose their babies than those who had never smoked.

Researchers estimated that 1,500 more babies would survive every year if pregnant women didn't smoke. The findings, published in the 1970s, sparked a major national public health campaign and ultimately brought about a change in attitudes.

As your lives have unfolded, NCDS has continued to make a compelling case against smoking in pregnancy.

NCDS children whose mothers had smoked were shorter at age 7 and were more likely to have wheezing illness after age 16. As adults, they were at greater risk of becoming obese and developing type 2 diabetes, and they had fewer educational

“The thing I'm proudest of during my time on the NCDS is the work on smoking in pregnancy. It changed a lot of people's lives, it saved a lot of lives.”

Professor Harvey Goldstein, co-author of work on smoking in pregnancy



▲ 1970s anti-smoking poster

qualifications than their peers.

Without doubt, NCDS has helped transform how we now think about smoking in pregnancy. Around a third of your mums said they had smoked after the fourth month of pregnancy. Fast forward to today and just under 11 per cent of women who had babies in 2017-18 were known to be smokers when they gave birth¹.

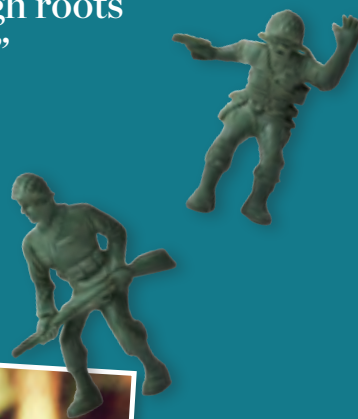
1. Statistics on Smoking – England, 2018, NHS Digital (digital.nhs.uk)





“ For a tree to become tall
it must grow tough roots
among the rocks.”

Friedrich Nietzsche



Growing up

1965–1973



You were seven when we next caught up with you. The decision to try to find you and see how you were getting on, now that you were at school, was a pivotal moment in the study's history.

This is when NCDS transformed from what had primarily been a medical study, examining the factors associated with healthy pregnancies and babies, into an ongoing study of your development, documenting each of your life stories.

The information collected about you when you were growing up immediately revealed how many inequalities there were between the children of your generation. Taken together with all that you've shared with us since then, it has shown how things we experience as children can leave a lasting imprint on our lives.

All about you

The future of NCDS changed forever when, in the mid-1960s, a major government review of primary education, chaired by Lady Plowden, was commissioned. The review was in vital need of an evidence base. This is where the 1958 cohort would come in. You were in your first few years at primary school, and a survey to find out how you were getting on would provide valuable insights for the Plowden Committee's report.

But first we needed to find you all. The NCDS team had to do their

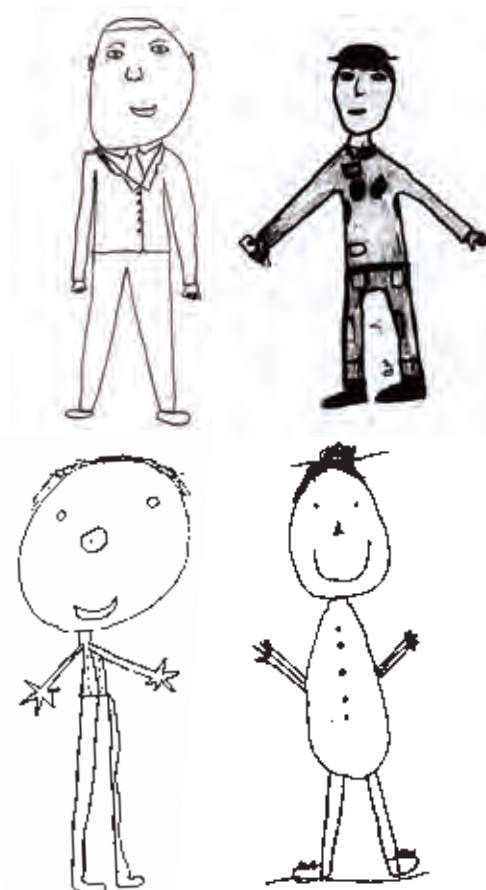
detective work. We contacted all primary schools to find out which of their pupils were born in your birthday week, and we managed to find most of you this way.

In the end, over 15,000 of you took part in the age 7 survey. Around 300 of you were new participants who had been born overseas in the same week and had moved to Great Britain.

Your parents, in most cases your mums, were interviewed by a health visitor. They asked your parents about all sorts of things: your home life, the type of work they did, your health and their health, your schooling, and their aspirations for your future. The researchers wanted to know about your habits and behaviour too; were you a fussy eater? Did you bite your nails? Had you recently had bad dreams or sleepwalked? Were you disobedient at home?

Your school teachers also answered a series of questions about you and the school you went to.

You had a medical examination and your height, weight, vision, hearing, speech, and motor skills were all measured. You completed several exercises, including a reading task where you had to match words to pictures. You were asked to 'make a



picture of a man', the best that you could do, and analysts took a measure of your cognitive ability based on how many body parts you included in your drawing. Above are some of your drawings.

At age 7...

Half of your mums and a third of your dads read to you at least every week.



More than 9 in 10 of you were happy at school, according to your parents.



The next time we called on you was in 1969, when you were 11 years old. Again, over 15,000 of you took part in this survey. As before, your parents and teachers were interviewed, and you had another medical examination and completed some cognitive assessments.

There was also a short questionnaire for you to complete which asked about school and what you liked to do in your spare time – including which three TV programmes you liked best!

The data revealed some important insights into your lives. For example, we found that just under half of you shared a bedroom, 17 per cent of you shared a bed, and 11 per cent of your parents had been seriously troubled by financial hardship in the last year.



Do you remember?

In 1966, Action Man parachuted into the UK.

Hot Wheels launched in 1968, giving Matchbox a run for its money.

Sindy won Toy of the Year (again) in 1968.

We learned from your teachers that 22 per cent of you were thought to have an outstanding ability in areas such as writing stories, chess, drawing, music, science and sport.

Three quarters of your parents hoped you would continue your education past secondary school. And, because we have followed you through your lives, we have been able to see how their aspirations for you compared to what you went on to do.

The information we gathered about your childhood is of enormous value in countless ways. For example, it's given us a very good idea why some children do well at school compared to others. It's shown us what can help children to fulfil their potential and what bearing our education can have on the rest of our lives.

At age 11...



Around 1 in 8 of you had fractured a bone or your skull.



Around 9 in 10 of you had had measles.

In your words

“I’ve always felt ‘special’ and proud that my answers have contributed in a tiny way to making life better for others. My own son is part of a similar longitudinal survey in Bristol: Children of the 90s. I hope he is still taking part when he is 60!”



Early memories



We go back a long way. Over the 60 years of the NCDS, we've asked you a myriad of different questions and set you many different tasks. Some of you have shared your recollections of the early days of the study. We've loved reading these and are pleased to be able to share a small selection here. Maybe they'll bring back some memories of your own.

“ I can remember the headteacher telling us in morning assembly that she was going to call out the names of some special children. Although I didn't know what it was about, I remember crossing my fingers and hoping I would be called. And I was! After that, any fear about being called to do tests or have medical checks for the study disappeared as I enjoyed being labelled as 'special'.”

“ I remember being called up in school to see someone about a new children's project. I had been born in a special week I was told. Small children like to feel special and this seemed like a huge adventure to me. It was quite a regular occurrence when I was in school to have either visits at home or in school and I actually looked forward to taking part in this project. I felt important at first, but this later developed into an appreciation of its importance not for me but for others in the future.”

“ When I was very young I was asked to go to the headteacher's office where I was asked to do a picture of my dad going to work. I gave him a suit, umbrella, bowler hat and rose in his breast pocket. He's never worn a bowler hat. I don't know where that came from.”

“ During the age 7 tests we had to draw a man. I wasn't and still am not very good at drawing. I remember starting at the head but when drawing the shoulders, I felt they were too long and square so spent ages drawing some epaulettes to make him into a soldier in order to disguise my mistake. I also remember consciously drawing mittens for hands as I knew I couldn't draw fingers properly.”

“ Oddly, of all the times you've ever called upon us, the most memorable questionnaire was the very first. You'd think I'd have forgotten it by now yet it's clear as anything. I completed mine at school, on my own at a small desk in the room next to the Headmistress's office! Scariness indeed.”





“As a very young girl I remember being asked to perform all sorts of fun tasks, from standing on one leg, to moving matchsticks from one box to another. Later, in secondary school, being taken out of class to take some extra ‘exams’, my friends although not in the least bit envious, thought me very special.”

“When I was at junior school, I was called out of assembly. I was to take a (NCDS) test. I ran back to class to make, as instructed, a sign for the door saying ‘Test in progress. Please be quiet’. I remember that I enjoyed the test. Once I returned to class, however, I was severely told off by the teacher. Unknowingly, I had written the door sign resting on the open copy of his special ‘Dark Ages’ book. So I have rather mixed memories of the day.”

“What I recall most clearly is being asked to bounce a ball on the floor and catch it ten times in a row. Well, I concentrated hard, managed 10/10, and felt quite pleased with myself. Of course, I didn’t know then that I would become keen on sport and quite competitive, but it’s funny how that has stuck in my mind all that time.”

“My earliest memory was when I was 11 years old. I remember being taken out of my class, I think to maybe answer questions. Being shy I felt a bit awkward and wasn’t sure what was happening. But a boy was also taken out with me and I felt reassured by this and realised some kind of connection.”

Imagine you are 25...

When you were 11, we asked you to imagine you were 25 and gave you 30 minutes to write about the life you would be leading. You might remember us asking you to do this.

Your essays are a delight. While many are rooted firmly in reality, others take us on fantastical journeys. Individually and collectively, they provide insights into your hopes and dreams and offer a window into the world you were growing up in – an era when man landed on the moon and Concorde took to the skies.

In 1969, when the NCDS team of the time set you this task, they knew the essays would be useful to researchers in the future in some way, though they couldn’t possibly have predicted quite how.

50 years on, and researchers have recently opened up this amazing time capsule of childhood writings. Using the latest technologies, they have been analysing the 10,000 or so of your essays that have been transcribed, alongside other information collected about your life over the past six decades.

Their work is ongoing, but the researchers have already discovered that the language you used in your essays can provide clues to your economic status, physical activity, health, and cognitive function in later life.



The difference you've made

Your information has been used in a multitude of publications on child development, and on the long roots of childhood on the rest of adult life.

Education matters

In 1966, the NCDS team presented its first report on the age 7 survey. They found that children whose parents took an interest in their education tended to be stronger readers. Girls were better at reading than boys, but boys were doing better in maths. What fathers did for a living also mattered; the lower the father's occupational status, the less well the children were doing in reading and maths.

There were important findings on special education too; 0.4 per cent of NCDS children were attending special schools and five per cent were receiving special help within a mainstream school. Crucially, teachers identified a further eight per cent who would benefit from such help, making a compelling case for increasing provision.

The report informed both the Plowden Committee's review of primary education in 1967, and the Warnock Committee's review of special education in 1978.

Hay fever and family

In the late 1980s, research using NCDS discovered a connection between your family size when you were a child, and hay fever.

Those of you with older brothers or sisters were less likely to have had hay fever at ages 11 and 23.

This suggested that children might have some protection from developing allergies if they caught infections from siblings, and that the decline in family size and improvement in personal hygiene may have contributed to higher rates of hay fever.

This important and groundbreaking work has been cited in thousands of scientific papers since.

Scars of bullying

NCDS has shown how the effects of childhood bullying can still be felt decades later.

When you were children, your parents told us that just over a quarter of you had been bullied occasionally, and 15 per cent frequently. Researchers analysed this information alongside your survey answers at 23 and 50, and blood samples and weight measurements collected in your mid-forties. People who had been bullied as children were

more likely to experience psychological distress as adults. Those who had experienced frequent bullying tended to have a lower level of education, and men were more likely to be unemployed or earning less. By age 50, victims of bullying were less likely to be living with a partner and were less likely to feel satisfied with their lives.

Bullying was also associated with people's long-term physical health; by their mid-forties those who had been bullied were more likely to be overweight and their blood showed higher levels of inflammation, putting them at increased risk of heart attack, diabetes and other conditions.

These patterns remained even after controlling for social background, childhood IQ and other factors.

Professor Louise Arseneault, one of the researchers, said: "Teachers, parents and policymakers should be aware that what happens in the school playground can have long-term repercussions for children. Programmes to stop bullying are extremely important, but we also need to focus our efforts on early intervention to prevent potential problems persisting into adolescence and adulthood."



Childhood inequalities

Today we're acutely aware of the divisions in our society. We know that children who grow up in disadvantage are more likely to face a tougher future in many ways. In the early 1970s, NCDS provided definitive evidence on these inequalities.

In a landmark publication, *Born to Fail?*, which went on sale on train station newsstands in 1973, NCDS revealed the extent of child poverty in Britain and the consequences of growing up poor. Published by the National Children's Bureau (NCB), which ran NCDS at this time, it was a wake-up call for everyone. "If children are indeed our country's investment in the future, then everyone has a stake in their welfare", the authors argued.

Born to Fail? exposed some shocking truths. One in seven 11-year-olds were growing up in poverty, and nearly one in four was, or had been, living in poor housing. Compared to their better-off peers, these children "suffered adversity after adversity, heaped upon them from before birth". They were more likely to have been smaller as a new baby, to have been born prematurely, and to be shorter than other children by age 11. They were less likely to have been

immunised against polio and other serious diseases and more likely to miss school because of illness.

At school, they were more likely to struggle, and at age 11, in the NCDS reading and maths assessments, they didn't do as well as other children. In fact the authors of *Born to Fail?* calculated that, on average, they were three and a half years behind in reading.

The authors called for intervention to help all children get off to the best start in life. Sadly, decades later, as a society, we are still grappling with the problems highlighted in *Born to Fail?*

In 2013, the NCB published, *Greater Expectations: Raising aspirations for our children*. This time drawing on information collected from our Millennium Cohort Study, a group born more than 40 years after you, the NCB found that inequalities today, if anything, are greater than the ones that existed when you were children.

Born to Fail? shows just how vital



▲ Based on NCDS, *Born to Fail?* was published in 1973

NCDS has been for highlighting the experiences of your generation. It's provided a point of reference against which we can measure progress to reduce social divides.

But, importantly, NCDS has also shown that the die is not always cast from birth. Because we have followed you from childhood to adult life, we have seen that, in spite of the odds, children who have had a disadvantaged upbringing can, *and do*, overcome this, going on to have happy, healthy and successful lives.

Children growing up in disadvantaged circumstances were:

- More likely to miss school because of illness
- Less likely to do well in reading and maths
- More likely to be accidentally injured at home





“A fool sees not the same tree
that a wise man sees.”

William Blake



A stylized, light-colored tree graphic with a thick trunk and several branches bearing oak-like leaves. It is positioned on the left side of the page, partially overlapping the text area.

Coming of age

1974-1980

You were 16 years old when we next checked in with you, and at a stage in your lives when you had begun to make big decisions about your futures. Up to this age, going to school was something you had all had in common. But now your lives were beginning to diverge significantly, with some of you leaving education to make your way in the job market and others of you choosing to continue your studies.

For this survey, it was still important to gather information about you from your parents and teachers. But the questionnaire you completed about yourselves was a much bigger component than it had been in the previous survey at age 11.

All about you

Before the age 16 survey could get underway, we had to find you all over again as we hadn't kept in touch since the last time. As before, we enlisted the help of schools to trace as many of you as we possibly could. We were successful in finding most of you, and just under 15,000 took part in this survey. This included 260 new participants who had been born overseas in the same week.

This was the last survey that involved your parents, and, as before, we wanted to know about your health, habits and behaviour. We also wanted to know about the environment you were growing up in. We learnt that 41 per cent of you had a colour TV at home and 55 per cent of you had a home phone. On the other hand, two per cent of you didn't have an indoor toilet.

For the first time, the survey included questions for your parents about their income. This means researchers have been able to compare your parents' earnings to your own to find out whether children from higher earning families go on to become higher earners themselves.

For you, there was another reading and maths test as well as another medical examination. And then there was your questionnaire to fill in.

Although not the first time you'd completed a questionnaire for the study (you'd filled in a very short one when you were 11), this was a much more substantial element of the survey than before. There were nearly 40 questions for you to answer. Among many other things, we asked about your attitudes to school and your aspirations, how much pocket money you got, whether you did any paid work and what you liked to spend your money on, and your relationships at home.



At age 16...



12% of you didn't have a room at home where you could go to do your homework on your own.

Just under a quarter of you planned to stay in education past the age of 18.



Of those of you still going to school, 11% attended a grammar school.



Your academic year group was the first to be affected by the change in law that required all children to continue their education to the age of 16 instead of 15. We wanted to know what you thought about this.

While 26 per cent of you wished you had been able to leave school at 15, the overwhelming majority of you (61%) were happy to stay on until you were 16. The other 13 per cent of you had not made your minds up either way.

That said, over six in ten of you thought it unlikely you would stay on at school after 16. It seems you were almost spot-on with your predictions, and in the end around 70 per cent of you did leave school at this age.

Many of you had begun to experiment with cigarettes and alcohol, and we asked you about this. A third of you said you smoked regularly, and six per cent of you smoked eight or more cigarettes a day. About half of you had had an alcoholic drink in the week before you completed the questionnaire. Boys were more likely than girls to smoke and to drink. As you might remember, we've continued to ask about your smoking and drinking habits through your adult lives. This has made NCDS



an important resource for studying how different patterns of smoking and drinking at different stages of our life may affect us long-term.

Although for many of you marriage and kids would be some way off yet, we asked you what you hoped the future would hold. On the whole, girls were keener to settle down at a younger age than boys; 52 per cent of girls wanted to be married by age 21, compared to 37 per cent of boys. But a small number of you (4% of boys and 2% of girls),

were sure at this age that marriage was not for you.

As we captured information about the partnerships you formed in the future, we could see how closely your aspirations matched up to reality. You weren't far off the mark. Those of you who hoped to be married by 21, were on average 23 by the time you got married. And, in general, the older you expected to be when you got married, the older you indeed were when you tied the knot.



Other developments

Special educational needs

When you were 18 a small number of you took part in a special study we were carrying out, looking at the experiences of people with special educational needs as they entered the job market.

This study was commissioned by the Warnock Committee, which had been asked by the government to review how the educational needs of children with disabilities were being met.

Evidence from this study, as well as findings from our main surveys when you were 7, 11 and 16, were included in the Warnock Committee's report. Published in 1978, the Warnock Report led to a transformation in the way children with special educational needs were provided for, and it's still considered relevant today.

This NCDS spin-off is one of several small-scale studies we have run over the years, to gather information about you on specific topics. Some of you might remember taking part in one of them.

Paving the way for the next survey

In the summer of 1978, a few years before the next full NCDS survey would happen, we ran a small study involving about 800 of you. The aim was to find out how feasible it would be to trace all of you again at some future point, now that you were no longer contactable through your schools. We hoped an exercise like this, to find and survey a small number of you, would give us the green light to scale things up.

This 'feasibility study', as it was known, confirmed that, yes, it would be possible to locate the vast majority of

Do you remember?

In 1974 Abba won the Eurovision Song Contest with Waterloo.

In 1975 fans kept Queen's Bohemian Rhapsody at Number 1 for nine weeks.

In 1977 Fleetwood Mac released Rumours, one of the bestselling albums of all time.



you, and that, yes, most of you would be happy to talk to us about the different aspects of your lives. This was great news for the future of NCDS, and the team then set about making plans for the next full survey, which would eventually take place when you were 23.



At age 16...



Just over half of girls and around a third of boys hoped to be married by 21.



75%



50%

Almost three quarters of girls wanted to start a family by age 25, compared to just over half of boys.

In your words

“I like to hope that the huge amount of data gathered can be used to make life better for following generations. It is a privilege to be part of it. I will always make time to help with requests because it's clear that the value is in following lives over long periods gathering data, not just snapshots of lives at one point.”

Turning 21

To celebrate you turning 21, we held a birthday party in London, at the offices of the National Children's Bureau, the study's HQ at the time. Study members were invited from different parts of the country and the media came along to cover the story. Perhaps you saw some of the media coverage? Or maybe you were there?

One study member who came to the party, and was then invited on to BBC Pebble Mill at One,

Alison, shares her memories of this: “I remember being very excited, to go to London to an office, and it was really quite special, and knowing that the media were involved. I think we thought we might be interviewed for radio. I don't think at that stage we knew anything about the television.

So, yes, it was a very exciting event. At some stage during the day somebody said, ‘We've got an opportunity to get somebody to appear on Pebble Mill at One, which is based in Birmingham, would anybody be prepared to travel to Birmingham?’ And I remember saying, ‘Oh my sister's at university in Birmingham’, so I volunteered to go. I know my parents came with me, and very kindly the BBC made a gift of a 21st birthday cake, live on TV.

I was so pleased that my mother had agreed to go ahead with it [the study]. I always think, gosh, I hope you get enough people who will be happy enough to carry on this research, because it's so important.”



▲ Study member
Alison



The difference you've made

How formative are our teenage years? Thanks to you, we've been able to answer many questions about adolescence and how our experiences during these years play out across our lives.

Teenage dreams

NCDS has revealed the predictive power of our teenage aspirations.

When you were 16, we asked you if you wanted to stay on in education or go straight out to work, and what you thought your first job would be. Later on, we recorded your exam results, and when you were 33, we found out what you were doing for a living.

Researchers found a strong link between your aspirations and what your parents did for a living. However, they found only a moderate link between your academic achievements and your aspirations for your future; those of you who hadn't got on so well at school had not necessarily let that stop you from aiming high.

When it came to turning dreams into reality, those of you who had had high expectations for your futures were more likely to be in a professional or managerial role in your thirties than those who had been less

ambitious in their predictions.

This research has been important for understanding why the social background of your parents, and your own occupations, are linked.

Divorce costs

Almost all of you were born into families where your parents were married, and fewer than one in ten of you had seen your parents separate by the time you were 16. Although divorce was much less common when you were growing up than it is today, your data has been important for research on how parental separation can impact on children – not just when they are young, but longer term too.

One of the most important pieces of research on parental divorce using NCDS found that those whose parents had divorced when they were young, even up to the age of 22, were more likely to experience mental health problems into their twenties and thirties than those whose parents had stayed together.

More recent research using NCDS has found that parental divorce is associated with other aspects of your health, including drinking and smoking.

Problem behaviour

NCDS has been used to examine the prevalence of problem behaviour among teenagers from different generations.

In one study, researchers compared information your parents gave us about you when you were 16 with data collected about two other cohorts who were 16 in 1986, and 15 in 1999. They found that conduct problems – like fighting, bullying, stealing, and lying – had become far more common among teenagers in the 25 years since you were 16. In fact the proportion of boys and girls with these sorts of problems had more than doubled.

The researchers also looked at whether these teenage behaviours made any difference later on in life. They found that people who had had conduct problems at 16 were at greater risk of having alcohol problems or needing professional help for their mental health at age 33. They were also more likely to be unemployed, have been sacked from a job, or be on state benefits.



Moving on up?

NCDS has been at the heart of public debate about social mobility in the UK over the last few decades. It's provided a bedrock of evidence for successive governments, who have each wrestled with this very deep-rooted problem. As such, we can credit NCDS with underpinning a whole range of policy initiatives aimed at improving mobility and giving people the same chances in life.

Experts can measure social mobility (how we move up or down the social ladder) in several different ways. They can compare what we do for a living to our parents' occupations, they can look at our earnings or income and see how that relates to our parents', and they can compare our level of education with our parents' qualifications.

NCDS has captured all these measures, making it an unparalleled resource for studying your generation's experience of social mobility. As you were growing up, we asked your parents when they'd left school and what they did for a living. When you were 16, for the first time, we asked your parents about their earnings. Then, when you entered the job market yourselves, you told us what

“...social mobility is now a holy grail of public policy. And the NCDS, and the evidence it's been able to throw off, has been instrumental in that regard”

Alan Milburn, former Labour minister and chair of the Social Mobility Commission between 2012 and 2017

you did for work and how much you earned. We also collected information about your qualifications.

In the mid-1990s, in a very significant piece of work, a research team analysed this information to assess the likelihood of people of your generation occupying a different rung on the income ladder to their parents. They found there was limited movement between generations in their relative income position. In other words, your parents' earnings were a strong indicator of which income bracket you would find yourselves in in your adult life. So if you'd come from a low income family, the odds were you would be a low earner too.

These findings were very important. While there had been conjecture about the persistence of income inequality across generations in our society, the evidence from NCDS meant there was now no hiding from the truth. As Alan Milburn, the former

Labour minister who also chaired the Social Mobility Commission between 2012 and 2017, explains: “People might have made some assumptions about what was happening in society, but they didn't really have the facts or the analysis or the data at their fingertips. And suddenly they did. So it was a seminal moment. One point of common cause for all the major political parties is that social mobility is now a holy grail of public policy. And the NCDS, and the evidence it's been able to throw off, has been instrumental in that regard.”

Since then there have been many dozens of pieces of research using NCDS, on its own, and together with other studies, to understand how social mobility has changed, and which policies will improve it. This has only been possible because of the original contribution that your generation has made on this very important topic.





“ The creation of a thousand forests is in one acorn.”

Ralph Waldo Emerson



A large, stylized graphic of oak leaves and acorns in a lighter shade of green, set against a darker green background. The leaves are scattered across the page, with some acorns visible. On the left side, there are two vertical rectangular elements: a light blue one at the top and a small portion of a photograph at the bottom.

Putting down roots

1981-1999

We only saw you twice during your twenties and thirties; when you were 23, and then next at age 33.

At these two surveys, we gathered a vast swathe of information about your early adult lives, your thoughts, feelings and world views.

This was a time in your lives when many of you were putting down roots, forging long-term relationships and establishing yourselves in your careers. It was also an important period in the study's history. It was during these years that the rich treasure trove of NCDS data was opened up to a wider group of researchers for the first time.

All about you

With the plans for the age 23 survey under way, we put out an appeal through the media to try to locate those of you who were 'missing'. We had addresses for most of you already, but deep in the NCDS archive a pile of yellowing newspaper cuttings are testament to the team's efforts to find those who had fallen off our radar between surveys.

Just over 12,500 of you took part in this survey and we had much to catch up on. The intervening years since we'd last spoken had been a time of significant change for you, and your lives had taken you in many different directions. Lots of you had made the move from education to the world of work, or from living at home to owning your own place, or from single to married life.

Nearly three quarters of you were in employment at this age. Half of you said you were satisfied with your work life as a whole, two thirds with how much you were earning, and about the same proportion with your prospects. For some of you (18%), work was the most important thing in life, but for slightly more of you (20%) an enjoyable social life was more important than having an enjoyable job.

A relatively small number of you (6%) were currently studying, one in ten had got a university degree, and 28 per cent of you had no qualifications.

When it came to your home life, at 23 around half of you had settled down with a partner; 45 per cent of you were married and another six per cent of you were cohabiting. Just over a quarter of you had children. But many of you were yet to fly the nest; around one third of you were living with your parents.

We asked about many other aspects of your life, including your smoking and drinking habits, what you did in your spare time, your health, and how you'd voted in the last election.

Importantly, a series of questions about basic skills were to reveal that, as adults, nearly one in ten (9%) of you found writing and spelling challenging, while five per cent of you struggled with numbers and four per cent with reading. These literacy and numeracy problems would later be investigated in depth in a special study with a group of you. You can find out more about this on page 35.

Do you remember?

In 1982, the first episode of the soap Brookside was broadcast as part of the Channel 4 launch.

Were you one of the 30.15 million people who tuned in to watch Dirty Den hand wife Angie her divorce papers on EastEnders in 1986?

Stars in Their Eyes debuted in 1990, with members of the public impersonating their favourite singers.



At age 23...

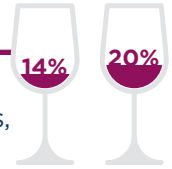


29% of you were home-owners.

Around half of you were married or living with a partner.



14% of you only drank alcohol on special occasions, but 20% drank most days.



We caught up with around 11,500 of you again when you were 33. This survey was funded by the Economic and Social Research Council, who are our main sponsors today.

Ten years had passed and we had lots we wanted to find out about how each of your lives had been taking shape. As well as a comprehensive and wide-ranging in-person interview, covering everything from how often you ate fried foods and fresh fruit, to any political activity you were involved in, you completed two paper questionnaires.

One of these questionnaires, 'Your life since 1974', focused on jobs marriages and partnerships, and children. If you had a spouse or partner, we asked them to complete this too. The other questionnaire, 'What do you think?', asked for your views on various topical issues, including equal opportunities for women and the environment.

By now most of you were in long-term relationships; seven in ten were married and a further one in ten were living with a partner. Many of

these relationships stood the test of time; at age 55, around two thirds of you were still living with your first and only cohabiting partner or spouse.

Computers were becoming more common in the workplace. Nearly half (47%) of you used, or had used, one for your job. Not surprisingly, at 33, men were much more likely than women to be working full time (89% compared to 36%). The large majority of you thought that people should have the chance to do the same kind of work, regardless of gender (93% of women thought this compared to 85% of men). Around three quarters of women thought there should be more female bosses in important jobs in business and industry, but just over half of men agreed.

When it came to pulling your weight at home, men and women tended to agree that if both people worked full time, the man should take an equal share of the domestic chores (96% of women said this compared to 91% of men). However, in reality, most jobs in the home did not seem to be divided up equally. Just over three quarters of

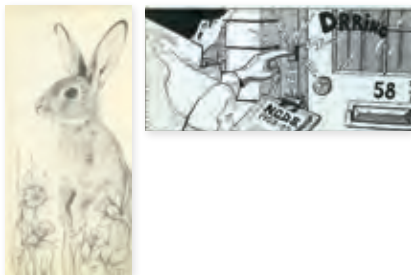
you in couples said it was the female partner who did most of the cooking and cleaning, and six out of seven of you said the female partner did the lion's share of the laundry, while seven out of ten said DIY jobs would mostly be done by the man. Interestingly, women were more likely than men to be in charge of keeping an eye on the purse strings at home.

Most of you (69%) were now parents and we asked a random sample of one in three of you to be part of a special 'mother and child' study. For the NCDS dads selected for this, it would have been your children's mum who did this. This involved an interview about family life (for example, 39 per cent of mothers said they shared childcare equally with their partner); a questionnaire about your children's behaviour; and age-specific assessments to measure your children's ability in reading, numeracy and so on. The data from this gives us an insight into how your background influences your own children's development.

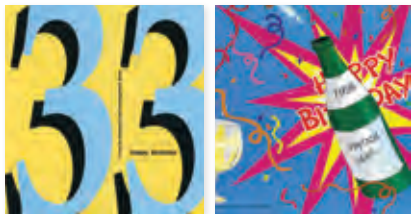


Other developments

80s



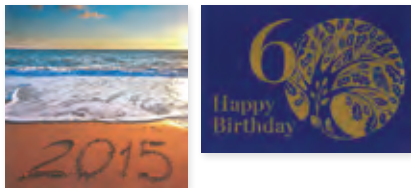
90s



00s



10s



From us to you

Our tradition of sending you a birthday card each year started in the early 1980s. It's just a small thing we like to do to say thank you and to let you know how important you are to us. It also gives us a chance to tell you about some of the new discoveries scientists have made using the information you've shared with us.

Over the years, the NCDS birthday card has featured all kinds of designs, ranging from the quirky to the quaint. Take a look and see how many of the cards shown here you remember.

These days we work with a professional design agency to create each year's birthday card. However, some of the earlier cards were

designed by former NCDS employee, Kevin Dodwell. He worked on the study for a number of years, from the 1980s onwards, in administrative roles. With an interest in art, he was soon asked if he could put his creative talents to use on the NCDS birthday cards. As Kevin explains: "I started working updating addresses of cohort members who had written in over the years. I later went on to manage the cohort tracing team, preparing for surveys. As people knew I did some art, I got asked to design the birthday cards. As we were restricted to either black and white or one colour, the first designs were quite primitive. Later I could use photography and colour.

I do collage art work now, working with 17th, 18th and 19th century clay pipes I pick up from the Thames at low tide."

In your words

“As the years have progressed I have always been pleased to receive a card and feel part of this special study. The card always takes me back to my childhood, the year 1958, when I was born. Any information the study has provided regarding improving health, social and mental wellbeing for future generations has to be a bonus!”



Opening the treasure chest

Researchers in nearly 40 different countries, from China to Chile, have accessed NCDS datasets over 13,000 times in the last ten years. In 2017 alone, NCDS data was used in over 160 published pieces of research.

As the findings featured in this book show, NCDS data is an incredibly valuable resource, which scientists in a wide range of disciplines are using to make new discoveries all the time.

But if we wind the clock back to the 1980s, we'd find things were a little different. Back then, researchers were far less likely to have heard of the amazing NCDS and the wealth of opportunities it offered. And even if they did know about the study, they would have found it much harder to get their hands on the actual data and to then navigate their way through it once they did.

Former NCDS director, Professor John Bynner, is the person we can all thank for turning things around. Even before he took up the NCDS reins in 1988, the Economic and Social Research Council had tasked him with seeing what could be done to

make the study data more accessible to potential users. As John explains: "It became clear from the interviews I did that people were keen on the data in principle but they didn't know how to use it. It was just large and complex data at a time when people didn't have anything like the kind of computing facilities we've got today or any idea about how to do this kind of work analytically.

I began to recognise that a whole infrastructure was needed to support users and give them access to the data, but also the ability to use the data and make scientific and policy value out of it. The other side of it was promoting the study, getting that whole idea across that there's a great resource here that was crying out to be used."

Today, that infrastructure that John put in place some 30 years ago, is firmly embedded. We share NCDS data through an archive called the UK Data Service, based at the University of Essex. That's only after we've removed all personal information to protect your anonymity. Researchers can get access to the data once they've signed up to a strict licence agreement, and we help them to

get to grips with it through written guidance as well as face-to-face and web-based training.

It's fair to say, we've come a long way!

Which countries use NCDS the most?

UK	Netherlands
USA	Canada
Australia	Ireland
Italy	Finland
Germany	France

At age 33...



38% of you were 'very happy' with your life so far.



Of the drivers among you, 47% had passed your test first time.

Nearly half of you used a computer at work.



The difference you've made

The information you shared with us in your twenties and thirties has been used to research issues as wide-ranging as the origins of health inequalities and the extent of adult literacy and numeracy problems.

Education benefits

NCDS has revealed how the educational paths we take shape our lives.

Nearly three quarters of you with at least one A level went on to get a higher education qualification by 33, and the financial benefits of this were evident.

Comparing men from similar backgrounds and with similar cognitive ability, those with a non-degree qualification, such as nursing or teacher training, made 14 per cent more, on average, than those with just A levels. Men with an undergraduate degree saw an increased wage return of 12 per cent, and those with a higher degree took home eight per cent more by age 33.

The financial returns to higher education qualifications were even higher for women. Compared to women with only A levels, those with a non-degree qualification saw their

wages increase by 22 per cent, and those with undergraduate and higher degrees were rewarded with a 37 per cent wage increase.

The research was very novel because it took into account that people who went to university in general had higher cognitive ability in childhood than those who didn't.

These were some of the first robust estimates of the financial returns to educational qualifications in the UK, and they've been very instrumental in informing policy about the potential benefits of education ever since.

Lifelong impact of childhood disadvantage

In the late 1990s, information from NCDS began to shed light on why people from disadvantaged backgrounds tend to face more health issues throughout life.

Researchers looked at information on your health, mental wellbeing, family background, education and employment, from birth up to age 33, to find out how health inequalities start.

They found that people from less privileged families tended to report

poorer health and mental wellbeing in their early thirties. They were more likely to experience poor general health, respiratory problems and psychological distress. Women from disadvantaged homes had greater odds of experiencing menstrual issues, long-standing illness, back pain and migraine.

The more disadvantaged someone was at birth, the more likely they were to encounter risk factors from the very start of their lives that increased their health problems in adulthood.

Compared to their better-off peers, children from less privileged backgrounds tended to be born small, were less likely to have been breastfed, and had mothers who smoked during pregnancy. They also tended to live in overcrowded households, and were less likely to have someone to read to them. And as they reached adulthood, they often faced further adversity. They were more likely to have low paid jobs, be receiving benefits and not have any savings. They also tended to smoke and drink more and have unhealthy diets.

NCDS has been used extensively ever since to highlight the origins of lifelong health inequalities, and has been influential in informing policies aimed at tackling them.



Adult basic skills

A great deal of what we learn at school prepares us for our adult lives – especially important basic skills such as English and maths. Information from NCDS has shown how a poor grasp of literacy and numeracy can influence people's chances in the job market.

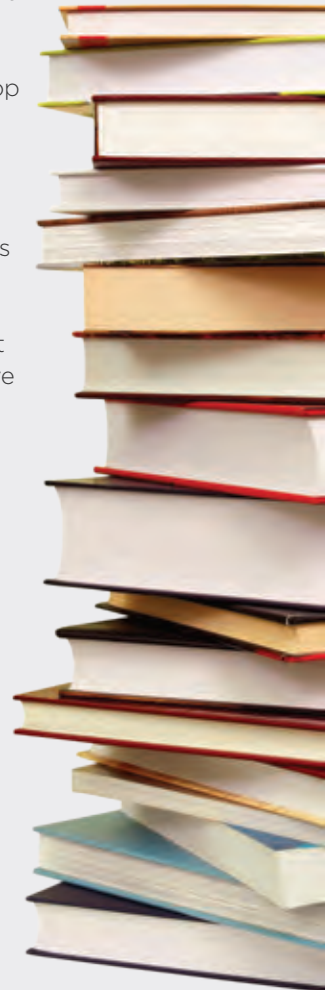
When we surveyed you at 23, some of you told us that you had problems reading, writing and doing simple maths. However, 15 years later NCDS showed that the problem of poor basic skills was worse than first thought. At age 37, a group of just over 1,700 of you took part in a series of assessments, which revealed that almost half had very poor maths skills, and 6 per cent had very poor reading ability.

This special study showed that, by age 37, men with poor literacy and numeracy had spent more of their lives unemployed or sick than their more highly skilled peers. Women with poor basic skills were the least likely to have a job. Low-skilled men and women tended to work in labour-intensive occupations, which were often in less secure and unregulated areas of the job market.

With mounting evidence showing the damaging legacy of poor basic skills, and Britain's literacy and numeracy levels among the lowest in the developed world – three times worse than in Sweden – the government were inspired to act. They set up the Moser Committee in 1998 to recommend what should be done to improve adult basic skills. Their report estimated that raising literacy and numeracy by 10 per cent would save the taxpayer almost three billion pounds. As a result, a major government initiative, Skills for Life, followed in 2001 with the target of improving the literacy and numeracy skills of Britain's adults.

Although it's been more than 20 years since the first NCDS study on basic skills, the lead researchers, John Bynner and Samantha Parsons, remember how significant the findings were when they were first published. As John notes: "The work was hugely valuable. It obviously pointed to the problem of a rising literacy and numeracy difficulty that hadn't been spotted before. But also it began to identify the reasons for this, who it was who were failing to learn as children the rudiments of reading and particularly numeracy.

I think that generated a whole interest in a problem, and the whole Skills for Life policy framework that grew out of that, one of the top seven priorities for government at the time, has undoubtedly enhanced the lives of a lot of people by giving them opportunities that they wouldn't have otherwise had."





“ To dwellers in a wood, almost every species of tree has its voice as well as its feature.”

Thomas Hardy





The middle years

2000-2018

In your forties and fifties, we called on you fairly regularly. We caught up with you five times in all, covering some familiar territory in each survey but also some new topics.

Your work and income, relationships and family, health, and smoking and drinking habits, were some of the many aspects of your life we were always keen to learn more about. Certain themes featured in our surveys for the first time during these years, paving the way for new research into the way our experiences can shape our adult lives.

One of the surveys during this period focused exclusively on health, and the findings from this has helped us understand the factors associated with different physical and mental health issues.

All about you

The information you've so generously given us, across the whole of your lives, has given us an amazing insight into your generation's experiences and perspectives. On its own, this has led to countless discoveries. But, in addition to this, by being able to compare information about your lives, to that of previous and subsequent generations, we have a better understanding of our society, how it's changing, and the impact of that on different people.

A priority for us is to make these generation to generation comparisons possible. So that's why when you were 42, we put almost the same questions to you and to another group of people who were 30 years old at that time. They were participants in our 1970 British Cohort Study, a cohort about the same size as you, who were all born in a single week in 1970. And, just as we had with you, we'd been keeping track of their lives since they were babies.

Nearly 11,500 of you took part in the age 42 survey. For the first time, we included a section on home computing – something which had become part of everyday life for many. Just under seven in ten of you had a home computer now, and a quarter of you who had one used it every day. Four years later, almost nine in ten of you had a computer.

Just as the content of NCDS surveys reflected technological advances, so too did the methods we used to survey you. When our interviewers came to you for the age 42 survey, for the first time in NCDS history, they used a computer to note down your answers, as you might remember.

In another age 42 'first', we asked you questions about previous and

Generation to generation

NCDS and the 1970 British Cohort Study belong to a family of four longitudinal studies that we run at the Centre for Longitudinal Studies. Our other two studies follow groups of people born in 1989-90 and at the turn of the century. The information we collect about you and our three other cohorts, born years apart, creates a rich resource for research, allowing us to compare the experiences of different generations. When we're planning surveys of any of our cohorts, at the front of our mind is the need to make sure that, as far as possible, the information we collect can be used to make these important generation to generation comparisons.

At age 42...

43% of you felt you didn't have enough time to spend with your children.



3 in 10 of you said you'd smoked cannabis at some point in your lives.



37% of you felt very satisfied with your job.





recent illegal drug use. We also wanted to know about any contact you might have had with the police. This was important for looking at early life predictors of drug taking and criminality, and the impact this might have on other aspects of life.

The next survey, which took place between 2002 and 2004, was completely different to any other NCDS survey you'd taken part in as an adult. Funded by the Medical Research Council, this one was all about looking at how different factors affect our physical and mental health as we reach middle age.

A nurse visited you at home and measured your height, weight, waist, hip circumference, blood pressure, pulse rate, lung function, vision and hearing. This was the first time we'd taken our own measurements like this since you were children. You also completed two health-focused questionnaires. These covered everything from how much time you spent outside, to how many cups of tea you drank a day, and how much time you spent in front of the telly.

More than nine in ten of you who took part in this survey agreed to give blood samples, and most also

At age 44...

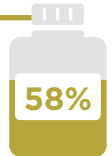


We collected 8,207 blood samples and 6,568 saliva samples from you.



Just under 2 in 5 of you took some form of prescribed medication.

58% of you took vitamins or other food supplements at least once a day.



80% of you had high cholesterol.

agreed to your DNA being extracted from these samples. We left you a kit for you to send us a saliva sample, so we could measure your levels of cortisol, a stress hormone, and so that researchers could look at links between cortisol levels and other aspects of life, including depression, cognitive function, and economic activity.



Learning about health

The age 44 survey has helped us understand better how our physical and mental health in mid-life is determined by a whole range of factors, showing that the roots of our adult health can be traced right back to our childhood experiences as well as to the lifestyle choices we make.

When it comes to nature versus nurture, your DNA has made a vital contribution to research into the links between genes and some common conditions, such as diabetes, rheumatoid arthritis, Crohn's disease and

coronary heart disease. Using your samples, and those of other donors, scientists were able to compare the genes of people with these conditions to a 'control' group of NCDS members without them. They could then pinpoint differences in the patterns of genes of people in the different condition groups compared to the controls.

More recently, your genetic data has also been used to understand epigenetic processes, or how our genes are in fact capable of being switched on or off by environmental influences.

At age 46...



40% of you saved money regularly, but a third never saved.



Around three in ten of you used a home computer every day.



40% of internet users shopped online.

The next regular survey was a relatively short one when you were 46, and for the first time we interviewed you over the phone.

For the age 50 survey, as well as interviewing you face-to-face, we also gave you a paper questionnaire to complete. And, in a throw-back to the task we set you when you were 11, we asked you to write a little about how you imagined your life to be at age 60. When we next see you, at age 62, we'll be interested to find how accurate you were with your predictions.

At 50, just over four in five of you had at least one child, and most of the parents among you had two.

The average age of your offspring was 21, but they ranged in age from tiny newborns to 36-year-olds. While most of you (7 in 10 parents) still had at least one of your children living at home with you, some of you (1 in 5) had become grandparents by now.

Most of you were in work. Just under nine in ten men were in paid employment, almost all on a full-time basis. Half of women were working full-time, and almost a third were working part-time.

While retirement may have been some way into the future for you, we were keen to hear how you were getting on with planning financially for this. Over a third of you (38%)



said you couldn't afford to put money aside for retirement, and 40 per cent of you were worried about how much you would have to live on in retirement. But for a small proportion of you (8%), retirement was just too far off for you to worry about at this stage.

As part of the age 50 survey, we also asked you to complete a series of tasks designed to assess your memory and concentration. These were the first cognitive assessments you'd completed for NCDS since you were 16. You might remember doing these.

One was a word recall task. Ten words were read out to you, and afterwards you had to repeat as many of them as you could – both straightaway, and then again later to

see if you'd been able to retain them.

In another task, we asked you to name as many different animals as you could in one minute. The most anyone got was 65 animals, with the average score being around 22.

Of course, there was a purpose to all of the things we asked you to do. Researchers are able to use the results of these assessments along with other information you've given us over the years, to investigate how our cognitive skills in later life may be affected by choices we make – like our diet, and whether we exercise, smoke or drink alcohol. Understanding the impact of these things on our brain function is vital for tackling problems like dementia.

Wedding bells

Over the years you might have met some of your fellow study members. Some of you have shared memories of being at school with other NCDS children, for instance. Others have told us about running into another study member purely by chance, as adults. But it may or may not surprise you to learn that quite a few of you have a lifelong bond and are married to each other, or living together. Our records suggest that we currently have as many as 17 couples taking part in the study. How lovely!

At age 50...

A third of you spoke to your neighbours at least once a week.

1/3



22% of you exercised 2-3 days a week or more.



30%

30% of you did gardening at least once a month.



7%

7% of you went to the cinema at least once a month.



Your reflections on being in NCDS

We are ever grateful that so many of our original 1958 babies have stuck with us all these years.

To us, you are each special and irreplaceable and we are in awe of your commitment to the study.

But we never take your continued participation for granted. Understanding what being part of the study means to different people, and what motivates you to keep with us, is essential as we hope you will continue to take part

for as long as you possibly can.

Not long after the main age 50 survey, we did separate, in-depth interviews with a small number of you to get some detailed insights into your reasons for taking part in NCDS. The survey covered other aspects of social participation too, including friendship and membership of clubs and associations.

The study members we spoke to talked about the sense of personal fulfilment they got from taking part in NCDS and a feeling that they were doing something for the greater good that helps others. These thoughts are echoed in the

reflections that some of you have shared with us for inclusion in this book.

We also know from these interviews how important it is for us to keep you up to date on how NCDS is used by researchers and policymakers, so you can see how your contribution is benefiting society. We've featured a wide range of research from the last 60 years in this book, look out for our future birthday updates and don't forget to keep an eye on the NCDS website (ncds.info) for all the latest findings from the study.

At age 55...



A quarter of you owned your own home outright. More than half were paying off a mortgage.

Around two thirds of you were still living with your first and only cohabiting partner or spouse.



Around one third of you had been through a divorce or separation.



In your words

“Somehow it feels ‘special’. Not that I think anyone is special, especially me, just that I see the results and realise that in a very small way I am contributing to something important for my fellow humans.”



The age 55 survey was the first web-based NCDS survey. More than 9,000 of you took part – two thirds did so online, with the remainder opting for a telephone interview. We covered similar ground to previous surveys, but this time we were particularly interested to find out about your caring responsibilities.

By this age, almost 40 per cent of you had grandchildren, and some of you spent time caring for them as well as for ageing parents. Among those with grandchildren, nearly three in five of you said you looked after them at least once a month. Those who looked after their grandchildren regularly spent an average of eight hours a week doing so. More than half of you spent time helping parents or in-laws in some way every week. This information is of huge value to researchers looking at how people's caring responsibilities can impact on different aspects of their lives, including their own health and wellbeing, and their jobs.

At age 55...



Almost half of you had at least one child living at home.



44% of you said your age never stopped you from doing things.

45% of you were in very good or excellent health, and a further 34% in good health.



Do you remember?

Remember the floppy disk? In 2000, it was replaced by the first USB flash drive.

In 2004, Facebook launched and revolutionised how we keep in touch with our friends and family.

Apple released their first iPhone in 2007. Today they have sold over 1.2 billion of them.



The difference you've made

We've made many important discoveries from the surveys you took in your forties and fifties, and have learned even more about how our pasts relate to our futures.

Maths and reading matters

Research using NCDS has revealed that our reading and maths skills, even at a very young age, can shape the course of our lives and help us move up the social ladder.

Study members who did better in the reading and maths tasks we asked you to complete when you were seven ended up having higher incomes, better housing, and better jobs in adulthood.

This link between your childhood abilities and your lives at age 42 still stood even when other factors, such as the social class you started off in, were taken into account.

The findings are significant as they highlight how education standards matter and how the development of skills in childhood can have an influence on the whole of our lives.

Vitamin D

Findings based on NCDS have indicated a widespread problem of vitamin D deficiency among your generation. Vitamin D is important for bone health. We get it when our skin is exposed to sunlight and if we take a vitamin supplement.

As part of the special, health-focused NCDS survey when you were 44, many of you provided blood samples, which were used to measure your levels of vitamin D.

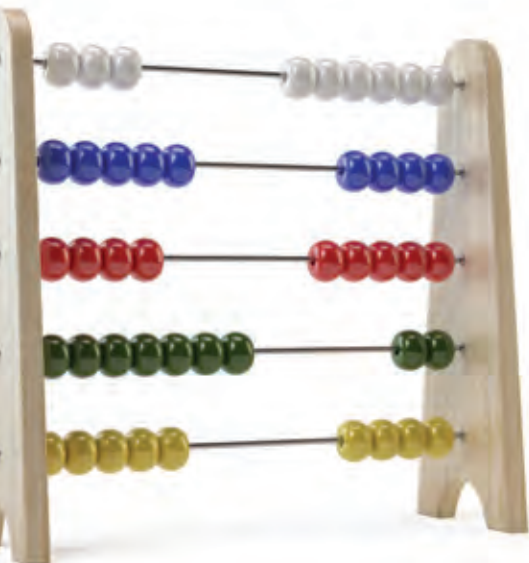
The results showed that study members who were obese, and those living in Scotland, were at the highest

risk of vitamin D deficiency. However, for the cohort as a whole, vitamin D deficiency was very prevalent in winter and spring. The findings made a strong case for manufacturers fortifying food products with vitamin D and also for making over the counter supplements readily available.

The shadow of childhood mental health

NCDS has helped us understand how experiencing mental health problems at a young age can, sadly, have an enduring impact across many aspects of life.

Researchers looked at the effects of both poor mental health and poor physical health in childhood on later life, using information captured when you were children right up to age 50. They found that there were both social and economic costs of mental health problems when young, and that up to age 50 these were much larger than the effects of having poor physical health in childhood. The impacts of childhood mental health problems started to be seen earlier in adulthood compared to physical health problems, which tended to have a delayed impact.



Happy retirement?

Many researchers using NCDS have shown how childhood poverty can have a ripple effect and that children who grow up poor are more likely to face disadvantage right through their lives, compared to their better-off peers. But we are also now learning that it's not just our childhoods that shape our futures, but our accumulated experiences across the whole of our lives.

Using NCDS, researchers have highlighted how our experiences throughout our adult working lives influence the kind of retirement we can look forward to.

Your generation has a longer life expectancy than the generations before you. But it's not just about living longer, is it? Quality of life is important, and a financially stable, healthy and active retirement is something we all aspire to.

Because we are living longer, many of us will need to save more or delay retirement and work for more years so that we can enjoy a good standard of living in later life. Indeed the State Pension age (SPA) for your generation has been raised to age 66, and for women this means

you will need to wait a full six years longer to claim your State Pension than you thought you would have to, for much of your working life.

Based on what you told us at age 55, large numbers of your generation, especially lower and middle earners, are expecting to continue working for some time to come. Among women, a majority of you now expect to be working in your 60s, many past the SPA of 66.

On the other hand, the least well off among your cohort were the most likely to be in poor health by their fifties. Some people, particularly those in poor health, or who'd been in the lowest paying jobs during their working lives, had left the labour market between 50 and 55.

At age 55, two in five of you were currently paying into a pension scheme. However, more than a third had never contributed to a pension, and this increased to three in five among those who had lived in persistent poverty.

Alissa Goodman, who led this research project, explains why these findings matter: "People who have been persistently poor or unemployed across their working lives face a more uncertain future



than the better-off. As they approach later life, they're less likely to have been able to build up a private pension or to have bought their own home. They're also more likely to be in poor health. While the government is keen to extend working lives, we've seen how poor health in mid-life can prevent people from remaining in or returning to work. An urgent policy priority is now to understand what policies will help people who have experienced cumulative disadvantage across their lifetimes live a more comfortable retirement."



Childhood dreams

"Imagine that you are now 25 years old. Write about the life you are leading, your interests, your home life and your work".

In 1969, when you were just 11 years old, we asked you to fast forward to 1983 and imagine where you would be.

Some 50 years later, we talked to a small number of you to find out how your lives had unfolded, compared to the lives you had predicted for yourselves as children.

For most of the people we spoke to, this was the first time they'd seen their essay since they'd sat down to write it. It was wonderful to be able to share with them this little piece of their personal history, and to hear their life stories.

You might have spotted some of these study members in the media recently.

To celebrate 60 years of the NCDS, The Times, Daily Mail, and Daily Express each did a feature on the NCDS childhood essays. In November, the BBC's One Show interviewed three study members. If you missed the show, you can watch it now on the NCDS website at ncds.info

As you know, we remove your personal details from your data before we make it available to researchers, so that your identity is always protected. The study members who have shared their stories on these pages and with the media gave permission for their names and photographs to be included.



Paul

Ugh! what a day pouring with rain. Don't need a brolly though getting wet never did anybody any harm cept pneumonia.



Then

The alarm clock goes for the start of another day. Another day of work at the office. How boring all I do is sit reading books. I'd better get up. Wednesday eh, Half-day! Roll on 1'o clock. Why couldn't I be a miner instead of a lawyer (who doesn't do a thing). Better catch the bus. Don't forget the book I'm on the climax of the story. Ugh! what a day pouring with rain. Don't need a brolly though getting wet never did anybody any harm cept pneumonia. Heres the bus. Soon be at work or rather I rest. Heres me stop. Smith Lawyers (I've read that sign for 3 years. Out of the rain. Morning, Morning, Morning, thats Good Morning to them 4 more

offices before mine Swing doors, Swing doors thats all they have in this place except paper. Here we are (at last). The same old desk. Whats happening today? Oh yeh got a 7.30 kick off at [football club] today goodside they are. Lets get down to that book. Chapter 12 ""The Great Day"". Theres goes the phone. Yes. A client hit and run A. Oh its tommorrow. Yes I'll be there. This is one day I didn't expect a client. Better put that in my diary. 10o'clock, Town Court, Hit and Run. Lets see where was I. Oh yeh.

There goes the 11 o'clock hooter 15 minutes for a cup of coffee and some biscuits for a 1s. 2 hours left.

At last 1 o'clock, Goodbye work (for today). What shall I do this afternoon. Train, yeh that'll do. The park would be the best place. Good its stopped Raining.



Now

"My essay is a little bit cynical for an 11-year-old, isn't it, but it's not bad. Suggesting being a miner instead of a lawyer, well, that wouldn't have been a wise career move. But, I always enjoyed creative writing and English, and I ended up as a journalist.

Our school could be a bit like the Wild West, it was a big comprehensive. Luckily, we had a fairly bright group, who were still interested in getting some qualifications.

After my degree I followed my older brother into journalism. He had quit his A levels, and joined the local newspaper as a trainee. Before my degree, I never had it in my head that I would become a reporter. I didn't think I'd go back home, but when a junior reporter's job came up on the local paper, I joined my brother, and I never looked back."

After working at a few local newspapers, Paul spent more than 20 years as a sub-editor at the Daily Telegraph, and now works part-time for the Daily Mail. He married Amanda, and they raised three boys. One son followed in his father's footsteps as a journalist, and another is a trained carpenter. Their youngest son has learning difficulties and lives in a care home nearby.

"We're very involved with our youngest son's care, so I'm hoping to cut back further on my work at the Daily Mail and spend more time with him. And, we're very hands on grandparents, especially with our middle son's two children. It's quite a challenge at our age, but we enjoy it.

Reading the essay, I must admit it's probably not too far from the truth in a way... although I didn't become a lawyer, I can relate to some of the cynicism that comes across in my essay."

Sally

England is now like switzerland with no fighting. Today however my husband has gone to give an idea to the President.



Then

I am sitting in a ward on night duty I will soon be a sister, I think I enjoy the work in hospital, although the work is hard. I am married, my husband is a pratisoiner I have one child but will be leaving hospital soon to have another. We live in London because the hospital is there (Guys hospital) but are hoping to move soon furthur north. We live on the

outskirts of London in a modern semi detached. I enjoy reading and playing with animals we have a cat and dog.

My life at home is very leisarly. About the world we now have 2000 people living on the moon some children have lived forever there. We have found the Russians no longer invade other countries. England is now like Switerland with no fighting. Today however my husband has gone to give an Idea to the President citizens are allowed to do this we have no King but a man and woman who hear ideas about the country from the colony. We have no more deserts and people live on them they are far more fertile than any other place. Venice is now completaly covered it has been sinking rapidly England is falling in the sea in places and holland has gone under the sea... we now have too much rain scientists are thinking earth has changed position a slight bit.



Now

When Sally was 11 she wanted to follow in her mother's footsteps to become a nurse.

"At that time I was determined to be a nurse. But, I think soon after this somebody said, you might be clever enough to be a doctor. Up until that point it hadn't ever crossed my mind that girls could be doctors, and then I was absolutely focused on that.

I really liked reading as a child and was always making up imaginary worlds, and telling stories to my brothers. I've always been socialist minded, and concerned about the environment. Many of these thoughts probably would've been influenced by my father, who was a staunch socialist,

and by our family holidays in Europe."

Sally spent much of her childhood moving around the north of England as her father, a GP, took up different posts. At 19 she moved to London to study medicine.

"I finished my GP training around the time the three older partners were looking for a new partner. It was kind of finally hitting GP practices that they needed a woman to do the womany stuff. When I started on call, patients would ring up and I'd answer, and they'd ask, 'Can I speak to the doctor?' or 'Can I speak to your husband?'"

My dad was the first doctor in the family, but I didn't think I could be one as well. My ex-husband, and two of my children are doctors, so there are lots of us, we're a medical family. I've been really lucky working as a doctor. I've loved helping people, I'm enjoying my job, and I feel I still have so much more to give."

Steve

In my years of 25 years old I go gardening and some times do sports. My real job is a sargant in the police.



Then

In my years of 25 years old I go gardening and some times do sports. My real job is a sargant in the police – in the police it is a hard job some times you get hurt very cireas and some times you die of gun shot womns. To join the police you hav to be nealy 6 foot. I am marid with

4 children....thear names are Jhon aged 1 robin aged 4 and bob aged 7 and last of all charles aged 11. my wife is the same age as me and her name is Jane. and have changed my name to Mark Stephensone and Jane Stephensone... our house has 6 bedrooms and a kitchen and a toiled in the bath room. when my children grow up I want them to de a police man and drive a police car and do well and then be a police constbele and be marrid like me and have some little boys and girls and be happy.



Now

"I think I wanted to be somebody with a little bit of authority, and also have a bit of a structure in my life. It wasn't so much catching criminals. It was probably getting the police car and the smart uniform, and feeling that you are somebody.

My poor old mum, she tried her best, but my dad used to drink a lot. I used to work in our café and shop till late, even at that age. It was a crap life really, they just didn't have any time for us kids. We used to go through a lot of verbal abuse and he'd keep me up till one o'clock in the morning and, of course, next day you'd go to school and you'd be too tired to even think. I used to get into trouble, not because I was a bad child, but because of my home life. I just couldn't do my homework."

Steve left school and worked in the farming industry by day and as nightclub doorman by night. Then he decided to try for a new career.

"I remember how hard it was filling in the application

form, and I didn't even know how to address the envelope. Becoming an insurance agent for Refuge Assurance changed my life. I learnt people skills, I learnt about maths, and how to write letters. I was a manager after two years, and then went to work for the Co-op Insurance, where I then made up for those lost years at school by passing all my financial planning exams. I left the Co-op and opened my own business as an independent financial adviser."

At 31, Steve married Sue. They spent four years trying for a baby before seeking IVF treatment and having Emma.

"I wanted Emma to have what I never had. My mum and dad never had any money, and several times the bailiffs were knocking on the door trying to take their property away, and at times my personal property too. It made me completely different from my parents, and I've always had to have financial security behind me. But although I've always saved, I've ensured Emma had everything she needed.

When I was a kid I did want to become a policeman, but in the end, getting that break into insurance was brilliant. I kind of fulfilled my dream, as I had a suit, I looked smart, and I was professional."

Nigel



Then

I am 25 years old I have a good job. I do not spend much time at home because I travel a lot abroad. At the moment I have a job as corporal in the army. There is a lot of drill and hard work in it but we do have some pleasure time we go to the pictures and have dances. I don't mind getting up at 5 o'clock

I am 25 years old. I have a good job. I do not spend much time at home because I travel a lot abroad.

but the best bit I recon about the army is going to bed in the evening. There's plenty of food to eat. There's a lot of spit and polish in the army we have to clean our boots till we could use them as a mirror. Buckles have to be polished. This all has to be done by roll call at six o'clock. Then we have drill and guard duty for the rest of the morning and combat training in the afternoon. I write letters to my parents and send them by air mail. I'll be going on leave soon then I'll go home to see them all.



Now

"I've always been a keen reader, so the army career might have been inspired by a book, or could've come from one of my dad's stories about his national service.

My dad was working class, but if he had ten bob in his pocket he'd take us out on the weekend. He was into various pursuits, so

we were often up at five o'clock on a Sunday, out across the Kentish Downs horse riding, or sailing on the coast."

At junior school, Nigel won art competitions, and at grammar school he passed his English and maths O levels a year early. But he still thinks he might not have fulfilled his academic potential.

"I've never beaten myself up about how I was, it's just that I didn't apply myself... When I should have been doing homework in the evenings, I was out messing around with my mates.

I started off working as an insurance broker, but it sucked the life out of me. I was also a car salesman, a bus driver, warehouse manager and a builder. During my time

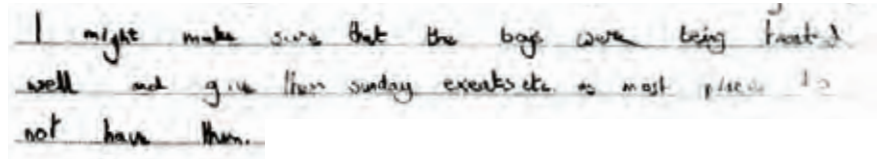
in the building trade, I started doing carpentry, and really enjoyed it. With my eye for detail and artistic bent, it sort of came naturally to me."

Nigel met his future wife, Caroline, when he was 21, but their relationship didn't last. Twelve years later they became reacquainted after Caroline hand-delivered a Christmas card to Nigel's flat, and a year later they were married.

"We both managed to avoid getting married until we were into our thirties. We never had children, and although we never sat down and decided we didn't want them, I probably thought that I'd rather have another motorbike, and Caroline would've opted for another cat.

I'd be a rich man if it wasn't for cars and bikes. I've had classic cars over the years, and I've been an MG Owners' Club member for 35 years now. And, after 44 years of working, I think it's a good time to get back into my artwork again."

Simon



I might make sure that the boys were being treated well and give them sunday exeats etc. as most places do not have them.

Then

If I was now 25, I would like to be working for a Dimus [Doctor of Music]. I would like to be a choir master of a quite large, respectable abbey, Chapel, Cathedral or Church, with a large organ preferably with three to four manuals and about sixty or Eighty stops, including a Spanish trumpet on the swell. As this is really only a large part-time job, I would like to be an Organ teacher and to play in other places also. My interests would be in Music, and Composing music as well as teaching and Cricket. My home life would mainly consist of Gardening, reviewing music, and watching games on the Television. If my wife liked Pop music I'd probably be rooting out all her pop records and throwing them in the dustbin

without mercy and being careful she bought no more! I might be beginning to look up top prep schools in England to send my children in a few years time. I would, (if there was a school attached to my church), I might make sure that the boys were being treated well and give them sunday exeats etc. as most places do not have them. One thing I most certainly would have would be a choir trial every year and boys leaving the choir at thirteen, if this was not already happening, as these days boys voices break much earlier that they used to. I would inforce rules and regulations on the choristers and try to get them very well disciplined.

Now

"What I wanted to do, was to do exactly what I was doing. At music school, I was singing every day in a great chapel, and I was expecting to do that basically for the rest of my life. I, and all my contemporaries at the age of 11, had a very clear idea of what we were going to do. So although I didn't finish up as the conductor of a cathedral choir, I did indeed finish up as a professional conductor.

My parents believed passionately in scholarship-funded opportunities and advancement through education. My grandparents had all left school at 14. One grandfather was decorated and commissioned in the field during World War 1. Afterwards his fellow officers, mostly from better-off families, clubbed together to pay for him to attend Cambridge University where he studied theology and music. He married a most accomplished musician, who was his church's organist. They educated their four children with the help of scholarships.

My other grandfather rose from tea-boy to managing director of a large company. His two children both won scholarships through choral singing. We still have his letter

to Andrew and Julian Lloyd Webber's father, enquiring about scholarships.

My very odd statement 50 years ago is that of a boy who only knew the rather rarefied world of an all boys' specialist music school! I've enjoyed my life immensely, but I've spent much of it recovering from the pluses and minuses of that privileged start.

The work ethic at school was extraordinary. So at 60, I still have to schedule relaxation into my agenda.

And the narrowness, snobbery and arrogance ... it's been an uphill battle to avoid a sense of entitlement that is so damaging in UK life.

I've tried to open the musical world to as many people as possible through educational projects. I know I had it lucky, and we cannot allow music to be the preserve only of the rich or the lucky.

I have loved being part of this survey for as long as I can remember. Even as a very small child, I recognised that the findings would be fascinating. And once, but only once, I met someone else born in this special week!"

Claire

I hope to pass my tests at the hospital and work in London and be a matron or even higher



Then

My name is Claire I am twenty five years old I live at home with my father and Mother while I am training to be a Nurse. My interests are dancing and playing the piano I also have driving lessons and are going to take my test soon. I have a friend who is training to be a nurse too. we

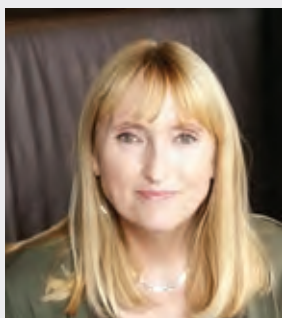
camping together and have lots of fun. I hope to pass my

tests at the hospital and work in London and be a matron or even higher, My sister is also a nurse in London and has a flat there I hope I can go and stay there when I pass.

My father is a doctor and all my family are interested in medicine my mother was a teacher and so was my cousin.

I have a dog and a cat and they both get along together and never fight I also have one Parrot called Polly and a Rabbit.

I go riding with my friend at the weekends.



Now

"I can't remember wanting to be a nurse. My father wasn't a doctor, but my mother was a teacher. Animals were always my passion, and still are, and we did have most of those pets I mentioned in the essay. At the time I wanted to be a vet, so I'm surprised I said I wanted to be a nurse.

After leaving college, I soon realised that you couldn't get many jobs with an art degree. I wanted to do something which would help people, so, I decided to go into social services, and became a home help manager."

Claire married Ken in her mid-twenties and they raised three children. When she was 39, her youngest son went off to school, and Claire decided to retrain.

"I eventually did decide to follow in my sister's footsteps. She didn't become a nurse as I imagined, but like my mother, became a primary school teacher. I did my training,

and became an art teacher. I think I was influenced by my mother and sister, as they said the job fitted in really well with family life. And also, with my degree, it worked very well. So, doing art was useful in the end.

I really, really enjoyed it, it was a great career...teaching children about art, and taking them to galleries here and abroad was a privilege. Being an art teacher has been a huge chunk of my life, with looking after my children, and keeping animals.

Writing about being a nurse, I must've hoped that I would help people in some way. My mother was very socially conscious, and I think that must have influenced me growing up. I wanted a good job, and hoped to make a difference, so I can certainly see a connection between my life and the essay."

Jackie



Then

It was a Monday and off to work I work in a hair dressers and looking for a shop when I have saved up some money I will buy one.

I leave home at 9 o'clock and start at 9.30. I work with six other girls all

It was a Monday and off to work... I work in a hair dressers and looking for a shop when I have... Saved up ~~some~~ some money I will buy one.

about my age. Some night we go to the cinema.

When Saturday comes I would help mummy in the house and get shopping. Sundays I would tidy the garden and go out in the afternoon. Some Saturdays I would buy some clothes.



Now

"When I was a teenager at school, the girls knew I wanted to do hairdressing. My lunch breaks at school were trimming hair or cutting a fringe for someone."

Jackie had got a place on a hairdressing course at college, close to home. But then her family relocated, quite suddenly, leading her to take a very different path.

"Of course that all went by the wayside, and when we moved down here, the college intake for that year had already been taken. So my mum then said, 'Well you'll have to get a job, you need to help with the money.' So she marched me off to an employment agency and they found me a job in a bank, and I hated it.

I felt trapped because I didn't see any way out of it, because I was earning good money. I didn't know what else to do. I hadn't got any other training in anything because what I wanted to do was hairdressing."

Jackie got married, and after many years with the bank, she left to start a family. She gave up work a few years ago following an operation for a stomach tumour.

"I worked for theatres, I did the usual party selling type house thing, like Tupperware, and I've done Avon. My last job I had was working for a mining company as a recruitment officer, and that was really interesting because I'd get to speak to people from around the world. My bank work had sort of helped me to get that job.

After that [the operation], I was sort of really tired all the time, so my husband just said, 'Look, I know it's not the time and age but you've worked really all your life, why not take a break and look after us and the house a bit more?' So that's what I've done.

I find I'm doing as much now as I ever was. Life's just taken a different pattern really, you know, it's all part of my tapestry I think. Ideally I would love to sell our house, downsize, buy a camper van and travel."

Jackie is proud of her contribution to NCDS, "I feel as though I'm part of a jigsaw puzzle, and in some way it's a bit of my legacy to society, that what we're giving is actually going to help everybody. I just think, yeah, you know, I've been part of that."

And hairdressing must be in the blood as one of Jackie's three children is now a hairdresser.

Looking to the future

We've already learned so much from the information you've shared with us at each stage of your lives. What an astonishing contribution you've already made to society. What a legacy.

But we're far from reaching the end of the story. This very special study is just as important now as it has ever been, if not more so. As you each continue along your separate pathways, there's much more we want to learn from your experiences. What are your expectations for retirement and later life? How do these then match up to reality when the time comes? What are the different opportunities and challenges this stage of life brings?

So we'll keep checking in with you for as long as you're happy for us to, which we hope will be for many more years to come.

Coming up next

The next survey is all set for 2020-21. There will be a face to face interview, covering lots of topics, including your health, family and friends, caring for elderly parents and for grandchildren, your work, and preparing for retirement. We'll be asking about what your children are doing now, and there will be a few cognitive assessments again, so we can see how you think.

How do we decide what to ask you?

Surveys have recently taken place roughly every five years. There are so many questions we'd like to ask you at interview, but we don't have long to cover all the changes in your life, so we have to choose wisely.

The questions that we use have been developed by scientific experts from across a range of different fields, and we draw on expertise both within and outside the NCDS team when putting these together.

We have to find the right balance between repeating previous questions, so that we can see how things change over time, and asking new questions relevant to where you're at in your lives.

When adding new questions we often take these from other cohort studies so that your information can be compared exactly with the information collected from other groups of people.

We run a series of pilots where we ask a small number of people to complete the survey – either members of the public of the right age or a small group of NCDS members. We take careful feedback during these pilots and make any necessary tweaks before the survey goes live for real. And then it's over to you!

There will be a paper questionnaire which will focus on your wellbeing, physical activity and leisure activities. Some of you will be asked to complete a second paper questionnaire about your childhood.

Finally, we'll ask if you're happy for a nurse to visit you to take a variety of measurements, including blood pressure and height and weight. If you agree, they will take a blood sample too. The nurse will also ask you to complete an online questionnaire about your diet. As with all our

requests, taking part in any element of this is completely optional.

We'll send you more information about the next survey closer to the time. We're looking forward to catching up with you again!

Innovating how we survey you

New technologies for conducting surveys are developing rapidly, and just like the quiet revolution when

we switched from pen and paper to computer-assisted interviewing, you're very likely to see some important changes in the future.

We may be able to catch up with you more frequently, via the web, for example. We're hoping that new smartphone technologies will provide fun and interesting ways to tap into different facets of your lives. We may ask you to use wearable devices for a short while that capture your physical activity, or other aspects of your health. We may also be able to use new digital tools to capture 'screen time', to understand how this is affecting your lives too.

In the past we've gathered information from some of the important people in your lives – such as your partners and children. We're hoping to do this again in the future.

By linking the information you share with us to other information, for example to administrative records, or environmental data about your local area, we can give researchers an even fuller picture of your lives. Thanks to new technologies, we hope to be able to do more of this. We'll always let you know what our plans are, and you can ask us questions at any time.

Transforming how we analyse your data

Computing power has changed the way that scientists can analyse your data, using techniques that could never have been imagined when you were born.

New statistical methods have been helping us to show where there is a causal relationship between two things, where before we could only show they were merely connected in some way.

New statistical approaches are helping us to make sure the findings from the study continue to reflect your generation as a whole, even though, inevitably, we have lost some people along the way.

Recently, we have even found ways of analysing the language you've used, for example in the essays you wrote when you were 11. The genetic revolution has unlocked vital information about your genes, allowing the study of how they interact with your environment.

New developments in machine learning are likely to push the frontiers of these kinds of research further in the near future.

All of this is transforming the research that comes from NCDS, and will continue to do so.

Learning from your futures

You've seen throughout this book how the findings from the study have evolved as you've gone through your lives, and of course they will continue to develop.

As you move from working age and into retirement, we will be interested in how your work, earnings and living standards change, and the knock-on effects on other aspects of your lives.

We will continue to track how your health and wellbeing develops, to see how these changes are shaped by your past circumstances, and the things you can do to make a positive difference now.

The study will also be a unique resource for understanding how your own circumstances may shape the lives of your children, and the generations that come after you.

Exciting times lie ahead for the study, and we hope for each of you individually too, as you move through the next chapters of your lives.

The last word

We thought it only fitting to save the last word for you, our study members. We asked you what being part of NCDS means to you. Here's just a small selection of the personal reflections you shared with us.

“ I feel that participating in the NCDS surveys has made me feel “special” – not in a superhero way, but privileged to be involved in research that has shaped health and social studies.”

“ At the beginning it was just ‘Oh I have to go and have another test’. But as I got older I realised the importance of it in all sorts of fields. It may be this study will help in medical discoveries and breakthroughs. This will help my children and their children and future generations.”

“ The study has been a great team building item. When asked to write down two true facts and one lie, no one believes I’m in a lifelong study all because I was born in a certain week in a certain year. It is a great way to track our lives, and provide vital data. I hope to be part of it for many more years especially as we enter another phase of life.”

“ As a child, I did what was asked of me. Once a teenager, I realised that I was part of something special. In adulthood, I understood that taking part mattered for my own children. Getting older, I figured that I might be one of the lucky ones blessed with a good life. When I reached 60, I felt proud to be central to such an important endeavour for my whole life. Looking forward, I want to stay involved so that future generations benefit from the insights gained.”

“ Every time I read about findings based on cohort studies I think ‘that’s me’. It makes me believe the modest effort on my part to stay involved has been of real value.”

“ Being part of the study has always made me feel a little bit special. As an only child it also made me feel that I was part of a larger family. Even though I didn’t know any of them, it was a good feeling.”

“ I’ve enjoyed taking part in the various surveys undertaken by the NCDS, and reading about the results. It’s rewarding to know that I’ve been part of some research that is being used to help future generations, and I do feel a little bit special as a result!”

“ I got married in 2010 and my wife was most impressed that I was involved in such a study. It made me think more about it and I am glad to have been part of it.”

“ Being part of the study is just about the only consistent thing to happen in my life! Two failed marriages, more than a dozen different homes, many career moves, sad times, happy times, always change – even at age 60 I’ve just reverted to my maiden name and come full circle. Through it all, NCDS has been in the background, keeping a distant eye on me and never forgetting my birthday! Of all the things I have accomplished, I am proud

that by being born in a certain week I have contributed to this research and made a difference for future generations.”

“ I feel connected to a huge scientific study of people and what makes us tick. As a psychologist and politician, how could I not love that?!”

“ It has been a pleasure during my life to have contributed to this survey and sounds a bit funny but another friend at school used to call us ‘special’ which I suppose we could be really to have come this far and still be involved.”

“ The study is fascinating to me mainly because it covers such a large time span and a huge number of people – who knows what we might have in common or what we might discover. It’s like a voyage into the unknown. I hope somehow we can help provide a better understanding of the human condition and help society or medicine in some useful way.”

“ I’ve always loved being a real live statistic, and it gives me faith in other statistics too. I’ve enjoyed reading the findings of the research in print and on your website and understanding what a different world we were born into. In what is now probably my last job, I work with social science researchers, some of whom have used NCDS data in their work, and for me this rounds off the circle. I hope that as we age, we can continue to be a great resource of data that will help research for years to come.”

“ I am really proud of my continued involvement with the NCDS scheme. It began to make sense after I had children myself and I could relate the research findings to what was happening to them.”

Find out more

In case you'd like to find out more about the published research featured in this book, we've included the full references here. Some of this research you'll be able to find online.

While we could only share a snapshot of some of the most important NCDS research in this book, there is so much more we could have included. You can explore the full bibliography on the Centre for Longitudinal Studies website: cls.ucl.ac.uk.

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Keep in touch

We hope you'll continue to take part in the study for many more years to come. If you change your address, phone number or email address, please let us know, so that we can stay in touch.



0800 035 5761 (free from a UK landline)



ncds@ucl.ac.uk



ncds.info



**Freepost RTKJ-BBSL-CJXR
National Child Development Study
UCL Institute of Education
20 Bedford Way
London WC1H 0AL**

For the latest findings from the study, take a look at the NCDS website – ncds.info.

If you would like the content of this book in a different format, such as large print or black and white, please get in touch with us.