Institute of Education

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60 years of our lives:

A scientific conference celebrating the National Child Development Study at 60

CENTRE FOR
LONGITUDINAL
STUDIES

8–9 March 2018
London

#NCDS60th

Contents

Scientific Committee:
Gabriella Conti (lead)
David Bann
Alissa Goodman

Welcome

I am delighted to welcome you to this very special conference, in celebration of the National Child Development Study (NCDS), in the very week that it turns 60.

As one of the world's longest running and most important birth cohort studies, over the last six decades the 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.

The legacy of the NCDS and its contributions over the years are undoubted. And 60 years on, this great study is more relevant and important than ever.

We hope that there will be something for everyone at this conference, looking both forward and back. This includes two distinguished keynotes, and a deep dive into current research actively underway using the NCDS. Our plenary panel on the first day will be a warm-hearted reflection on how the study has shaped the lives of some of our great academics. On the second day, a plenary panel will focus on funding and policy priorities now and into the future. There will be awards for best posters and for outstanding recent contributions to the science of the study.

I would like to thank our funders, the Economic and Social Research Council, for supporting this conference, and for its continued investment in the Centre for the Longitudinal Studies (CLS), where the NCDS and our three other studies, the 1970 Birth Cohort Study, Next Steps and the Millennium Cohort Study are run.

Thank you also to my colleagues on the conference's Scientific Committee, Gabriella Conti (as lead) and David Bann, who have worked with me to create a thought-provoking and varied programme, and to Kath Butler and Sarah Dowie in the CLS communications team for putting it on.

Finally and most importantly, I must thank and wish a very happy 60th birthday to all the participants in the NCDS whose contribution to the study over the years is such a precious gift to society. Thanks to them, we are all six decades wiser.

I hope you enjoy the conference.

Alissa Goodman
Director, Centre for Longitudinal Studies
UCL Institute of Education

Programme overview

DAY 1	THURSDAY 8 MARCH
09:30 – 10:00	**Registration and refreshments**
10:00 – 10.20	**Introduction** by Alissa Goodman, Principal Investigator of the NCDS
10:20 – 11:20	**Plenary session** Keynote by Professor Barbara Maughan
11:25 – 12:55	**Parallel sessions 1A, 1B and 1C**
12:55 – 13:45	**Lunch**
13:45 – 15:15	**Parallel sessions 2A, 2B and 2C**
15.15 – 15:30	**Tea/coffee break and poster viewing**
15:30 – 17:00	**Plenary session** The life scientific: shaping the NCDS, and being shaped by it. Reflections from a distinguished panel
17:00 – 19:00	**Drinks reception, networking, and poster viewing open to all**

DAY 2	FRIDAY 9 MARCH
09:00 – 09:30	**Registration and refreshments**
09:30 – 10:55	**Parallel sessions 3A, 3B and 3C**
10:55 – 11:15	**Tea/coffee break and poster viewing**
11:15 – 12:45	**Parallel sessions 4A, 4B and 4C**
12:45 – 13:30	**Lunch**
13:30 – 15:00	**Parallel sessions 5A, 5B and 5C**
15:00 – 15:20	**Tea/coffee break and poster viewing**
15:20 – 16:20	**Plenary session** Funding priorities, past and future
16:25 – 17:25	**Plenary session** Keynote by Professor Sir Richard Blundell
17:25 – 17:45	**Prize ceremony and concluding remarks by Alissa Goodman**

Day 1 plenary session

Lives through time:
a celebration of 60 years of the NCDS
Keynote by Barbara Maughan

Barbara Maughan is Professor of Developmental Epidemiology at the Social, Genetic and Developmental Psychiatry Centre, King's College London. Her research focuses on psychosocial and biological risks for mental health problems in childhood; time trends in child mental health; and the long-term implications of difficulties and disorder in childhood for health and wellbeing later in the life course.

In addition to undertaking her own longitudinal research, Barbara has benefited hugely from the opportunity to draw on data from the NCDS (and the other British birth cohorts) throughout her career. She has also contributed to consultations on the study's content, and been involved in a range of advisory and access committees supporting the study over time. She is delighted to contribute to this celebration of the study's extraordinary contributions to science and to policy over such an extended period.

Day 1 plenary session

The life scientific: shaping the NCDS, and being shaped by it
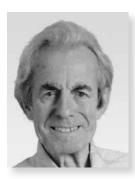
Reflections from a distinguished panel

Chair: **Helen Pearson**

Helen Pearson is a science journalist, editor and author. As Chief Magazine Editor for *Nature*, the world's leading science journal, she oversees all its journalism and opinion content. Her own stories have won accolades including the 2010 Wistar Institute Science Journalism Award and two best feature awards from the Association of British Science Writers. Helen's popular science book, *The Life Project*, was published in 2016 to critical acclaim. It was named best science book of the year by *The Observer*, was a book of the year for *The Economist*, was longlisted for the Orwell Prize, and Highly Commended in the British Medical Association book awards 2017. It tells the story of the British birth cohorts, a remarkable series of scientific studies that have tracked generations of children growing up in Britain over the last 70 years, and the far-reaching discoveries that came from them. The *Daily Mail* called it "The greatest scientific experiment in modern British history... Fascinating, shocking, heartening". Helen has a degree in natural sciences from the University of Cambridge and a PhD in genetics.

Panellist: **John Bynner**

Emeritus Professor of Social Sciences in Education, Centre for Longitudinal Studies, UCL Institute of Education

John Bynner is Emeritus Professor of Social Sciences in Education at the UCL Institute of Education, and until retirement in 2003 was Director of the Centre for Longitudinal Studies, co-Director of the Wider Benefits of Learning Research Centre, and founder Director of the National Research and Development Centre for Adult Literacy and Numeracy. He is Executive Editor of the international journal, *Longitudinal and Life Course Studies*, and was founding Chair of the Society for Longitudinal and Life Course Studies.

John's main research interests are in economic and political socialisation of young people and the contemporary life course. Recent relevant publications include *A Companion to Life Course Studies*, (with Mike Wadsworth, Routledge 2011); *Institutionalisation of life course studies* (Springer 2016); *Whatever happened to lifelong learning* (British Academy 2016); *Youth policy borrowing across language divides* (Journal of Education and Work 2017); and *Young People's Development and the Great Recession* (with Ingrid Schoon, CUP 2017).

Panellist: **Jane Elliott**

Professor of Sociology, University of Exeter

Jane Elliott first started using data from the NCDS in the mid-1980s as an undergraduate when her statistics course made use of the teaching dataset for NCDS – a sample of 2000 cases with a few variables up to age 23. However, much more recently, before joining the Department of Sociology, Philosophy and Anthropology at the University of Exeter in September 2017, she was the Chief Executive of the Economic and Social Research Council (2014 to 2017).

From 2004 to 2014, Jane had a number of roles at the UCL Institute of Education. Latterly, she was Professor of Sociology, and Head of the Department of Quantitative Social Sciences. In this role she was also Director of the ESRC-funded Centre for Longitudinal Studies, which manages the 1958, 1970, Next Steps, and Millennium cohort studies. In 2012, she was the founding Director of CLOSER (Cohorts and Longitudinal Studies Enhancement Resources programme). This is a collaborative programme aimed at maximising the use, value and impact of the excellent portfolio of cohort and longitudinal studies In the UK.

Panellist: **Jean Golding**

Emeritus Professor of Paediatric and Perinatal Epidemiology, University of Bristol

Jean Golding arrived in London in the 1960s as a single mother with two toddlers and a maths degree. She answered an advert for someone to work part-time on the 1958 Birth Survey in preparation for the publication of the book, *Perinatal Problems.* This involved becoming immersed in data, including the details of the Perinatal Mortality Survey. Working with Eva Alberman, who guided her through the intricacies of background medical knowledge, she fell for the whole epidemiology discipline, obtained a PhD from UCL, moved to Oxford and spent time continuing to analyse large data sets, including the 1958 study (publishing as Jean Fedrick).

Jean then moved to Bristol and worked with Neville Butler on the 1970 birth cohort, before designing the European Longitudinal Study of Pregnancy and Childhood and setting up the UK version (ALSPAC – the Avon Longitudinal Study of Parents and Children).

Jean "retired" in 2006, but has continued to be principal investigator on grants, mainly analysing ALSPAC data, ever since.

Panellist: **Harvey Goldstein**

Professor of Social Statistics, University of Bristol

Harvey Goldstein was Professor of Statistical Methods at the UCL Institute of Education from 1997 to 2005, and before that a senior researcher at the National Children's Bureau where he worked extensively on the design and analysis of the NCDS. He is currently Professor of Social Statistics at the University of Bristol. He also has a part-time professorial appointment at the UCL Institute of Child Health and is a visiting professor at the London School of Hygiene & Tropical Medicine.

Harvey has been a member of the Council of the Royal Statistical Society, and chair of its Educational Strategy Group. He was awarded the RSS Guy medal in silver in 1998 and was elected a fellow of the British Academy in 1997.

Harvey's research interests include the use of statistical modelling techniques in the construction and analysis of educational tests, with a particular focus on institutional and international comparisons. He also has an interest in the methodology of multilevel modelling, and his major recent book, *Multilevel Statistical Models* (Wiley, 2011, 4th edition), is the standard reference text in this important area of statistical data analysis. Most recently Harvey has helped to develop efficient methods for handling missing data and measurement errors in complex models.

Panellist: **Heather Joshi**

Emeritus Professor of Economic and Developmental Demography, Centre for Longitudinal Studies, UCL Institute of Education

Heather Joshi was the Director of the Centre for Longitudinal Studies from 2003 to 2010, and was also the founder Director of the Millennium Cohort Study. She has made extensive use of NCDS in her research on women's employment, fertility, the male-female pay gap and child development.

Heather has a degree in economics from Oxford University and worked in the Government Economic Service in the 1970s.

Since official retirement, Heather continues to research using longitudinal data at the UCL Institute of Education, and is the Executive Editor of the international journal, *Longitudinal and Life Course Studies*. She is past President of the European Society for Population Economics, the British Society for Population Studies, and the Society for Longitudinal and Life Course Studies. She was the co-chair of the European Child Cohort Network. She has collaborated with co-authors in a number of disciplines, including epidemiology, psychology, geography and demography.

Panellist: **Christine Power**

Professor of Epidemiology and Public Health, UCL Great Ormond Street Institute of Child Health

Chris Power is based at the UCL Great Ormond Street Institute of Child Health within the Population, Policy and Practice Programme. Chris is a life-course epidemiologist whose research focuses on the early life origins of social inequalities in health, early life adversities and their long-term outcomes, as well as influences on growth, obesity and development at different life stages.

Chris contributed to the establishment and development of life-course epidemiology, which examines social, psychological and biological influences onwards from the earliest stages of life on later health outcomes. She has published extensively using longitudinal data from the NCDS, and has contributed to biomedical data creation of this study in mid-adulthood.

Chris works with several national and international collaborations, such as the Public Health Research Consortium and the Research Network on Later-Life Interventions to Reverse Effects of Early Life Adversity.

Day 2 plenary session

Education and earnings: insights from the NCDS
Keynote by Richard Blundell

Professor Sir Richard Blundell, CBE FBA holds the David Ricardo Chair of Political Economy at University College London. He is also Director of the ESRC Centre for the Microeconomic Analysis of Public Policy at the Institute for Fiscal Studies (IFS). He was Research Director at the IFS from 1986 to 2016 and has held visiting professor positions at UBC, MIT and Berkeley.

Richard's research is in empirical microeconomics and covers the fields of microeconometrics, consumer behaviour, savings, labour supply, taxation, public finance, innovation, and inequality. He is recipient of the 1995 Yrjö Jahnsson Prize; the 2000 Econometric Society Frisch Prize; the 2015 BBVA Foundation Frontiers of Knowledge Prize in Economics; and the 2016 Erwin Plein Nemmers Prize in Economics. He was an editor of the Mirrlees Review of Tax Reform.

Richard was President of the European Economics Association in 2004, President of the Econometric Society in 2006 and President of the Royal Economic Society from 2011 to 2013. He holds Honorary Doctorates from the University of St.Gallen, Switzerland; the Norwegian School of Economics, NHH, Bergen, Norway; the University of Mannheim, Mannheim; Università della Svizzera, Lugano, Switzerland; and the University of Bristol. He is a Fellow of the Econometric Society (1991), Fellow of the British Academy (1996), and Honorary Member of the American Economic Association (2001).

Day 2 plenary session

Funding priorities, past and future
Perspectives from representatives across funding and policy

Panellist: **Ian Diamond**

Principal and Vice-Chancellor, University of Aberdeen

Professor Sir Ian Diamond is Principal and Vice-Chancellor of the University of Aberdeen, an appointment he has held since 1 April 2010. He was previously Chief Executive of the Economic and Social Research Council (ESRC). He was also Chair of the Research Councils UK Executive Group (2004-2009), the umbrella body that represents all seven UK Research Councils.

Before joining the ESRC, Sir Ian was Deputy Vice-Chancellor at the University of Southampton, where he had been for most of his career.

Sir Ian is Chair of British Universities and Colleges Sport. He chaired the Welsh Assembly Government of the Higher Education Review for Wales, reporting in 2016. Sir Ian was elected to the UK Academy of Social Sciences in 1999, is a Fellow of the British Academy (2005), a Fellow of the Royal Society of Edinburgh (2009) and holds honorary degrees from the universities of Cardiff and Glasgow.

Panellist: **Rebecca Fairbairn**

Joint Head of Data and Infrastructure, Economic and Social Research Council

Rebecca Fairbairn is joint head of Data and Infrastructure at the Economic and Social Research Council (ESRC). She is responsible for the ESRC's longstanding, world class, portfolio of longitudinal studies and the shape and sustainability of that portfolio into the future. She moved to this role in spring 2016, following three years as Head of Knowledge Exchange, where she led the redevelopment of policy for knowledge exchange and impact, transforming the ESRC's approach to one in which this activity is embedded across the whole of the ESRC's remit.

Rebecca oversees ESRC's engagement with policy related to data for research, and the impact of ESRC's data infrastructure, including its linkage with industry.

Rebecca's career has focused on the UK Research Councils (RCUK) and the Foreign and Commonwealth Office (FCO). In 2008 she went to New Delhi to develop the strategy, and set up the operations, for the RCUK office in India, with its first Director. She then moved to Bangalore with the FCO as Deputy Head of Mission at the British Deputy High Commission. She has also advised the UK Government on strategic opportunities for the UK knowledge base in Latin America.

Panellist: **John Haaga**

Director, Division of Behavioral and Social Research, National Institute on Aging

John Haaga is director of the Division of Behavioral and Social Research at the National Institute on Aging (NIA). John previously served as the Division's acting director and as its deputy director for 11 years.

Prior to joining NIA, John held leadership positions at the Population Reference Bureau, the National Research Council of the National Academy of Sciences, the Population Council, and the RAND Corporation.

Panellist: **Erica Pufall**

Science Portfolio Adviser, Wellcome Trust

Erica Pufall is a Science Portfolio Adviser in the Population Health team at the Wellcome Trust where she is responsible for the development, implementation, and running of the Longitudinal Population Studies Scheme. She has worked with longitudinal population studies throughout her career and is a member of the UK Data Forum and the Centre for Longitudinal Studies Advisory Board.

Erica has a BSc(Hons) in Molecular Biology and Genetics and an MSc in Epidemiology from the University of Guelph in Canada, and a PhD in Epidemiology from Imperial College London. She has worked for the Public Health Agency of Canada and has conducted research in Canada, Zimbabwe, and the UK on various global health issues, including food security, climate change, drug-resistant infections, HIV, and patient experience.

Panellist: **Mike Daly**

External Engagement Lead, Department for Work and Pensions

Mike Daly is a career civil servant, having worked as a government statistician since leaving Cambridge University in 1980. He has worked in a wide variety of analytical posts, in fields including: consumer price indices; labour supply estimation/projection; small business statistics; analysis and monitoring of training programmes; and support for disabled people.

For much of the last 20 years Mike has been involved in the Department for Work and Pensions (DWP) evaluations, particularly of active labour market programmes, and has represented DWP on the Cross Government Evaluation Group since its inception.

Mike currently works in DWP's Central Analysis Division, with a focus on coordinating and improving the Department's external engagement with academic researchers, and the management of its evidence base.

Full programme: day 1

DAY 1	THURSDAY 8 MARCH 2018
09:30 – 10:00	**Registration and refreshments**
10:00 – 10:20	**Introduction by Alissa Goodman, Principal Investigator of the NCDS** (Paget Room)
10:20 – 11:20	**Plenary session: Keynote by Professor Barbara Maughan** **Lives through time: a celebration of 60 years of the NCDS** (Paget Room)
11:25 – 12:55	**Parallel sessions 1A, 1B and 1C**

SESSION 1A
(Paget Room)

The long term psychological and physiological consequences of childhood adversities
Chair: Barbara Maughan,
King's College, London

Optimising life course outcomes for children with hyperactivity: evidence from a prospective birth cohort
Stephan Collishaw,
Cardiff University

Parental separation and inflammation in mid-life: the role of material and psychosocial mechanisms
Rebecca Lacey,
University College London

Adverse childhood experiences, psychological wear-and-tear and mortality: pathways towards chronic disease
Michelle Kelly-Irving,
Inserm & Université Toulouse III

SESSION 1B
(Worcester Room)

Cross-cohort research: current work and future plans from four early-mid career scientists
Chair: David Bann,
University College London

The development, causes, and consequences of obesity: exploring heterogeneity using multiple birth cohorts
Will Johnson,
Loughborough University

Investigating long run trends in health inequality: evidence from British birth cohort studies
David Bann,
University College London

How will the obesity epidemic influence healthy ageing?
Snehal M Pinto Pereira,
University College London

Impacts of early life exposure to pollution across childhood
Claryn Kung,
London School of Economics and Political Science

SESSION 1C
(Prince's Room)

Children's social and emotional skills
Chair: Gabriella Conti,
University College London

Bias in perceptions of low-income children's behaviour: analysis using the Millennium Cohort Study
Tammy Campbell,
London School of Economics

Substitutability and complementarity in the production of child socio-emotional skills
Gloria Moroni,
University of York

Inequality in non-cognitive skills: a cross-cohort comparison
Giacomo Mason,
University College London

The roles of non-cognitive and cognitive skills in the life course development of adult health inequalities
Jennifer Carter,
University of Oxford

60 YEARS OF OUR LIVES

DAY 1	THURSDAY 8 MARCH 2018
12.55 – 13.45	**Lunch**

13.45 – 15.15 Parallel sessions 2A, 2B and 2C

SESSION 2A (Paget Room)	SESSION 2B (Worcester Room)	SESSION 2C (Prince's Room)
Adverse childhood experiences: a focus on maltreatment, disentangling associated developmental trajectories and long-term outcomes Chair: Christine Power, University College London	**A life course approach to neighbourhood effects** Chair: Paul Norman, University College London	**Recent mental health findings from the 1958 cohort** Chair: Praveetha Patalay, University of Liverpool
Are specific childhood maltreatments associated with adult living standards and health at age 50? Snehal Pinto Pereira, University College London	**Did more deprived neighbourhoods in childhood lead to worse self-rated health later in life for the 1958 and 1970 British birth cohorts?** Owen Nicholas, University College London	**Psychological distress over the life course in the UK: evidence from the 1946, 1958 and 1970 birth cohorts** Dawid Gondek, University College London
The economic costs of child maltreatment in the UK Gabriella Conti, University College London	**Testing for critical periods of neighbourhood effects across the life course on mid-to-later life health and wellbeing** Stephen Jivraj, University College London	**Early life mental health symptoms and objective health indicators in mid-life and early old age** George Ploubidis, University College London
Childhood maltreatments, physical development and cardiometabolic disease risk in mid-adulthood Leah Li, University College London	**Quantifying the importance of selective migration on neighbourhood effects** Emily Murray, University College London	**Childhood influences on happiness, cognitive functioning and wellbeing in early old age** Dick Wiggins, University College London
Are specific childhood maltreatments associated with child to adult cognition and mental health trajectories and with health-related behaviours in adulthood? Christine Power, University College London		**Lifetime poverty and unemployment and its cumulative effects on mental health in early old age** Praveetha Patalay, University of Liverpool

15.15 – 15:30	**Tea/coffee break and poster viewing**
15:30 – 17:00	**Plenary session:** **The life scientific: shaping the NCDS, and being shaped by it. Reflections from a distinguished panel**
17:00 – 19:00	**Drinks reception, networking, and poster viewing open to all**

Parallel sessions 1A, 1B and 1C

Day 1 • 11.25 – 12.55

SESSION 1A
The long term psychological and physiological consequences of childhood adversities: identifying exposures and pathways over the life course using the NCDS

Chair: Barbara Maughan, King's College, London

Session outline:

In this session three papers will be presented, each exploring how psychological and psychosocial exposures in childhood have a long term impact on both psychological and physiological health. Salient issues, such as the importance of type and timing of exposures, and plausible life course mechanisms, will then be raised by Professor Barbara Maughan (discussant) for discussion. The first paper studies the long term impact of childhood hyperactivity. The second paper examines the relationship between parental separation in childhood and inflammation in mid-life. The third paper brings together two analyses, to investigate pathways linking adverse childhood experiences, and physiological health in adulthood.

Optimising life course outcomes for children with hyperactivity: evidence from a prospective birth cohort

Speaker: Stephan Collishaw, Cardiff University
Co-authors: Jenny Stuart-Smith, Alishia Addicoat, Barbara Maughan, Ajay Thapar and Anita Thapar

The aims of this study were to investigate whether childhood hyperactivity is associated with adult mental health, ill health/mortality, and social outcomes, and to test early-life predictors of variation in outcomes. Childhood hyperactivity was associated with increased risk of early death, increased mood problems in adulthood, poor self-rated health, and pervasive impairments affecting three or more domains of social functioning at mid-life. Childhood hyperactivity is associated with long-lasting impairments affecting individuals' mental and self-rated physical health, and their social functioning. However, poor outcomes are not inevitable. Identifying potentially modifiable protective mechanisms will be important for informing strategies for enhancing preventive interventions.

Parental separation and inflammation in mid-life: the role of material and psychosocial mechanisms

Speaker: Rebecca Lacey, University College London

Co-authors: Meena Kumari and Anne McMunn

The objectives of this study were to investigate whether parental separation is associated with adult inflammation and to explore whether life course material and psychosocial pathways were important. Cohort members who experienced parental separation had higher CRP levels in mid-life compared to those who grew up with both parents. This association was explained by BMI, material and psychosocial life course mechanisms. Material disadvantage and educational attainment were found to be particularly important. Parental separation is associated with inflammation in mid-life via chains of disadvantage acting across the life course. By investigating the mechanisms involved, this study points towards potential points for intervention.

Adverse childhood experiences, psychological wear-and-tear and mortality: pathways towards chronic disease

Speaker: Michelle Kelly-Irving, Inserm & Université Toulouse III
Co-authors: Raphaele Castagné and Cyrille Delpierre

This study examines how psychosocial conditions in childhood may be associated with health outcomes in adulthood, including a physiological measure of health and

mortality. An overview of the results from two separate analyses suggests that adverse childhood conditions may become biologically embodied through the stress response system, as well as via health behaviours over the life course. A higher allostatic load score was associated with an increased risk of mortality. This association was mainly driven by inflammatory and cardiovascular processes. These results support evidence for the physiological embedding of psychosocial stress over the life course.

SESSION 1B
Cross-cohort research: current work and future plans from four early-mid career scientists

Chair: David Bann,
University College London

Session outline:
British birth cohort studies such as the NCDS provide rich data for both epidemiology and social science, and there is enormous potential value to be gained by working on multiple cohorts. For example, cross-cohort studies can investigate how longitudinal processes and relationships have changed over time, with respect to obesity and other health outcomes. There are however a number of important methodological and conceptual challenges involved in undertaking robust cross-cohort work. This session will explore these issues and the potential of future cross-cohort research. It includes presentations from three researchers who are starting to lead their own funded cross-cohort research in epidemiology. In addition, this session will feature a presentation on the impacts of early life exposure to air pollution.

The development, causes, and consequences of obesity: exploring heterogeneity using multiple birth cohorts

Speaker: Will Johnson,
Loughborough University

Longitudinal data from multiple birth cohorts are needed to 1) understand how the age-related process of obesity development might have changed over time, 2) investigate what factors might have been responsible for any secular trend, and 3) determine what the downstream consequences are for cardio-metabolic health. This talk will provide an overview of recently published, under-review, and currently-funded research on these topics using BMI data from the UK birth cohort studies that were harmonised as part of the CLOSER initiative.

Investigating long run trends in health inequality: evidence from British birth cohort studies

Speaker: David Bann,
University College London

This talk will provide an overview of recently published, under-review, and currently-funded research on understanding how health inequalities have changed in Britain in the later 20th and early 21st centuries. This will draw particularly on work examining inequalities in anthropometric outcomes such as childhood and adult BMI, via cross-cohort analyses using data from multiple British birth cohort studies.

How will the obesity epidemic influence healthy ageing?

Speaker: Snehal M Pinto Pereira,
University College London

This talk will provide an overview of recently published, under-review, and currently-funded research on understanding the changing burden of obesity across generations on physical and cognitive capabilities. It will also provide insight into understanding lifetime influences on obesity and health behaviours. It will draw on work investigating relationships between, and influences on, leisure-time physical activity, obesity and physical capability using data primarily from the 1958 British birth cohort. Plans for future cross-cohort work will also be discussed.

Impacts of early life exposure to pollution across childhood

Speaker: Claryn Kung,
London School of Economics
and Political Science
Co-authors: Jeroen Luyten,
Martin Knapp and Martin Rossor

This study estimates the effects of in utero exposure to air pollution on human capital development across childhood. Using 1958 data on atmospheric sulphur dioxide concentrations, we assess how being born in local authorities recording higher concentrations can impact cognitive outcomes, physical and mental health, along with special education and health service needs, of the NCDS cohort at ages 7, 11, and 16. After adjusting for local authority characteristics and parental socioeconomic background, we find that cohort members born in areas recording higher concentrations tend to show poorer cognitive outcomes. Little effect is seen for health-related outcomes and service use.

SESSION 1C
Children's social and emotional skills

Chair: Gabriella Conti,
University College London

Bias in perceptions of low-income children's behaviour: analysis using the Millennium Cohort Study

Speaker: Tammy Campbell,
London School of Economics

Low-income children are more likely to be excluded from school, as well as to be ascribed social, emotional and behavioural Special Educational Needs. It has been suggested that these inequalities may stem to some extent from systematic judgement biases. Analyses here explore whether there is evidence for this within the Millennium Cohort Study. By exploiting internal (in)consistencies in questionnaire responses, and by comparing responses to the same questions by teachers and parents of the same group of children, early results begin to indicate teachers as generally disproportionately likely to judge low-income children as having "difficulties," compared to equivalent higher-income peers.

Substitutability and complementarity in the production of child socio-emotional skills

Speaker: Gloria Moroni,
University of York
Co-authors: Cheti Nicoletti
and Emma Tominey

Using the UK Millennium Cohort Study, we estimate the production model of socio-emotional skills of children between ages 6 and 11, accounting for endogeneity in both socio-emotional skills

and parental inputs. We include four parental inputs as (i) harsh-sensitive parenting style, (ii) routines parenting style, (iii) time investment and (iv) family income. We estimate the model separately for boys and girls. Looking at boys, we find substitutability between socio-emotional skills at 6 and harsh-sensitive parenting in producing skills at age 11, i.e. harsh parenting is more harmful for low skilled children. On the other hand, we find complementarity between cognitive and socio-emotional skills at age 6 in producing socio-emotional skills at age 11. Among girls, on the contrary, we do not find any complementarity or substitutability in the production of socio-emotional skills.

Inequality in non-cognitive skills: a cross-cohort comparison

Speaker: Giacomo Mason,
University College London
Co-authors: Orazio Attanasio,
Richard Blundell and Gabriella Conti

Using the latest identification results in the literature, we assess measurement invariance to confirm that scales of mental health at age 5 for two cohorts of British children can be used to measure non-cognitive skills in a comparable way across two dimensions – internalising and externalising behaviour problems. We use scores derived from these scales to document

that socioeconomic inequality (as measured by family income) in early childhood non-cognitive ability has substantially increased between 1975 and 2005.

⬤ The roles of non-cognitive and cognitive skills in the life course development of adult health inequalities

Speaker: Jennifer Carter, University of Oxford
Co-authors: Marcus Richards, Matthew Hotopf and Stephani L Hatch

Previous research indicated that higher cognitive skill may protect against socioeconomic health inequalities, but what other protective factors might exist? Using the NCDS, higher non-cognitive skills (NCS) (i.e. work habits and prosocial behaviours) and cognitive skill at age 16 were examined with life course socioeconomic status (SES) and poor self-reported health at age 50. Stronger positive associations were seen between cognitive skill and adult SES than for NCS, although both skill types independently decreased the odds of poor health (OR: 0.85 [0.79,0.92] vs 0.80 [0.73,0.87], respectively). Considering this, NCS could be a target for policies aimed at ameliorating health inequalities.

Parallel sessions 2A, 2B and 2C

Day 1 • 13.45 – 15.15

SESSION 2A

Adverse childhood experiences: a focus on maltreatment (neglect and abuse), disentangling associated developmental trajectories and long-term outcomes in the 1958 British birth cohort

Chair: Christine Power, University College London

Session outline:
Research on adverse childhood experiences (ACEs) has highlighted the burden of cumulative experiences on adult outcomes. However, prevention strategies to alleviate poor outcomes will be informed by determining specificities and commonalities in pathways to long-term outcomes. Using the NCDS, we examined specific forms of maltreatment (neglect and abuse) to disentangle their associations, independent of other ACEs and other early influences on adult health (e.g. socioeconomic position). In order to build understanding of life course pathways to outcome, and thereby inform strategies to alleviate ill-effects, we examined childhood developmental trajectories (that may

impact later outcomes) and adult intermediary factors.

Are specific childhood maltreatments associated with adult living standards and health at age 50?

Speaker: Snehal Pinto Pereira, University College London

There are gaps in the evidence concerning the extent of child maltreatment effects on adult life and health outcomes and the underlying child-to-adult pathways. Using data from the NCDS, we aimed to establish associations of child maltreatment with adult living standards (e.g. income-related support), inter- and intra-generational social mobility to mid-adulthood and health outcomes (e.g. physical functioning). We assessed mediation of associations by cognition, educational attainment, mental health, smoking and socioeconomic position (as appropriate). Understanding potential differences in associations and underlying pathways for different types of maltreatment, need to be considered when designing potential intervention strategies.

The economic costs of child maltreatment in the UK

Speaker: Gabriella Conti, University College London
Co-authors: Steve Morris, Elena Pizzo and Mariya Melnychuk

Child maltreatment has wide-ranging and devastating long-term consequences. This is the first study that estimates the lifetime costs of child maltreatment in the UK. We studied a range of child maltreatment measures from the NCDS and the English Longitudinal Study of Ageing, and found that having experienced any form of child maltreatment was associated with worse mental health outcomes, smoking behaviour, alcohol use, lower probability of employment, and greater welfare dependence. We detected no robust effects of child maltreatment on most measures of physical health, heavy smoking and wages. We then calculated the lifetime costs per victim of child maltreatment, using published evidence and our new econometric analysis.

Childhood maltreatments, physical development and cardiometabolic disease risk in mid-adulthood

Speaker: Leah Li, University College London

It is well established that childhood maltreatments (abuse and neglect) are associated with adverse outcomes in late-life. Less is known about their long-term associations with physical development and adult cardiometabolic disease risks. Childhood maltreatment may occur in multiple forms. Using the NCDS, we investigated the

extent to which different forms of maltreatment co-occurred and associations of maltreatments with child-to-adult height, adiposity, pubertal development, and adult cardiometabolic markers.

Are specific childhood maltreatments associated with child to adult cognition and mental health trajectories and with health-related behaviours in adulthood?

Speaker: Christine Power, University College London

Effects of child maltreatment on child-to-adulthood cognition and related educational attainment are not well-understood. Using the NCDS, we aimed to establish whether different forms of child maltreatment were associated with poorer cognition and educational qualifications in childhood/adolescence and whether associations persist to mid-life, parallel to associations for mental health. As mental health and education level are linked to health-behaviours, we examined links between specific maltreatments and health behaviour in early and mid-adulthood. Understanding the cognitive, emotional health and behavioural trajectories associated with specific maltreatments might implicate particular pathways to later outcomes, including adult living standards and health function.

SESSION 2B
A life course approach to neighbourhood effects

Chair: Paul Norman, University College London

Session outline:
This session will demonstrate whether living in a disadvantaged neighbourhood in early life, matters more than at other stages of the life course, and whether accumulated neighbourhood disadvantage impacts on later life health and wellbeing. In doing so, the papers will demonstrate an advancement of the field of social epidemiology and health geography in the UK, which has not, at least until very recently, focused on the neighbourhood spatial scale over the life course.

Did more deprived neighbourhoods in childhood lead to worse self-rated health later in life for the 1958 and 1970 British birth cohorts?

Speaker: Owen Nicholas, University College London
Co-authors: Emily Murray, Paul Norman and Stephen Jivraj

We consider contemporary infant mortality and how it depends on area deprivation in England and Wales. Period-averages of mortality and decennial values of deprivation are available for lower super output areas (LSOAs, average count 1,500

people). We reconcile temporal mismatches in exposure and outcome data by use of time series methods, and impute long term area deprivation for use as a confounding factor. We find aspects of contemporaneous area deprivation to have an important association with infant mortality. Although we are unable to perform this analysis with regard to infant mortality in 1958, the year of birth of the NCDS, it is of note that simple measures of societal factors are associated with infant mortality in England and Wales in the present day.

Testing for critical periods of neighbourhood effects across the life course on mid-to-later life health and wellbeing

Speaker: Stephen Jivraj, University College London
Co-authors: Owen Nicholas, Emily Murray and Paul Norman

This paper uses linked neighbourhood data from the 1971-2011 censuses attached to two British birth cohort studies (the NCDS and the 1970 British Cohort Study). We aim to determine whether neighbourhoods matter more at certain points in the life course on wellbeing. We use cross-classified multilevel models, where individuals are nested within neighbourhoods at each adult sweep. Individuals and their neighbourhood of residence are cross-classified across study

sweeps due to residential mobility. We find that the variation at the neighbourhood level, accounts for a small amount of variation in wellbeing across the life course, and that the neighbourhood variation is fairly constant over the life course.

Quantifying the importance of selective migration on neighbourhood effects

Speaker: Emily Murray, University College London
Co-authors: Owen Nicholas, Paul Norman and Stephen Jivraj

Neighbourhood effects research is plagued by the inability to circumvent selection effects – the process of people sorting into neighbourhoods they can afford. In this paper we directly test this hypothesis by determining whether negative neighbourhood effects can be counterbalanced by moving to a less deprived area of residence, or whether movement is a selection effect of healthier people moving to less deprived places. We use data from the NCDS and the 1970 British Cohort Study. We start by testing selection by modelling movement to a more or less disadvantaged neighbourhood by health characteristics. We then model selected health and wellbeing outcomes, including and excluding movers and by including effects for type of move and length of residence in a deprived neighbourhood, to

better understand the importance of selective migration.

SESSION 2C
Recent mental health findings from the 1958 cohort

Chair: Praveetha Patalay, University of Liverpool

Session outline:
In this symposium, we present four papers that investigate, in the 1958 cohort, the development of mental health through the life course, the lifelong consequences of childhood mental ill-health and the childhood and working life predictors of mental health and quality of life in early old age.

Psychological distress over the life course in the UK: evidence from the 1946, 1958 and 1970 birth cohorts

Speaker: Dawid Gondek, University College London
Co-authors: George Ploubidis, Praveetha Patalay, Alissa Goodman and Marcus Richards

This paper addresses the level of symptoms of anxiety and depression experienced from childhood to adult life in men and women born in 1946, 1958 and 1970. Comparing these cohorts, we ask whether experiencing symptoms of anxiety and depression has increased, whether this increase

is homogenous to all stages of the life course, and if there are between cohort differences in the age distribution of these symptoms. The findings of this study potentially have important implications for public health policy in the UK, considering population ageing, and that depression is a leading cause of Disability-Adjusted Life Years.

Early life mental health symptoms and objective health indicators in mid-life and early old age

Speaker: George Ploubidis, University College London
Co-authors: Praveetha Patalay, Benedetta Pongiglione, Hugo Cogo, Martina Narayanan and Alissa Goodman

In this study we identified trajectories of early life symptoms of psychological distress (externalising and internalising symptoms at ages 7 to 16) in a population based prospective birth cohort, and investigated their association with objective measures of cardiometabolic risk in mid-life, disability in early old age (age 55) and all–cause mortality. We found that externalising and internalising symptoms in childhood/adolescence are associated with various biomarkers in mid-life, all-cause mortality (up to age 55) and disability at age 55. The effects were more pronounced in women.

Childhood influences on happiness, cognitive functioning and wellbeing in early old age

Speaker: Dick Wiggins, University College London
Co-authors: Brian Dodgeon, Praveetha Patalay and George Ploubidis

In this paper we examine the extent to which childhood influences an individual's health and wellbeing, using a broad range of health and wellbeing outcomes at age 50 years from the NCDS. Our analysis focuses on symptoms of mental disorder, quality of life, wellbeing, overall self-reported health and cognitive outcomes as measured at age 50 years. The analysis presents a novel way of untangling the differential impacts of early life factors, on a range of mental health and related outcomes, at an age where the cohort begin their journey into old age. Testable mechanisms in early adulthood through which these early life predictors impact on age 50 outcomes will be presented.

Lifetime poverty and unemployment and its cumulative effects on mental health in early old age

Speaker: Praveetha Patalay, University of Liverpool
Co-authors: Samantha Parsons and Alissa Goodman

In this paper we examine how experiences, especially of economic hardship through working lives, affect mental ill-health and wellbeing in early old age. The paper investigates the effects of persistent and intermittent experiences of poverty and unemployment through adult life and examine its impact on mental health at ages 50 and 55 in the NCDS. In these analyses we account for childhood risk factors, including mental health, cognitive ability and social class. We also examine the effects of partnerships through adulthood in mitigating the impact of poverty and unemployment through adulthood.

Full programme: day 2

DAY 2	FRIDAY 9 MARCH 2018
09:00 – 09:30	**Registration and refreshments**
09:30 – 10:55	**Parallel sessions 3A, 3B and 3C**

SESSION 3A
(Paget Room)

Life course predictors of wellbeing, health and mortality: evidence from two national studies of adulthood
Chair: Jennifer Maggs,
Pennsylvania State University

Life course socioeconomic status, exposure and vulnerability to daily stressors, and daily wellbeing: examining chain of risk models
Agus Surachman,
Pennsylvania State University

Understanding childhood risk factors for patterns of distress, alcohol use and smoking in adulthood
Yuen Wai Hung,
Pennsylvania State University

Changes in alcohol use from age 23 to 55 in the NCDS: within-person links with physical and psychological wellbeing
Jennifer Maggs,
Pennsylvania State University

Emotional reactivity to daily stressors predicts 20-year risk of mortality
David Almeida,
Pennsylvania State University

SESSION 3B
(Worcester Room)

A data driven approach for predicting non-response in longitudinal surveys: implications for missing data handling and sample representativeness
Chair: George Ploubidis,
University College London

A data driven approach to maximise the plausibility of missing at random (MAR)
George Ploubidis,
University College London

Maintaining sample representativeness by maximising the plausibility of MAR
Benedetta Pongiglione and Brian Dodgeon,
University College London

Multiple imputation with MAR maximised: the CLS missing data strategy user guide
Martina Narayanan,
University College London

Comparability of characteristics of 1958 and 1970 birth cohort data with linked census ONS Longitudinal Study respondents born in 1958 and 1970
Nicola Shelton,
University College London

SESSION 3C
(Murrell Barnes Suite)

Inequality and social mobility
Chair: Alice Sullivan,
University College London

The intergenerational transmission of socioeconomic status: a comparison of the British 1958 and 1970 cohorts
Alice Sullivan,
University College London

Gender inequality in the pay of people born in 1958
Heather Joshi,
University College London

Home ownership and social mobility
Jo Blanden,
University of Surrey

Does selection by ability in secondary schooling affect future health and wellbeing of those who do not make the cut?
Chiara Pastore,
University of York

60 YEARS OF OUR LIVES

DAY 2	FRIDAY 9 MARCH 2018
10:55 – 11:15	**Tea/coffee break and poster viewing**
11:15 – 12:45	**Parallel sessions 4A, 4B and 4C**

SESSION 4A (Paget Room)	**SESSION 4B** (Worcester Room)	**SESSION 4C** (Murrell Barnes Suite)
Frontiers in biological science Chair: Gabriella Conti, University College London	**Family and fertility** Chair: Morag Henderson, University College London	**Lifelong determinants of health and wellbeing** Chair: Anne McMunn, University College London
Genetic sensitivity to environmental influences across the life course Michael Pluess, Queen Mary University of London	**The kids are alright: the rise in non-marital births and child wellbeing** Christina Gibson Davis, Duke University	**Sexual lifestyles and wellbeing for those in their 60s** Clare Littleford, NatCen Social Research
Cross-sectional and longitudinal changes in DNA methylation with age across four UK population-based cohorts Jordana Bell, King's College London	**Fertility history and biomarkers using prospective data** Maria Sironi, University College London	**Psychosocial predictors of asthma onset during mid-adulthood** Cathie Hammond, University of Essex
DNA methylation and early life adversity Matthew Suderman, University of Bristol	**Family structure and physical activity** Benedetta Pongiglione, University College London	**Work and partnership life courses as predictors of caregiving in mid-life** Anne McMunn, University College London
	Describing 'first in the family' university graduates in England Morag Henderson, University College London	**The long-lasting effects of family and childhood on adult wellbeing: evidence from British cohort data** Warn Lekfuangfu, Chulalongkorn University, Thailand

12:45 – 13:30	**Lunch**
13:30 – 15:00	**Parallel sessions 5A, 5B and 5C**

SESSION 5A (Paget Room)	**SESSION 5B** (Worcester Room)	**SESSION 5C** (Murrell Barnes Suite)
Linguistic fingerprints across the whole of life: analysing the language used in childhood essays and its predictive power for the future Chair: Alissa Goodman, University College London	**Mental health across the life course and cognitive ageing: new evidence from the British birth cohorts** Chair: Darya Gaysina, University of Sussex	**Health and economic inequalities** Chair: George Ploubidis, University College London

Full programme: day 2 continued

DAY 2	FRIDAY 9 MARCH 2018		
13:30 – 15:00	**Parallel sessions 5A, 5B and 5C continued**		
	Using childhood essays to predict physical and mental health across the lifespan Margaret L. Kern, University of Melbourne	**Lifetime case-level affective problems and later-life cognitive state: over 50 years of follow-up in a British birth cohort study** Sarah Naomi James, University College London	**A multilevel structural equation model to estimate the effects of multiple dimensions of childhood socioeconomic circumstances on mid-life health** Yajing Zhu, London School of Economics and Political Science
	Intergenerational social mobility in the NCDS: Can an essay written at age 11 predict who moves up or down the social ladder? Alissa Goodman, University College London	**Affective problems across the life course and mid-life cognitive capability: evidence from the NCDS** Amber John, University of Sussex	**Evidence on the causal effect of education on chronic health conditions in the UK** Michael Shields, Monash University
	Using childhood essays to predict cognitive ability and decline in mid-life Martina Narayanan, University College London	**Cognitive vulnerability and resilience to common mental health disorders: the role of childhood general cognitive ability and educational attainment** Darya Gaysina, University of Sussex	**Measuring inequities in health over the lifecycle: age-specific or lifecycle perspective?** Florence Jusot, University Paris-Dauphine
	Possible and actual selves: do children's expectations about future physical activity predict their adult activities? Benedetta Pongiglione and JD Carpentieri, University College London	**Lifetime antecedents of cognitive state: seven decades of a birth cohort study** Marcus Richards, University College London	**Understanding the mechanisms through which adverse childhood experiences affect lifetime economic outcomes** Stefanie Schurer, University of Sydney
15:00 – 15:20	**Tea/coffee break and poster viewing**		
15:20 – 16:20	**Plenary session: Funding priorities, past and future** (Paget Room)		
16:25 – 17:25	**Plenary session: Keynote by Professor Sir Richard Blundell Education and earnings: insights from the NCDS** (Paget Room)		
17:25 – 17:45	**Prize ceremony and concluding remarks by Alissa Goodman** (Paget Room)		

60 YEARS OF OUR LIVES

Parallel sessions 3A, 3B and 3C

Day 2 • 09.30 – 10.55

SESSION 3A

Life course predictors of wellbeing, health and mortality: evidence from two national studies of adulthood

Chair: Jennifer Maggs, Pennsylvania State University

Session outline:
Psychological wellbeing, health behaviours, physical health, and mortality in middle adulthood originate in complex processes unfolding across the life course. This session will feature four related papers which use data from two ongoing national longitudinal studies – the UK NCDS and the US Midlife in the United States (MIDUS) study. We will examine childhood predictors of adult drinking, smoking, daily stressors and mental health; within-person links of substance use and health across ages 23 to 42; and daily stressor reactivity as a predictor of mortality. Cutting edge analyses will use longitudinal data spanning ages 7 to 74 to illustrate the enduring impact of long-term studies.

Life course socioeconomic status, exposure and vulnerability to daily stressors, and daily wellbeing: examining chain of risk models

Speaker: Agus Surachman, Pennsylvania State University
Co-author: David Almeida

This paper models the chain of risk of life course socioeconomic status (SES) and exposure and vulnerability to daily stressors on influencing daily wellbeing. The main survey and the daily diary project of MIDUS Refresher study are combined (782 participants, ages 25-75 years). We contrast the chain of risk trigger effect versus chain of risk additive models using multilevel structural equation modelling (MSEM). Childhood SES is directly and indirectly (through education, adult SES, and exposure and vulnerability to daily stressors) associated with daily wellbeing, especially daily physical symptoms and daily negative affect.

Understanding childhood risk factors for patterns of distress, alcohol use and smoking in adulthood

Speaker: Yuen Wai Hung, Pennsylvania State University
Co-authors: Bethany C. Bray and Jennifer Maggs

This study estimated the associations between childhood internalising behaviours, externalising behaviours, ACEs, and long-term patterns of subsequent distress, drinking, and smoking in early to mid-adulthood. We identified distinct patterns of distress, alcohol use, and cigarette use across ages 23-42 in the NCDS using repeated-measures latent class analysis. Results from preliminary analyses found that childhood internalising behaviour was associated with membership in the class with high and increasing distress, whereas externalising behaviour was associated with membership in the class with long-term heavy drinking and smoking.

Changes in alcohol use from age 23 to 55 in the NCDS: within-person links with physical and psychological wellbeing

Speaker: Jennifer Maggs, Pennsylvania State University
Co-author: Jeremy Staff

Contributing to scholarly and public debates about alcohol's health impacts, we use NCDS data (ages 23 to 55) to model within-person fluctuations in alcohol use and abstention as they co-varied with proximal changes in self-reported health and wellbeing. Independent of gender, age, education, smoking, and unobserved time-stable factors, cohort members reported better health and lower psychological distress on occasions they drank within lower-risk guidelines

(compared to occasions exceeding lower-risk guidelines, abstaining, or drinking infrequently). Because it is more plausible that poor health reduces concurrent drinking than abstention harms health immediately, results support increasing scepticism about health risks of alcohol abstention.

Emotional reactivity to daily stressors predicts 20-year risk of mortality

Speaker: David Almeida, Pennsylvania State University
Co-author: Nancy Sin

This study examined emotional reactivity to stressors in everyday life as a predictor of mortality. Participants were 1,248 adults aged 24-74 from the National Study of Daily Experiences, a substudy of MIDUS. At baseline (1996-1997), participants reported emotions and stressors during 8 days of telephone interviews. There were 202 deaths (16%) over 17.8 years. Heightened negative emotional reactivity to daily stressors predicted elevated risk of all-cause mortality, adjusting for age, daily stressor frequency, and negative affect. Findings demonstrate that an 8-day snapshot of stress reactivity patterns has implications for survival years into the future.

SESSION 3B
A data driven approach for predicting non-response in longitudinal surveys: implications for missing data handling and sample representativeness

Chair: George Ploubidis, University College London

Session outline:
Capitalising on the rich data available on the NCDS before study members attrite, we have implemented a systematic data driven approach consisting of a series of multivariable regressions as well as machine learning algorithms. We will present three papers focusing on the data driven variable selection of predictors of non-response and on the implications of our approach for sample representativeness related to the composition of the original sample at birth and the known population distribution of key variables in the NCDS. We will also present an example of how multiple imputation can be used simultaneously with negative controls.

A data driven approach to maximise the plausibility of missing at random (MAR)

Speaker: George Ploubidis, University College London
Co-authors: Benedetta Pongiglione, Brian Dodgeon, Maria Sironi and Martina Narayanan

We describe a three-step data driven approach that allowed us to empirically identify all possible predictors of wave specific non-response in all available waves of the 1958 cohort. We employed univariate and multivariable logistic regression models and machine learning algorithms within the context of sequential multiple imputation that allowed us to appropriately handle non monotone missing data patterns. Our approach allowed us to empirically identify all systematic information that maximises the plausibility of the MAR assumption in the 1958 British birth cohort.

Maintaining sample representativeness by maximising the plausibility of MAR: evidence from the 1958 British birth cohort

Speakers: Benedetta Pongiglione and Brian Dodgeon, University College London
Co-authors: Maria Sironi and Martina Narayanan

Having systematically identified the predictors of response in all waves of the NCDS, we ask whether maximising the plausibility of the MAR assumption is adequate to maintain the characteristics of the original (without attrition) sample as well as its representativeness of the target population in later waves of the study where significant (>40%) unit non-response has occurred. Our findings

show that after maximising the plausibility of the MAR assumption in the 1958 cohort, we were able to recover the original distributions of the birth survey for paternal occupation social class at birth and the known population distribution of marital status at age 55.

Multiple imputation with MAR maximised: the CLS missing data strategy user guide

Speaker: Martina Narayanan, University College London
Co-authors: Benedetta Pongiglione, Brian Dodgeon and Maria Sironi

We will present an example, using NCDS data, on the association between fertility behaviour and biomarkers in mid-life. We will show how rich imputation models can be achieved by adding to the variables in the substantive model auxiliary information identified by a systematic data driven approach. We will also show how multiple imputation can be used in conjunction with negative controls in an approach that simultaneously deals with missing data bias and unmeasured confounding. All examples will be presented in easy to follow annotated Stata code.

Comparability of characteristics of 1958 and 1970 birth cohort data with linked census ONS Longitudinal Study respondents born in 1958 and 1970

Speaker: Nicola Shelton, University College London
Co-authors: Rachel Stuchbury, Oliver Duke-Williams and CeLSIUS Team

Preliminary analysis of the 1970 British Cohort Study members present in 2012, and those in the linked census sample born in 1970 and present in 2011, has shown comparability for a range of demographic and socioeconomic indicators. This analysis extends the comparison to include data from those who took part in the NCDS 2013 sweep and those in the linked census sample born in 1958 and who were present in 2011.

SESSION 3C
Inequality and social mobility

Chair: Alice Sullivan, University College London

The intergenerational transmission of socioeconomic status: a comparison of the British 1958 and 1970 cohorts

Speaker: Alice Sullivan, University College London
Co-authors: Samantha Parsons, Rodrigo Torres, Francis Green, George Ploubidis and Dick Wiggins

While much attention has been devoted to measuring levels of social mobility over time, relatively little attention has been given to the possibility of changing pathways to social mobility. This paper examines pathways from social origins to socioeconomic destinations in mid-life for the 1958 and 1970 cohorts, examining earnings, social class, and wealth as outcomes. We address the question of whether educational pathways to socioeconomic destinations have increased in importance, and whether the pathways to socioeconomic destinations differ when considering income, earnings or wealth.

Gender inequality in the pay of people born in 1958

Speaker: Heather Joshi, University College London
Co-authors: Alex Bryson, David Wilkinson and Kelly Ward

This paper describes how the pay gap between men and women evolved between the 1980s and 2010s, a period of economic change and equal opportunity policies, through which the 1958 cohort passed their employment careers to their mid-50s. We investigate how gender differences in the wages of the cohort – widening to mid-life – can be accounted for by education, employment history, part-time status and parenthood. We compare these results with those found on the 1946 cohort and the 1970 cohort up to their early 40s. NCDS also provides additional evidence on a narrowing of the gender pay gap after age 50.

Home ownership and social mobility

Speaker: Jo Blanden, University of Surrey
Co-authors: Andrew Eyles and Stephen Machin

This paper investigates intergenerational links in home ownership, a marker of wealth. Home ownership rates have recently fallen rapidly in the UK, in particular among younger people. We investigate the relationship between home ownership among parents and children in the 1958 and 1970 British birth cohorts. We find that home ownership for 42 year olds from the 1970 birth cohort (in 2012) shrunk disproportionately among those whose parents did not own their own home when they were children. We relate this to other measures of wealth and use US data from the Panel Study of Income Dynamics (PSID) to provide a comparison in a country where changes in the housing market have been less pronounced.

Does selection by ability in secondary schooling affect future health and wellbeing of those who do not make the cut?

Speaker: Chiara Pastore, University of York
Co-authors: Andrew M Jones and Nigel Rice

This paper explores the effect of selection by ability in secondary schooling on adult health and wellbeing, adding a piece of evidence to the current policy debate on the reintroduction of selective schools in England. We estimate two separate treatment effects: that of going to a high-ability selective school (grammar), and that of going to a low-ability school (secondary modern), compared to going to a mixed-ability one (comprehensive). The data, from the NCDS, is first pre-processed through matching, and then analysed via IV methods, in order to address selection bias. Attendance at grammar or secondary modern does not appear to affect health later in life, compared to attending comprehensive. Childhood cognitive and non-cognitive abilities, conversely, are significant predictors of health and wellbeing in adulthood.

Parallel sessions 4A, 4B and 4C

Day 2 • 11.15 – 12.45

SESSION 4A
Frontiers in biological science

Chair: Gabriella Conti, University College London

Genetic sensitivity to environmental influences across the life course

Speaker: Michael Pluess, Queen Mary University of London
Co-author: Robert Keers

People differ in how strongly they respond to the world around them with some being more affected by experiences they make than others. This observation suggests that people vary in their sensitivity to environmental influences. According to recent research, such differences in environmental sensitivity have a genetic basis: some people are more or less affected by their environment due to genes that make them more or less sensitive. This talk will introduce the theoretical background and present new research findings on the genetics of environmental sensitivity based on data from the NCDS.

Cross-sectional and longitudinal changes in DNA methylation with age across four UK population-based cohorts

Speaker: Jordana Bell, King's College London
Co-authors: Juan E Castillo-Fernandez, Jane Maddock, Alissa Goodman, Rebecca Hardy, Diana Kuh, George Ploubidis, Ana Valdes, and Andrew Wong

Epigenetic mechanisms, such as DNA methylation, have been identified to change with age, but their effect on health has not been explored extensively. We profiled genome-wide DNA methylation in whole blood samples from 1000 individuals from three UK birth cohorts (NSHD, NCDS, and BCS70), using the Infinium MethylationEPIC BeadChip. Initial analyses of genome-wide autosomal methylation revealed a significant effect of age on global methylation (p=0.006). Ongoing work explores the association between DNA methylation and chronological age, as well as ageing outcomes such as cognitive and cardio-metabolic function using a cross-sectional and longitudinal study design within and across cohorts.

DNA methylation and early life adversity

Speaker: Matthew Suderman, University of Bristol

The 1958 NCDS was one of the first cohort studies to generate DNA methylation profiles to investigate DNA methylation as a possible mechanism mediating the effects of early life adversity on later health outcomes. Since then many other studies have followed its example. In this presentation I will review the findings of these studies, discuss their potential utility and limitations, describe new studies in progress, and present some future directions.

SESSION 4B
Family and fertility

Chair: Morag Henderson, University College London

The kids are alright: the rise in non-marital births and child wellbeing

Speaker: Christina Gibson Davis, Duke University

This study tests the hypothesis that an increased fraction of children born non-maritally has led to aggregate declines in child wellbeing. US and UK data both indicate that the non-marital fertility ratio (NMFR) does not correlate well with adverse child outcomes; indeed, the majority of results suggest that as the NMFR has increased, aggregate child outcomes have improved. Analyses of three British cohort studies suggest that children born to unmarried parents

have higher outcomes than they once did, but continue to lag behind children born to married parents. I conclude that the attention given to the NMFR may be overstated.

Fertility history and biomarkers using prospective data

Speaker: Maria Sironi, University College London
Co-authors: Emily Grundy and George Ploubidis

Previous research on possible later life health implications of fertility history has predominantly considered associations with mortality or self-reported indicators of health. Using the NCDS, we study the relationship between fertility histories and biomarkers for cardiovascular disease and respiratory function. Results show that there is a relationship between fertility histories and these objective indicators of health, and key associations are with age at first and at last birth, rather than with number of children. Specifically, there is an inverted J-shape relationship between age at first birth and biomarkers, with worse outcomes for very young ages.

Family structure and physical activity

Speaker: Benedetta Pongiglione, University College London
Co-authors: Mark Hamer, David Bann, Alice Sullivan and George Ploubidis

Engagement in physical activity tends to decrease in adult age. To answer why this may occur, we study how life-course events affect physical activity focusing on family structure and relations. We hypothesise that family relationships can reduce the time individuals have for themselves, and therefore to do physical activity. We use NCDS data to investigate whether changes in marital and parental status, as well as looking after own parents, influences changes in level of physical activity, using fixed effects model. Results show limited influence of family structure on physical activity, with individuals married/cohabiting and helping parents more likely to be inactive.

Describing 'first in the family' university graduates in England

Speaker: Morag Henderson, University College London
Co-author: Nikki Shure

The policy discussion about 'widening participation' in UK higher education has expanded beyond traditional socioeconomic gaps to identifying 'first in the family to attend university' students as a specific form of disadvantage. 'First in Family' (FiF) refers to students who attend university (and obtain a degree), but whose mother and father did not. This paper will shed light on the characteristics and choices of FiF students and how well the FiF measure proxies existing

measures of disadvantage, using nationally representative data from England.

SESSION 4C
Lifelong determinants of health and wellbeing

Chair: Anne McMunn, University College London

Sexual lifestyles and wellbeing for those in their 60s

Speaker: Clare Littleford, NatCen Social Research
Co-authors: David Lee and Soazig Clifton

Our paper will present data from the English Longitudinal Study of Ageing, examining patters of sexual activity for those in their 60s. Previous research has demonstrated that within the context of a partnered relationship, continuing sexual desire, activity and functioning are associated with higher subjective wellbeing among both women and men. These are important findings as reduced subjective wellbeing is associated with an increased risk of premature mortality, coronary heart disease, diabetes, disability, and other chronic disorders.

Psychosocial predictors of asthma onset during mid-adulthood: evidence from the NCDS

Speaker: Cathie Hammond, University of Essex

This paper provides evidence about whether and how adversities (exposures likely to predict negative outcomes) and psychological factors predict adult onset asthma. Data from the NCDS were used and asthma onset was measured during mid-adulthood (ages 33-42). Using multiple imputed datasets, logistic regression analyses were conducted and nested models estimated to identify salient predictors of adult onset asthma. Asthma onset was predicted independently by female gender, atopic history, life course adversity, internalising childhood temperament and depressive symptoms at 33. The findings highlight the importance of psychosocial factors for adult onset asthma and beg questions about the mechanisms involved.

Work and partnership life courses as predictors of caregiving in mid-life

Speaker: Anne McMunn, University College London
Co-authors: Rebecca Lacey and Elizabeth Webb

We investigate whether work and partnership life courses predict likelihood of providing care to a parent or parent-in-law in mid-life, and whether these associations differ by gender or early socioeconomic circumstances. Fully-adjusted models showed that strong life course ties to marriage were linked with a greater likelihood to provide parental care for both men and women. The longer women spent in part-time employment, the more likely they were to provide care to a parent while stronger life course ties to full-time employment were linked with a greater likelihood of providing care to a parent for men.

The long-lasting effects of family and childhood on adult wellbeing: evidence from British cohort data

Speaker: Warn Lekfuangfu, Chulalongkorn University, Thailand
Co-authors: Sarah Flèche and Andrew E. Clark

To what extent do childhood experiences continue to affect adult wellbeing over the life course? Previous work on this link has been carried out either at one particular adult age or for some average of adulthood. We here used two British birth cohort datasets (the 1958 NCDS and the 1970 British Cohort Study) to map out the time profile of the effect of childhood on adult outcomes, including life satisfaction. We find that the effect of many aspects of childhood do not fade away over time, but are rather remarkably stable. In both birth cohorts, child non-cognitive skills are the strongest predictors of adult life satisfaction at all ages. Of these, emotional health is the strongest. Childhood cognitive performance is more important than good conduct in explaining adult life satisfaction in the earlier cohort, whereas this ranking is inverted in the more recent cohort.

Parallel sessions 5A, 5B and 5C

Day 2 • 13.30 – 5.00

SESSION 5A

Linguistic fingerprints across the whole of life: analysing the language used in childhood essays and its predictive power for the future

Chair: Alissa Goodman, University College London

Session outline:
In this session we present findings from a new project in which we digitally transcribed all 10,500 available essays written by members of the NCDS when they were age 11 in 1969. The children were asked: 'Imagine you are now 25 years old. Write about the life you are leading, your interests, your home life and your work at the age of 25'. Machine learning tools have been applied to extract topics and other linguistic features from the essays, which we have then used in models to see which are predictive of the study members' future life outcomes, including their health, physical activity, cognition and social mobility.

Using childhood essays to predict physical and mental health across the lifespan

Speaker: Margaret L. Kern, University of Melbourne
Co-authors: H. Andrew Schwartz, Alissa Goodman and Martina Narayanan

Language can be a marker of attitudes, emotions, and behaviours, which develop and coalesce over time into what may be healthier or less healthy lifestyle patterns. The NCDS provides a unique opportunity to link language and health. Using language variables derived from age 11 essays and multivariable regression and machine learning approaches, this paper explores linguistic predictors of subjective and objective physical and mental health across the lifespan. Results and implications will be presented at the symposium.

Intergenerational social mobility in the NCDS: Can an essay written at age 11 predict who moves up or down the social ladder?

Speaker: Alissa Goodman, University College London
Co-authors: Martina Narayanan, H. Andrew Schwartz and Margaret L. Kern

This paper explores whether language variables derived from age 11 essays in the NCDS can predict upward or downward intergenerational social mobility, and whether they do so above and beyond what the NCDS survey variables can explain. Social mobility was examined in three different domains (income, social class, home ownership). Language variables included latent topics (open-vocabulary content analysis), as well as specific 'linguistic traits' which were derived by machine learning algorithms. A series of multivariable regression analyses was used to answer our research questions. Results will be presented and discussed at the symposium.

Using childhood essays to predict cognitive ability and decline in mid-life

Speaker: Martina Narayanan, University College London
Co-authors: H. Andrew Schwartz, Margaret L. Kern and Alissa Goodman

The current paper explores whether language variables derived from age 11 essays in the NCDS can predict cognitive ability and decline at age 50, and whether they do so above and beyond what the NCDS survey variables can explain. Cognitive test scores at age 11 and 50 were standardised and combined into a cognitive ability score at each time point. Language variables included latent topics, as well as specific

'linguistic traits' which were derived by machine learning algorithms. A series of multivariable regression analyses was used to answer our research questions. Results will be presented and discussed at the symposium.

Possible and actual selves: do children's expectations about future physical activity predict their adult activities?

Speakers: Benedetta Pongiglione and JD Carpentieri,
University College London
Co-authors: H. Andrew Schwartz, Margaret L. Kern and Alissa Goodman

We study whether children's expectations about future physical activity predict their adult activities, using the content of approximately 10,500 essays written by NCDS participants at age 11. We have two primary objectives: 1) Identify factors associated with 'possible active selves' as imagined at age 11; and 2) Assess the relationship between projections of physical activity at 25 with their self-reported physical activity data over the course of their lives. We use quantitative content analysis to measure mentions of physical activity in the age 11 essays and combine qualitative analyses to understand determinants of physical activity expectations and their relationship with future physical activity.

SESSION 5B
Mental health across the life course and cognitive ageing: new evidence from the British birth cohorts

Chair: Darya Gaysina,
University of Sussex

Lifetime case-level affective problems and later-life cognitive state: over 50 years of follow-up in a British birth cohort study

Speaker: Sarah Naomi James,
University College London
Co-authors: Daniel Davis, Celia O'Hare, Nikhil Sharma, Amber John, Darya Gaysina, Rebecca Hardy, Diana Kuh and Marcus Richards

Data from the MRC National Survey of Health and Development (NSHD) were used to investigate whether case-level affective categories, spanning ages 13-69, and incidence affective categories (early-life (≤age 53) and/or late-life (≥age 60)), were associated with lower cognitive function (ACE-III and verbal memory and letter search scores) at age 69. Results show that recurrent, cumulative, lifetime affective problems predict poorer later-life cognitive state.

Affective problems across the life course and mid-life cognitive capability: evidence from the NCDS

Speaker: Amber John,
University of Sussex
Co-authors: Urvisha Patel, Sarah-Naomi James, Jennifer Rusted, Marcus Richards and Darya Gaysina

Data from the NCDS were used to explore how affective symptoms present at age 23, 33, 42, and 50, as well as life course accumulation of affective episodes, were associated with cognitive test scores on memory, verbal fluency, and information processing speed assessed at age 50. Results revealed that the presence of case-level affective problems, more severe affective symptoms, and greater accumulation of affective episodes were all significantly associated with poorer mid-life memory function, even after adjusting for sex, childhood cognition, childhood socioeconomic status, adult socioeconomic status, and highest educational attainment.

Cognitive vulnerability and resilience to common mental health disorders: the role of childhood general cognitive ability and educational attainment

Speaker: Darya Gaysina,
University of Sussex
Co-authors: Amber John, Hollie Smith and Marcus Richards

Using data from the NCDS, we explored the effects of childhood

general cognitive ability and educational attainment on mid-life cognitive resilience in relation to common mental health disorders, while taking into account variations in life course experiences of these disorders. Our findings demonstrate that higher levels of childhood general cognitive ability and educational attainment are related to resilience in three cognitive domains: memory, verbal fluency and information processing speed.

Lifetime antecedents of cognitive state: seven decades of a birth cohort study

Speaker: Marcus Richards, University College London
Co-authors: Mai Stafford, Nikhil Sharma, Mark Rawle, Sarah-Naomi James, Daniel Davis and Diana Kuh

Little is known about the life course determinants of cognitive state. We used path modelling in the British 1946 birth cohort to test direct and indirect associations between APOE, childhood and mid-life socioeconomic position, childhood cognition, education, mid-life verbal ability (NART), and the Addenbrooke's Cognitive Examination (ACE-III). The strongest influences on the ACE-III were from the NART, and from childhood cognition. We conclude that the ACE-III shows a pattern of life course antecedents that is similar to normative

measures of cognitive function, and can represent general cognitive ageing as well as a screen for cognitive impairment and dementia.

SESSION 5C
Health and economic inequalities

Chair: George Ploubidis, University College London

A multilevel structural equation model to estimate the effects of multiple dimensions of childhood socioeconomic circumstances on mid-life health, mediated by partnership stability over the life course

Speaker: Yajing Zhu, London School of Economics and Political Science
Co-authors: Fiona Steele and Irini Moustaki

We construct a multilevel structural equation model to estimate the impacts of four latent dimensions of childhood socioeconomic circumstances on health in mid-life. After correcting for measurement error and misclassification, results suggest that the lack of material sufficiency (low social class, financial and material difficulties) has a major and persistent influence while the impact of family instability on later health mainly operates indirectly via cohort members' own partnership situations.

Evidence on the causal effect of education on chronic health conditions in the UK

Speaker: Michael Shields, Monash University
Co-authors: Katharina Janke, David W. Johnston and Carol Propper

While there is considerable evidence that education is strongly associated with better health outcomes, the results from studies that have used educational policy reforms to isolate causal effects are much less clear. Moreover, most evidence comes from studying changes in the minimum school leaving age, thus focusing only on the potential long-term health effects of increased schooling at the lower end of the attainment spectrum. We analyse a very large dataset for the UK, and focus on two major educations reforms – one that impacted on increasing the lower end of educational attainment, and the other that affected the broader educational attainment distribution. Our large sample allows for more precise estimates, with our focus being to provide the most detailed evidence to date for the causal effect of education on a comprehensive range of common chronic health conditions.

Measuring inequities in health over the lifecycle: age-specific or lifecycle perspective?

Speaker: Florence Jusot, University Paris-Dauphine
Co-authors: Damien Bricard, Alain Trannoy and Sandy Tubeuf

This paper compares inequality of opportunities in health over the lifecycle from two alternative perspectives, an age-specific and a lifecycle perspective. The concept of inequality of opportunities distinguishes between the share of inequality due to factors for which the individual can be held responsible, and the share that stems from factors beyond the individual's control. We use repeated measures of self-assessed health and death in NCDS to illustrate differences between the two perspectives. We show strong inequalities of opportunities in health related to the region of birth over lifetime. This is particularly striking in the context of the NHS.

Understanding the mechanisms through which adverse childhood experiences affect lifetime economic outcomes

Speaker: Stefanie Schurer, University of Sydney
Co-author: Kristian Trajkovski

This is the first study to quantify the economic penalties of ACEs and identify their underlying mechanisms. We source data from the NCDS to construct an ACE index based on prospective childhood information. We estimate an earnings penalty of 7.3 percent for each additional ACE, and a 53.1 (34.0) percent higher probability of being welfare dependent (subjectively poor) at age 55, controlling for economic background factors. The associations are driven by parental neglect, a component of the ACE index based on teacher assessments. Observed differences in earnings between children with and without neglect exposure can be fully explained by their observable differences in human and health capital accumulated by young adulthood.

Poster presentations

In alphabetical order, by surname

Exploring the relationship between sociodemographic factors and mental health outcomes in young people aged 14 in the UK Millennium Cohort Study

Presenter: Gargie Ahmad, London School of Hygiene & Tropical Medicine

Lifetime mental health problems often manifest by adolescence; socioeconomically disadvantaged groups are more likely to suffer problems. In the UK, there is evidence of resilience to mental health problems in young people from some ethnic minority groups, or lack of disadvantage despite greater socioeconomic adversity in others. This project explored risk and resilience factors behind these inequalities, using Millennium Cohort Study age 14 survey data. Socioeconomic status obscures resilience factors for mental health in some ethnic minority groups; these inequalities are partly explained by social factors. Social interventions could foster young people's resilience to mental health problems, irrespective of ethnicity.

The association between mode of delivery at birth and wheezing trajectories: evidence from the UK Millennium Cohort Study

Presenter: Neora Alterman, University of Oxford

Delivery by caesarean section is a risk factor for child's asthma and wheezing. However, this effect may differ for various phenotypes of asthma. We investigated mode of delivery's association with particular wheezing trajectories of childhood. Data was drawn from the UK Millennium Cohort Study from infancy to ages 3, 5, 7 and 11, and utilised to examine transient, persistent and late-onset wheezing. The findings showed a marginally significant 30 per cent increase in risk for persistent wheezing in children born by planned caesarean, compared with vaginal delivery, but not in other trajectory types or in children born by other modes of birth.

Causal-defined effects of birth weight on adolescents' reading comprehension via their childhood verbal cognition: evidence of indirect effect from the NCDS British cohort

Presenter: Anderson R. Da Silva, Federal University of São Paulo – UNIFESP, Brazil

We used mediation analysis under counterfactual approach, evaluating the causal effects of birth weight on reading comprehension skills in adolescence via verbal cognitive skills measured in childhood using data from the NCDS 1958 cohort. These counterfactual-based effects were formulated by Robins and Greenland (1992) and Judea Pearl (2001). Macros and implementation codes are now available for different softwares, such as Mplus, Stata (commands paramed and ldecomp), SPSS, and SAS. They estimate the counterfactual-based direct and indirect effects from regression models under certain assumptions, such as non-confounding and correct specification of the statistical models. We found a strong indirect effect where 91 per cent of the indirect effect on reading comprehension was explained throughout childhood verbal cognition, even after added different confounders.

Is cancer risk at older ages associated with experiences of parenting in childhood? Evidence from the English Longitudinal Study of Ageing

Presenter: Panos Demakakos, University College London

We examined whether experiences of poorer quality parenting in childhood were associated with an increased risk of sex-specific prevalent and incident all-site and site-specific cancer at older ages. We derived scores for maternal and paternal care and overprotection and a parenting summary score. Parenting was measured retrospectively using the seven-item Parental Bonding Instrument (PBI). The sample comprised 4,471 community-dwellers aged ≥55 years in 2007 from the English Longitudinal Study of Ageing. Poorer quality parenting appeared to be associated with the risk of cancer and might be a potent and omnipresent childhood stressor associated with cancer development in adulthood.

Social participation in mid-life: the Omnivore Thesis

Presenter: Siân Evans, Cardiff University

Participation in social organisations can have far reaching benefits for the individual and society. Participation is considered to have been decreasing since the 1950s (Putnam, 2000). This research investigates the participation patterns of the NCDS cohort, focussing on their participation at age 50. Using data on the extent of participation in social organisations, three groups of participants emerge. Omnivores participate in multiple organisations, Univores focus their efforts on a single organisation, and Non-Participants are not participants in any social organisation. These participant types are related to variables including social class, social status, and gender.

A novel approach to investigating early life stress and psychopathology in childhood, using network analysis

Presenter: Colm Healy, Royal College of Surgeons in Ireland

This study uses a novel approach that has recently gained traction in psychiatry and psychology research, namely network analysis. Using the child cohort data from the Growing Up in Ireland study, this investigation will demonstrate how this approach may be a useful advance for epidemiological research, which allows for the examination of multiple variables simultaneously. This will be done by drawing on the specific example of the network of early life stress and psychopathology in a healthy cohort of young Irish children.

Inflammatory biomarkers of stress mediate the effect of socioeconomic position on health and disease: a latent growth curve model for the UK

Presenter: Eleonora Iob, University College London

Lower socioeconomic position (SEP) negatively affects health. However, the specific mechanisms underlying this link still remain unclear. This investigation examined whether elevated inflammation, a biomarker of chronic stress, might mediate the effect of both individual and contextual SEP on health, disease, and their change over a five-year period. These associations were tested in a nationally representative sample of adults from the UK Household Longitudinal Study (waves 2-6). The results demonstrated that inflammation mediated a significant, yet small, part of the relationship between SEP and health. However, behavioural risk factors also had an important effect on this mediational chain.

Multidimensional mental wellbeing in a lifespan perspective: the Jyväskylä Longitudinal Study of Personality and Social Development

Presenter: Katja Kokko, University of Jyväskylä, Finland

This paper analyses the development and correlates of multidimensional mental wellbeing in a lifespan perspective. It is based on the ongoing Finnish Jyväskylä Longitudinal Study of Personality and Social Development where participants have been followed from ages 8 to 50. It shows that mental wellbeing, consisting of emotional, psychological, and social wellbeing and an absence of depression, is rather stable within mid-adulthood. It has roots in a child's behavioural activity and it links with adult personality traits. A higher level of mental wellbeing associates with a better health, a more favourable working career, and warmer social relationships.

Family nurse quality and the production of child development

Presenter: Nicolás Libuy, University College London

In the context of the Family Nurse Partnership programme in England, we investigate how much of the variation in the distribution of quality among Family Nurses (FNs) is explained by their characteristics. Using random allocation of FNs to mothers and Valued Added Modelling techniques, we find that: one standard deviation increase in FN quality results in 0.38 higher ASQ score level at 20 months of age, and that a FN who spends more time per visit, develops a higher client involvement, and covers a higher proportion of planned content in a visit, is more likely to be ranked as a high-quality FN.

Hearing aid use and cognitive function in older adults: a longitudinal analysis

Presenter: Asri Maharani, University of Manchester

The purpose of this study is to compare the cognitive trajectories of the individuals before using hearing aids with those after beginning to use hearing aids, using the Health and Retirement Study Waves 3-11. It found that the decline in episodic memory scores was slower after than before using hearing aids. Further research is required to identify the mechanism to explain the association between hearing aid use and cognitive ageing, and whether early intervention towards hearing correction results in reduction in dementia risk.

Effects of maternal depression on child development

Presenter: Richard Mattock, University of York

Symptoms of maternal depression affect children's cognitive and socioemotional development. This research assessed whether

development at age 11 was affected as a result of symptoms occurring during a critical post-natal period, or through repeated symptoms during childhood. The benefit of treating post-natal depression was also investigated. Growth curve models were estimated using data from the Millennium Cohort Study. Children's cognitive and socioemotional development was significantly impaired by repeated instances of maternal depression (less than 0.001), while only socioemotional development was significantly affected by depression during the post-natal period (less than 0.001). Treatment for post-natal depression was associated with a non-significant improvement in socioemotional development.

Does leisure engagement affect wellbeing? Health, wellbeing and leisure engagement among adults and young people

Presenter: Anni Oskala, Natcen Social Research

Cross-sectional analyses have shown that health and wellbeing are associated with engagement in culture and sport. Our research used linked data from waves 2, 5 and 6 of Understanding Society to identify changes in leisure engagement and wellbeing among young people and adults. Engagement in a range of cultural and sports activities

was positively and significantly associated with health and wellbeing. Longitudinal analysis suggested that taking up specific cultural activities and engaging with sports was linked to positive changes in health and wellbeing, whereas lapses in cultural and sports engagement were linked with more negative health and wellbeing changes.

Long-term improvements in everyday-memory of healthy older people

Presenter: Carmen Requena, University of León

Older people's everyday-memory improves with practice and exercise. However, improvements produced by intensive programmes are not preserved in the long term. This longitudinal research shows how a time-extended programme preserves and improves everyday-memory and mental level even in the long term (six years). While the results on reasoning, mood and mental level are consistent with recent ACTIVE results, memory gain estimates are significantly higher.

The socioeconomic distribution of child cognitive ability in the NCDS and the MCS

Presenter: Tomos Robinson, Newcastle University

This study examined the extent of socioeconomic inequality child cognitive ability in the NCDS and Millennium Cohort Study (MCS), investigated if the magnitude of these inequalities had changed over time, and decomposed the inequality into contributing factors. Results using the concentration index displayed significant socioeconomic inequality in both datasets. There was mixed evidence of a change in inequality over time. Decomposition analysis showed that income and parental occupation accounted for the majority of the inequality. Future work will test the robustness of these results with the new harmonised measures of SES and cognitive ability, and conduct a more detailed decomposition using the MCS.

Non-employment: a risk factor for poor cognitive function and cognitive decline in later life?

Presenter: Alison Sizer, University College London

Ageing is associated with declines in cognitive function, but rates of cognitive decline are not uniform, and some individuals may experience higher rates of decline than others. Although a wide range of risk factors for cognitive decline have been investigated, relatively little attention has been paid to the role of non-employment. Using multiply imputed data to take account of missing

information this research examined the association of non-employment with cognitive decline over eight years in 4,056 respondents to the English Longitudinal Study of Ageing (age ≥60). The findings of this work will be presented in the poster.
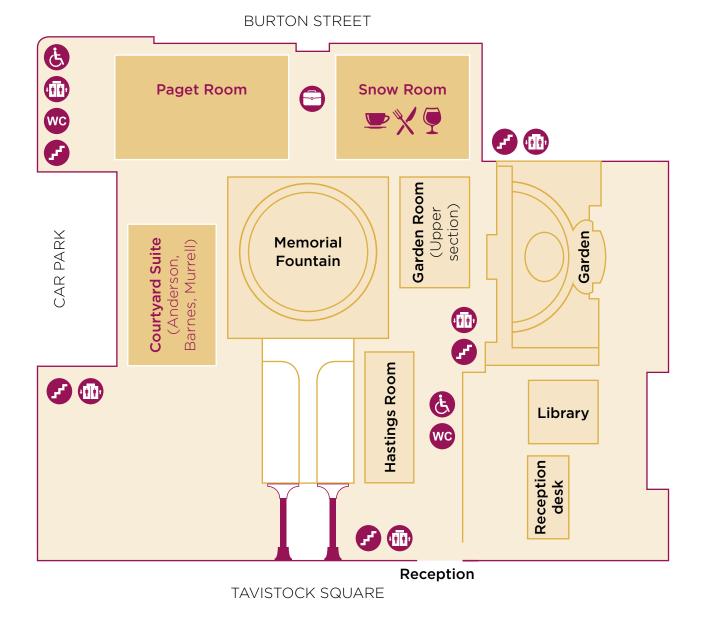
Association of life-course transitions with longitudinal change in diet in early adulthood: leaving home, leaving education, entering employment and beginning cohabitation

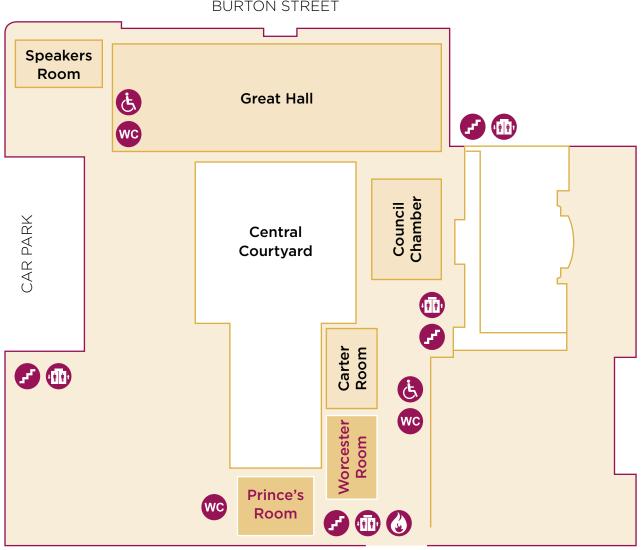**Presenter:** Eleanor Winpenny, University of Cambridge

Longitudinal data on 1,100 participants from the Norwegian Longitudinal Health Behaviour Study, 1990-2007, were used to assess associations between four early adulthood life transitions (leaving home, leaving education, entering employment, and cohabitation) and changes in consumption of fruit, vegetables, confectionery and sugar-sweetened beverages (SSBs). Leaving the parental home was associated with decreases in fruit and vegetable intakes, while leaving education was associated with increases in confectionary and SSB intakes, after controlling for other transitions and underlying dietary trends over time. These transitions may present opportunities for intervention to improve diet and reduce obesity.

Floor plan: ground floor

BURTON STREET

Paget Room

Snow Room

CAR PARK

Courtyard Suite
(Anderson, Barnes, Murrell)

Memorial
Fountain

Garden Room
(Upper section)

Garden

Hastings Room

Library

WC

Reception desk

Reception

TAVISTOCK SQUARE

Floor plan: first floor

BURTON STREET

Speakers Room

Great Hall

CAR PARK

Central Courtyard

Council Chamber

Carter Room

Worcester Room

Prince's Room

WC

TAVISTOCK SQUARE

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