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Developments and Challenges in Longitudinal Studies from Childhood

ABSTRACTS

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Abstracts (listed in order of programme)

Day 1 - Wednesday 22nd September 2010

Life Course and Social Policy

Karl Ulrich Mayer, Leibniz Association, Germany and Yale University, USA

My lecture will first cover various modes of “causal” relationships between social policies and life course outcomes and patterns. Among such modes I will discuss intervention, implicit norms and incentive structures. I will then address the practical role of life course data in applied social policy. Exemplary recent research on the impact of social measures will be my next topic. Finally, I will argue the important, but neglected role of “reverse causation”, i.e. the impact of changing life course patterns on the agenda of social policy.

Symposium – The Making Connections and Resident Relocation Surveys: Longitudinal Studies of Families in Low-Income Neighborhoods

Analysis of non-response bias in the resident relocation and making connections survey

Catherine Haggerty et al, National Opinion Research Centre (NORC), USA

A problem for many longitudinal surveys is non-response and potential non-response bias. Bias can occur if the characteristics of the respondents who were interviewed are different from the characteristics of those who were not interviewed. In the Resident Relocation Survey, a longitudinal survey of public housing leaseholders being relocated as part of the Chicago Housing Authority’s Plan for Transformation, response rates have generally been high. To examine potential problems with non-response bias, we conducted a survey with the leaseholders who were non-respondents to the second follow-up survey and examined the available survey data and paradata. In the Making Connections Survey, a multi-site study of disadvantaged children and their families, response rates have also been relatively high. Although a formal follow-up to locate non-respondents was not conducted for this survey, respondents and non-respondents to later rounds of the survey can be compared using baseline survey data and paradata. This comparison reveals the ways in which the respondents who have maintained their participation may differ from those who were lost to the follow-up surveys. The findings from these analyses of the RRS and MC data show that despite relatively high response rates, non-response bias is evident on some key survey measures.

Access to transportation and the social participation of low-income families

Lee Fiorio et al, National Opinion Research Centre (NORC), USA

Given the high costs of automobile ownership and the lack of adequate public transportation networks in many communities in the United States, it is likely that people of low-income face higher risk of social isolation and greater difficulty accessing public goods and resources unevenly distributed across an urban area. To further understand transportation as it impacts the social participation of low-income families, this study looks at automobile ownership, work commute times, and access to public transportation as they relate to levels of social engagement in several low-income communities in the United States. Parenting is taken into account by measures of after-school activities of children and parental involvement at school. Also of interest are differences observed in civic participation as measured by church attendance, volunteering rates and social activity both inside and outside the neighborhood of residence. Data are taken from two separate studies, the Making Connections Survey conducted at three points in time since 2002 and the Resident Relocation Survey in Chicago conducted at four points in time since 2002.

The making connections and resident relocation surveys: longitudinal studies of families in low-income neighborhoods - *Ned English et al, National Opinion Research Centre (NORC), USA*

NORC will present papers on two longitudinal studies of families living in low-income neighborhoods. Making Connections, conducted by NORC for the Annie E. Casey Foundation, is a longitudinal study of low-income neighborhoods across the United States. The goal of the Making Connections initiative is to help improve the life chances of disadvantaged children and their families. Between 2002 and 2004, interviewing began in 10 cities; currently the third wave of data collection is being completed in neighborhoods in seven cities. The Resident Relocation Survey, conducted by NORC with support from the John D. and Catherine T. MacArthur Foundation, follows the progress of public housing leaseholders who have relocated as part of Chicago's Plan for Transformation. NORC conducted four waves of data collection over a nine-year period with two groups of leaseholders. The first paper in this symposium will provide an overview of the methodology of these surveys. The next paper examines differences in the survey data that may result when surveying different household respondents. The third paper presents an analysis of non-response bias in the surveys; the fourth paper examines the relationship between access to transportation and social participation.

The effect of changing respondents in a panel survey of households

Beth Fisher et al, National Opinion Research Centre (NORC), USA

Making Connections is a study of ten urban communities throughout the United States. It employs a unique hybrid sampling design that combines a cross-sectional focus on neighborhoods and a panel survey of households with children. In the baseline, for adult-only households, interviewers used a Kish table to select an adult to act as the respondent. In households with children, interviewers randomly selected a minor to serve as the “focus child” and then asked to speak with the person who knew the most about that child. In wave 2, the person who knew most about the focus child was sometimes different from the person designated in wave 1. Further, in adult-only households where additional adults were found in wave 2, the household respondent was reselected and might be different from the person selected for wave 1. Using data gathered in two waves, we examine if switching respondents produced substantive changes in the survey data. We draw from prior comparisons of respondent selection procedures (Oldendick et al 1988, etc.) to investigate the tradeoffs associated with semi-random respondent selection. Our discussion tackles the difficult question of how much survey data reflects the perceptions of behaviors and conditions rather than the experiences themselves (Duncan and Kalton 1987).

Short term mobility in high poverty neighborhoods: an analysis of retrospective address histories - Kate Bachtell et al, National Opinion Research Centre (NORC), USA

Tracking the movement of respondents is critical to the success of panel studies. Retrospective reporting techniques are often used in surveys to verify administrative records or provide detailed information about respondents’ movement over time. Our earlier findings from the third wave of the Making Connections Survey corroborate the consensus among survey methodologists that respondents do not routinely store distinct memories of event details (Wu, Martin, and Long 2001). We concluded that the successful collection of address data depends on an interactive process between the interviewer and respondent involving several probing techniques.

This paper builds on our past research by comparing the addresses collected through retrospective self-reporting to “live” data obtained through previous locating and interviewing efforts. First, we investigate the efficacy of self-reporting as a means to capture short-term movement that often evades administrative records. We then use GIS software to track the movement of respondents within and around low-income neighborhoods in U.S. cities since 2005. The data are derived from the ten-site Making Connections Survey, funded by the Annie E. Casey Foundation. Our research provides both an assessment of address collection techniques for longitudinal studies and substantive information about the frequency and characteristics of household mobility in disadvantaged urban areas.

Symposium – Childhood influences on quality of life at age 50 years: evidence from the National Child Development Study (1958 British Birth Cohort Study)

Childhood influences on quality of life at age 50 years: evidence from the National Child Development Study (1958 British Birth Cohort Study)

David Blane et al, Imperial College London, UK

The increase in life expectancy at middle age prompts the question whether greater quantity is accompanied by quality. Health at middle age is influenced by childhood factors independently of adult circumstances; is the same true of quality of life? Previous investigations of this question suggest that quality of life at older ages is influenced primarily by current circumstances, with any effect of early life acting indirectly. These results came from retrospective data on a relatively small sample of the Boyd Orr Study, using a measure of positive quality of life at older ages (CASP; acronym Control, Autonomy, Self-realisation, Pleasure). The recent age 50 year sweep of the National Child Development Study included the CASP measure, allowing a test of replication in prospective data from a large sample. CASP scores at age 50 years in NCDS were found to be graded by accumulated deprivation during childhood and adolescence; and by childhood psycho-social disruption. Path analysis showed these associations were indirect via, respectively, adult material and psycho-social circumstances, with no direct effects. Thus quality of life differs from health. The policy implications are encouraging. Access to good quality of life at older ages does not depend upon events from early life.

Welfare generosity trajectories, work life course, health and quality of life in later ages in Europe - Gopal Netuveli, Imperial College London, UK

Work, presumably, has a salutogenic effect; working people have better health and better quality of life. Work, especially for men, forms a major force structuring the life course and thus making people susceptible to the vagaries of the labour market. Welfare policies are made with the objective of shielding people from labour market forces. Welfare generosities refer to the replacement to income the state provides as people are excluded from the labour market due to unemployment, sickness or retirement. In this paper we study, the effect of the interaction between welfare generosity trajectories and work life course on health and quality of life in selected European countries. We use data from the Study of Health, Ageing and Retirement in Europe with quality of life measured using CASP-12 and using subjective and objective indicators of health. We created stylised work life course trajectories and corresponding welfare generosity trajectories for each individual. We used latent growth mixture modelling to analyse the data. Preliminary results show that welfare generosity had a positive effect on health and quality of life.

Life course family trajectories and quality of life in older age

Elizabeth Webb et al, Imperial College London, UK; Anne McMunn, University College London, UK

Background: Previous research has shown marital and parental status to be important determinants of well-being. We take a life course approach to investigating the influence of family type on quality of life (QoL) at older ages.

Methods: We used data from the English Longitudinal Study of Ageing Life Grid. Restricting the adult life course to ages 18 to 50, for each year we classified people into one of four family types: single, that is having no children under the age of 18 and not living with a partner; cohabiting, having no children under the age of 18 and living with a partner; cohabiting parent, having a child or children under the age of 18 and living with a partner; and single parent, having a child or children under the age of 18 and not living with a partner. We divided the time people had spent in each of the first three family types into tertiles, and created a binary variable for having ever been a single parent. We used linear regression models to predict the influence of current and life course family type on QoL at older ages, measured using CASP-19, for 5295 men and women aged 50 years and older with data for all the variables of interest.

Results: Descriptive analysis suggested that those in the middle duration tertile for being single, cohabiting and being a cohabiting parent and those who had not been a single parent had higher CASP scores. In the fully adjusted model, we found a negative effect on CASP of currently living with a child, and no effect of current partnership status. There were positive effects of female gender and of being in the longest duration tertile for cohabiting without children.

Conclusions: We conclude that currently cohabiting does not positively influence QoL independently of its effect in reducing depression, however living with children into older age has a negative effect. Life course family type does not influence QoL at older ages, other than a positive effect of cohabiting without children for a longer duration of time.

Piecewise growth curve models to describe trajectories of health and well-being before and after retirement - Tarani Chandola, University of Manchester, UK

Background: The period around early old age and retirement is associated with two contrasting health trajectories- improvement in mental well-being and declines in physical health. Recent research has shown that retirement changes the trajectory of self-reported health, so that the general decline in self-reported health before retirement is reversed around retirement age. However, these trajectories before, during, and after retirement may differ for mental and physical health. Piecewise growth curve models are a useful method to disentangle these health trajectories around a critical period such as retirement.

Methods: Data from the Whitehall II civil servants study with repeated measures of the GHQ-30 and the SF-36 were analysed. Single-piece and piecewise growth curve models with separate intercepts and slopes, before and after retirement age were estimated.

Results: The piecewise model suggests there is decreasing mental well-being with age pre- and post-retirement, but a big increase in well-being upon retirement. No such changes upon retirement were observed for physical health. Interactions between these trajectories and occupational class suggest widening health inequalities at retirement for both physical and mental health measures.

Conclusion: Previous results that suggest improving mental well-being trajectories with age may be incorrect as they do not take into account changes in wellbeing upon retirement. Retirement is a critical period of the life course that widens inequalities in health.

Income mobility during transition to retirement

Andreas Ebert et al, University of Tuebingen, Germany

In comparison to the general population, older people are currently not economically disadvantaged. However there is important within-group variation: specific groups – for example single women – have a considerably higher poverty risk. The question we address from a life course perspective is whether these social inequalities in later life are stable or subject to change within individual life courses. Focusing on the transition from working life to retirement, we test two contrasting hypotheses: the hypothesis of socio-economic differentiation expects continuous differences between socio-economic groups, reflecting unequal chances in previous (working) biographies. The cumulation hypothesis assumes increasing inequalities, i.e. the existing gap between social groups is believed to widen after retirement. The empirical analysis is based on data from the German Socio-Economic Panel (GSOEP). The first part of our analysis consists of generating aggregated indicators for income inequality before and after retirement and for the level of income mobility. In a second step we further investigate income dynamics at the individual level and estimate the determinants of income mobility with regression analytic tools.

Symposium – Qualitative Longitudinal Research 1

How unemployment gets under the skin: a longitudinal interview study on identity and mental health in the jobless - *Benedikt G. Rogge, University of Bremen, Germany*

I analyse the dynamic identity process in unemployment and its relation to mental health. Particular attention is paid to how social expectations, roles and norms enter meaning construction and agentic processes in unemployment. The mechanisms mediating the unemployment-mental health association as well as the impressive heterogeneity within the unemployed are still barely understood. Drawing on a sociological approach to identity, I conducted 25 semi-structured interviews with men and women who had been unemployed for about 8 months and were highly heterogeneous as to social class, educational level, family status etc. I used standardised symptom scales to triangulate mental health. Re-interviewing the sample 8 months later yielded numerous insights into the dynamics of identity and mental health in unemployment.

Mental health depends on what meaning the unemployed give to their life situation. However, these constructions depend heavily on the context, i.e. the financial situation, the biographical contextualisation (e.g. continuous vs. discontinuous employment trajectories), role expectations of significant others (e.g. traditional vs. egalitarian partner and family roles), the availability of alternative roles, and the specific norms and values of the milieu a person belongs to (e.g. strong vs. weak protestant work ethics). The same can be said of how individuals engage in coping processes. Expansion of alternative roles (e.g. parent roles), acquisition of new roles (e.g. voluntary commitments), looking for institutional support and, overall, the protective mental health effects heavily depend on the presence of constraining and enabling features of the social context.

A longitudinal, event-centred approach to the analysis of division of labour in couples

Anna Dechant, State Institute for Family Research, Germany

In Germany, couples often divide household chores and labour market participation almost equally at the beginning of their relationship. Over the years, the division gets increasingly polar. The main influencing factor is the birth of the first child: in the majority of couples, women take parental leave for at least two years while most men stay employed continuously. When women re-enter the labour market, they often reduce working hours. This decision seems to be very stable over cohorts and the discontinuous employment carriers for women have a durable effect in the division of labour in couples. By means of Becker's new home economics, the partner with less labour market-specific human capital reduces his/her investment there and concentrates more on domestic labour. If women nowadays are better educated than in the past and if they participate more in the labour market, one would expect more couples with a polar division in a non-traditional way. Concerning Ott, women with better educational and labour market chances have more bargaining power and therefore, more couples with egalitarian arrangements are expected. But, as to norm-based theories, stability of traditional arrangements is to be presumed as these are no result of a rational calculus but of gender roles.

To clarify the importance of economic and/or role-based factors to the division of labour, qualitative data allows deeper insights in the ongoing processes than quantitative data via free formulated answers of couples undergoing this process. Furthermore, aspects not covered by the theories can be identified. One data set providing this possibility is part of the DFG-funded project "The Household Division of Domestic Labour as a Process. How does the division of housework change over the course of relationships?" This theory-driven survey focuses on the developments in couples undergoing the transition to parenthood by a longitudinal design. The couples were interviewed two times - during the pregnancy and about one year after the first interview. Thus, the division of labour and the explanations for the arrangements before and after the birth of the first child are captured. The first interview deals with questions about plans until the birth and afterwards regarding the division of homemaking, parenting and employment. In the second wave, the respondents described the changes since the first interview. This longitudinal, event-centred approach is a unique design that allows comparing changes following from the transition to parenthood and to contrast the perceptions of men and women entering this event with the actual development after the birth.

Middle-income families and economic downturn: challenges and management strategies over time - Roberta Iversen et al, University of Pennsylvania, USA

The "Great Recession" has negatively affected many families across the United States, yet most research has examined its impact on those already considered poor or working poor. However, this recession has penetrated "middle-income" families whose experiences with economic challenge have seldom been examined. Such families have been recently called "the new poor," "the missing middle," and "families in the middle." One in seven American children under age 18 (10.5 million) has an unemployed parent as a result of this recession, and because economic mobility for children in the U.S. is embedded in their parents' earning capacities, their mobility potential may or may not be mediated by parents' strategies for children's educational futures. The research presented here, which is informed by Weberian stratification theory and capital theories, is based on a longitudinal subset of a larger two-country, multi-city, mixed methods study that used surveys and qualitative semi-structured interviews to explore both "outside" and

“inside” perspectives on how middle-income families contend with economic downturn and how their adolescent children’s educational futures seem affected.

Briefly, most families’ management strategies in the context of economic downturn maintain their children’s developmental and educational status quo, but in the process, the strategies constrict the mobility-related potential for educational attainment for both generations. For example, most parents continued to support children’s human capital-building participation in extracurricular activities or church engagement. However, cultural capital enhancement for most children was constrained or eliminated by parents’ finances, their employers’ increased expectations, or unemployment, which potentially reduces children’s future mobility. Similarly, parents’ attempts to increase their own education and income were postponed or discontinued, seemingly lessening intergenerational mobility. Our findings particularly suggest that the American approach to off-loading much of the cost of higher education to middle-income families who are economically stressed is not viable if we hope to maximize the number of children who will receive a college education.

Associations between experience of self-efficacy and illicit drug use cessation. A qualitative longitudinal study with illicit drug users - Natalie Eppler, University of Marburg, Germany

I would like to present a study, which seeks to fill a gap in the knowledge about the association between the consideration of drug addiction as an illness and the experience of self-efficacy.

Since the sixties, addiction has been acknowledged as mental disorder. In spite of this, every human being has his individual definition of addiction. Some people blame a weak will, some people regard drug consumption as a life-style, for others in turn it is an illness. The question is, whether a person’s subjective definition of addiction has an influence on his drug consumption or on his attempts to stop using drugs. With regard to this topic there is an international research deficit. The majority of drug abuse research now understands addiction as a chronic disorder and most of the longitudinal studies examine general population samples. Only a few qualitative studies have been pursued. Unfortunately these studies focus on professional treatment. I am working within my doctoral thesis on a study, which has the aim of countering this research deficit, with a longitudinal qualitative research approach which analyses both cessation of drug using supported by treatment and self-initiated recovery processes.

The life course perspective on drug use offers a framework for identifying processes of change. We need to look at the individual perspective of a person to be able to make statements about his way of experiencing, his individual interpretation patterns and strategies. Therefore a qualitative method is indicated.

The evaluation and analysis was conducted in systematically replicated single case studies, which were carried out over a period of 2 years including 3 measuring points. Semi-structured Interviews were conducted during the period June 2004-June 2006. A self-created guideline structured the narratives.

In order to be able to carry out a comparative analysis with other studies a random sample of 16 participants was chosen. Recruitment was through inpatient treatment, the self-help group Narcotics Anonymous and a therapeutic living community. Additional snowball sampling was employed to ensure inclusivity of gender, ethnicity and exit attempts. At the beginning of the

study all participants were abstinent. 5 participants dropped out after the first measuring point. After the second measuring point there were no dropouts.

The analysis method is orientated to the qualitative content analysis by Mayring. All interviews were recorded, transcribed and analysed with the help of MAXQDA. The study shows, that the consideration of drug addiction as an illness might be opposed to the experience of self-efficacy and thus works counterproductively to a self-organized exit. Within the framework of a living community, self-efficacy is less important for a stable abstinence. Further results will be discussed in the symposium.

EUCCONET Poster Session/Drinks Reception

Introduction: MoBa is a nationwide population-based cohort study with recruitment 1999-2008

Elin Alsaker, MoBa, Norway

Materials: Pregnant women and their partners were recruited into MoBa through 50 hospitals in connection with the routine ultrasound examination at week 17-19 of pregnancy. Mothers are asked to complete 3 questionnaires during pregnancy and at intervals after birth (6 and 18 months, 3, 5, 7 and 8 years). A questionnaire focusing on flu has recently been sent to all 90,000 participants. Fathers completed one questionnaire at week 17-19. The data are linked to the Medical Birth Registry of Norway (MBRN). Ultrasound examination forms were sent from the hospital to MoBa. Blood samples are collected from the mother (prenatal and at birth), the father and the child (cord blood). Urine samples are collected from the mother (prenatal). DNA, RNA, whole blood, plasma and urine are aliquoted and stored at -20°C and -80 °C, respectively. Milk teeth are collected from the children just before they are 7 years of age.

Results: By the end of recruitment, 107,000 pregnancies representing 90,700 mothers were recruited giving a recruitment rate of 38.5 %. The fathers participated in 82,400 of these pregnancies representing 71,500 men. 108,600 children are included.

Measuring competencies in early childhood: challenges in the National Educational Panel Study

Karin Berendes, National Education Panel Study (NEPS), Germany

In modern knowledge societies, education is a key factor not only for economic growth and prosperity but also for a successful private life. The National Educational Panel Study (NEPS) was founded to gain longitudinal data on educational processes by using a multi-cohort-sequence design. One of the main questions is how educationally relevant competencies are acquired, how they develop over the lifespan and how they influence educational outcomes.

The birth cohort deals with the issue of how children from birth to the age of four develop early skills that are relevant for education. A sample of 3000 children will be studied. Measurements will focus on language as well as on cognition and social-emotional development. In the kindergarten cohort the competencies of 3000 pre-school children from four to six years of age will be assessed in different domains. Specifically, data on indicators of language components, maths literacy and science literacy will be collected. The poster will show how competencies in the birth and kindergarten cohort are measured in NEPS. The particular focus of the presentation is on verbal competencies and their assessment from birth until school enrolment.

Young children in the UK and Australia: similarities and differences. Information from two birth cohort studies

Lisa Calderwood, Institute of Education, UK; Carol Soloff, Australian Institute of Family Studies, Australia

This poster presents some of the findings from a short visit EUCCONET grant which produced a working paper comparing findings so far from the UK Millennium Cohort Study and *Growing Up in Australia: the Longitudinal Study of Australian Children*, in order to paint a picture of the similarities and differences between young children's lives in the UK and Australia at the beginning of the 21st Century. Data have been collected from children at comparable ages for both studies and the poster features an outline of the study designs, noting the challenges faced when comparisons are being made. The working paper was primarily based on published descriptive research and the poster illustrates some of the similarities and differences that we have found for children in these countries.

Generation XXI – the first Portuguese birth cohort - Sofia Correia, Generation XXI, Portugal

Generation XXI was established as a prospective population-based cohort aimed at addressing scientific questions as well as policy concerns. It aims to chart the growth and development of children born at the dawn of the new millennium, with emphasis on the investigation of the role of fetal and early life growth on the development of obesity, levels of cardiovascular biomarkers, and other health outcomes later in life.

It is conducted in the Department of Hygiene and Epidemiology, University of Porto Medical School. A total of 8648 newborns were recruited at maternity units in Porto, Portugal, in 2005-2006. The baseline evaluation at entry included completion of interviewer-administered structured questionnaires; extraction of clinical data from obstetric and neonatal records; anthropometric evaluation of the newborns and their parents and collection of blood samples from each parent and from the umbilical cord. Sub-samples of children were re-assessed at 6, 15 and 24 months and longitudinal anthropometric data extracted from their routine health booklets. An evaluation at age 4 years of age is currently on-going for the whole cohort. In a personal interview it is collected child data using structured questionnaires, venous blood samples and physical examinations: anthropometric assessment (including height, weight, head, and arm, abdominal and thoracic circumferences); body composition (through a tetrapolar bioimpedance system) and blood pressure evaluation. Trained dentists also perform a detailed oral health evaluation.

Generation XXI comprises an enormous amount of data with huge datasets available. The numerous, standardised and comprehensive anthropometric measurements and the biological samples for metabolic, hormonal and genetic investigations are the cohort exceptional value on the life course analysis of the fetal and post-natal pathways underlying obesity and other cardiovascular risk factors.

PEARL - Project to enhance ALSPAC through record linkage

Kerry Humphries, Avon Longitudinal Study of Parents and Children (ALSPAC), UK

The Avon Longitudinal Study of Parents and Children (ALSPAC) is one of the world's largest birth cohorts, with detailed biological and behavioural data from before birth through to late adolescence. As such ALSPAC provides the most detailed phenotypic, genotypic and environmental assessments of parents and their children across the life course of any comparable study available to scientists studying early life influences and the transition into adulthood. To further strengthen the platform, ALSPAC is undertaking linkage to electronically held routine health and social information. Some of this work is in place and functioning, others are being developed.

The value and strength of longitudinal studies, and birth cohorts in particular, lie in the data collected on multiple and repeated life course exposures and biological samples, in order to demonstrate and test causal associations with disease and social outcomes. Linkage data will augment information collected through direct means, providing a cost-effective and comprehensive source of retrospective and prospective data. These data provide a means to validate data collected from different sources and a means to assess biases and missing data.

The ELFE Study

Ilias Kavouras, ELFE, France

Children are susceptible to health impacts triggered by proportionately larger doses of environmental contaminants than adults while their organs and tissues are still developing. Childhood respiratory disorders including asthma, neurodevelopment disorders, leukemia and cardiovascular diseases were found to be associated with prenatal and early life exposures. A nationwide cohort study to examine the effects of environmental contaminants, social status, economic conditions and demographics on cognitive development, health and behavior of children will be launched in France. The French Longitudinal Study of Children (ELFE) will involve the recruitment of 20,000 newborns (with a gestational age of at least 32 weeks) throughout the country in 2011. Data on demographics, social, economic, dietary and habits will be collected using questionnaires at birth, 2 months and every year until adulthood. Exposures to environmental stressors (air pollutants, heavy metals, pesticides, phthalates, endocrine disruptors, bisphenol-A, persistent organic pollutants, waterborne contaminants and radiation) will be determined through the collection of biological samples, in-situ measurements, questionnaires, dispersion modelling and/or geospatial analysis. Health data will be obtained from medical records and questionnaires.

National Longitudinal Survey of Youth -1997 - Data Quality Feedback Loop

Tricia McCarthy, NORC, USA

A description and assessment of the use of a feedback loop to the field interviewers during the course of the data collection period through the use of review of audio recordings (CARI) on the National Longitudinal Survey of Youth 1997 during Round 12 (2007-2008). Poster will provide a description of the process and criteria for evaluation along with notations of improvement in question timings (full readings of the questions), probing (data quality) and item non-response (evaluation of change in don't knows and refused). Potential to assess performance of

experienced versus new interviewers - both an initial quality and receptivity to change as a result of feedback.

Father participation in a birth cohort: Results from the ELFE 2007 pilot study and implication on the national study - *Jean-Louis Lanoe, ELFE, France*

The results of the 2007 ELFE (French Longitudinal Study of Children) pilot study on father participation, degree of coherence of responses between the two parents and the main revisions of the questionnaires for the national ELFE study are presented. The ELFE pilot study was initially carried out in 2007 (inclusion of 834 births). Questionnaires from both parents were collected at 2 months, 1 year and 2 years after birth. The analysis of data showed that the participation of fathers is quite good, related to their educational level. In addition, a large number of participating fathers expressed their willingness to respond to extended questionnaires about their children. Based on the observations of the 2007 ELFE pilot study, the questionnaires for the ELFE national study were accordingly revised to extend the involvement of the father in the national ELFE study without quality compromises.

The national ELFE birth cohort study will examine the impacts of environmental exposures, health, social status, economic conditions, demographics and behavioural habits on the development of children from birth until the age of 18.

All births with a gestational age of at least 32 weeks from a stratified sample of 342 maternities (almost 2/3 of maternities in metropolitan France) will be enlisted in the cohort (50 000 births approximately) for four periods of six days in 2011. Assuming that 90% of maternity wards will agree to cooperate and a 55% participation rate of parents (based on the ELFE 2007 pilot study), it is anticipated that approximately 20,000 children will be recruited. Data will be collected by CAPI and CATI questionnaires from both parents regardless of their marital status.

ALSPAC: the next 5 years

Lynn Malloy, ALSPAC, UK

ALSPAC is just about to enter the next phase of development - the poster will describe what we plan to do during the next five years. This will involve an ambitious programme of new data collection on the mothers and fathers of the young study participants, on the young study participants themselves and on the offspring of the young people.

Maternal mental health and its impact on child behaviour and development

Louise Marryat, Growing Up in Scotland (GUS), UK

A mentally healthy childhood can be a precursor to a healthy and productive adulthood. Children's social, emotional and cognitive development can be affected by their socio-economic circumstances, but also by the emotional climate within the home, whether that be the relationship between parents, the support available to the family or the well-being of the child's primary care-givers. Although much evidence exists of the links between post-partum depression and child development, there has been less exploration of the associations between poor maternal mental health beyond the post-partum period and the early impacts of exposure to this on the child.

This paper uses longitudinal evidence from the Growing Up in Scotland Study Birth Cohort to explore the impact of exposure to brief and repeated periods of poor maternal mental health during the first four years of the cohort child's life, in terms of social, emotional, behavioural and cognitive outcomes at age 3-4.

The Danish Longitudinal Survey of Children - DALSC

Lisbeth Nielsen, DALSC, Denmark

The Danish Longitudinal Survey of Children (DALSC) was initiated in 1995 to provide basic representative information about family conditions and the development of Danish children in general. 6011 children participated in the first data collection, and at this point in time, the data collections from 1996, 1999, 2003 and 2007 are complete. The next data collection will take place in autumn 2010.

The survey seeks to answer a number of questions regarding the life from infancy to adulthood: for example how children are affected by different types of daycare facilities, and how risk factors for different ages affect children later in life. To measure cognitive and non-cognitive well-being of Danish children, different test scores have been connected to the survey in the past two collections.

From an international perspective, DALSC contains unique information about a society with a close to equal share of women and men on the labour market - a perspective many countries are facing in the near future - and as a consequence, a society with a large share of children in daycare. The longitudinal perspective makes it possible to detect effects of different family arrangements.

The Millennium Cohort Study

Rachel Rosenberg, Centre for Longitudinal Studies, UK

The Millennium Cohort Study (MCS) is a multi-disciplinary research project following the lives of around 19,000 children born in the UK in 2000/1. The study has been tracking the children through their early childhood years and plans to follow them into adulthood.

The four surveys of MCS cohort members carried out so far – at nine months, three, five and seven years – have built up a uniquely detailed portrait of the children of the new century. They have also amassed a vast amount of information on the children's siblings and parents. The study was commissioned by the Economic and Social Research Council (ESRC), whose funding has been

supplemented by a consortium of Government departments and the Wellcome Trust. The next sweep of the study is planned for 2012.

MCS's field of enquiry covers such diverse topics as parenting; childcare; school choice; child behaviour and cognitive development; child and parental health; parents' employment and education; income and poverty; housing, neighbourhood and residential mobility; and social capital and ethnicity.

The sample population for the study was drawn from all live births in the UK over 12 months from 1 September 2000 in England and Wales, and 1 December 2000 in Scotland and Northern Ireland.

Sampling procedures in the National Educational Panel Study - a focus on schools

Hans Walter Steinhauer, NEPS, Germany

The National Educational Panel Study collects data on educational tracks and decisions in six different starting cohorts, starting with infants up to adulthood. Infants, freshmen and adults are surveyed in an individual context, while pupils and children in kindergartens are surveyed within their institutional context.

Sampling pupils in classes within schools is subject to restrictions, particularities and various interests. Schools starting cohorts aim at providing a self-weighting sample subject to a notified sample size.

Hereby our first aim is restricted to federal particularities in educational policies and the second is restricted to the number of financed test groups. Migrants, pupils with learning disabilities and special school types are oversampled. The special feature of grade fives' sample is that it is partly drawn from the sample of grade nine, having also a grade five in order to reduce administration costs. The other part is drawn out of schools not having classes in grade nine using the same implicit strata.

Evaluating the sampling procedure is done on the last period sampling frame taking account of the variation of weights being minimized making longitudinal weighting more comfortable. First findings show that using number of classes as a measure of size is superior to the number of pupils.

The National Educational Panel Study: need, main features, research potential

Jutta Von-Maurice, NEPS, Germany

The National Educational Panel Study (NEPS) has been set up to investigate how education is acquired, to see how it impacts on individual biographies, and to describe and analyze the major educational processes and trajectories across the lifespan. NEPS is collecting longitudinal data on the development of competencies, learning environments, effects of social inequality and migration, and returns to education throughout life. The poster gives a general overview of the project, focusing on the theoretical dimensions as well as the educational stages being investigated. Also the established multi-cohort sequence design with six starting cohorts (total of 60.000 target persons) will be introduced.

The aim of NEPS is to provide a rich data source for analyses in various disciplines concerning educational and training processes. Further, NEPS wants to set up a basis for major improvements in educational reporting and provision of expert advice for policymakers in Germany. Examples of research questions from different disciplines are given in the poster presentation.

Though NEPS data will be made available to the national and international scientific community, the poster also sketches our plans for developing high-quality user services.

German Infant Study on the influence of Nutrition Intervention PLUS environmental and genetic influences on allergy development

Irene Brüske, Helmholtz Zentrum München – German Research Center for Environmental Health, Germany

Background: The ‘German Infant Nutritional Intervention plus Influence of Pollution and Genetics (GINIplus)’ is a two-armed study birth cohort study conducted in Germany.

Methods: One study arm is a multicentre, double-blind, randomized study, while the second arm consists of a non-interventional study arm. In brief, between September 1995 and July 1998 a total of 5,991 newborns were recruited in obstetric clinics in Munich and Wesel, Germany. Initially approximately 10,700 mothers were contacted resulting in a participation rate of 56%. Children were followed up at the age of one year, two years, three years, four years, six years, and 10 years. Only healthy full-term neonates were recruited with a gestational age >37 weeks. Exposures of interest were: hydrolyzed infant formulas, traffic air pollutants, pet ownership, diet, stress, socio-economic status, and genetic variants. Major outcomes were: atopic diseases (asthma, eczema, hay fever, allergic sensitization); infectious diseases (otitis media, pneumonia), metabolic and inflammatory markers (lipids, fatty acids, cytokines), growth and development, attention deficit syndrome/hyperactivity.

Results: Infants with eczema are at an increased risk for mental health problems at age 10 years (Schmitt et al 2010).

Influence of life-style factors on the development of the immune system and allergies in East and West Germany Plus the influence of traffic emissions and genetics

Irene Brüske, GSF – Research Centre for Environment and Health, Germany

Background: The study on 'Influence of Lifestyle and Behaviour on the Development of the Immune System and Allergic Diseases plus Air Pollution and Genetics (LISApplus)' is a birth cohort studies conducted in Germany.

Methods: Parents of neonates admitted to maternity hospitals in Munich, Leipzig, Wesel, and Bad Honnef, Germany were contacted. In total, 3097 healthy neonates with a gestational age >37 and a birth weight over 2500g were recruited between December 1997 and January 1999. LISApplus was designed as a population based study and has been followed up at the age of six, twelve and 18 months and two, four, six and ten years.

Exposures of interest were: traffic air pollutants, indoor allergens (mites, cat, and mould), pet ownership, diet, stress, and socioeconomic status. Major outcomes were: Atopic diseases (asthma, eczema, hay fever, allergic sensitization); infectious diseases (otitis media, pneumonia), metabolic and inflammatory markers (lipids, fatty acids, cytokines); growth and development, attention deficit syndrome/hyperactivity.

Results: Reduced IFN-gamma and enhanced IL-4-producing CD4+ cord blood T cells are associated with a higher risk for atopic dermatitis during the first 2yr of life (Herberth et al. 2010).

The Danish Longitudinal study on children in care

Helene Oldrup, SFI - The Danish National Centre for Social Research, Denmark

The Danish Longitudinal Survey of Children in Care (DALSC-C) was initiated in 2002, and is a unique longitudinal study of children born in 1995 who are taken into care. In the first round 603 children took part, but as more children are brought into care as the children grow older the sample population will grow. This particular starting point was chosen to follow the longitudinal study of Danish children in general which begun in 1995 (DALSC), and which aims to provide basic representative information about family conditions and the development of the 6011 children participated in the first data collection. Data collections has taken place in 2003, 2007, and the next round will take place in 2010

The survey seeks in parallel with the DALSC study to explore children's welfare, health and development, but in addition to explore the special circumstances involved in being a child taken into care. Questionnaires with the child itself are carried out, with the foster parents/foster institutions and with the case person in the council. To measure cognitive and non-cognitive well-being of Danish children, different test scores have been connected to the survey in the past two collections. Some of the research drawing on this data explores the effect of instability in care, risk factors involved in care, and the significance of mental illness for the children.

From an international perspective, DALSC-C contains unique information about an overlooked group of children and youngsters in Western societies. This is a group that often are the most marginalised and with the poorest future prospects in otherwise wealthy societies. The longitudinal perspective makes it possible to detect effects of different family arrangements and other background factors, and the effects of different care arrangements.

Day 2 - Thursday 23rd September 2010

Symposium – Poorer children’s educational attainment: how important are attitudes and behaviours?

The socio-economic gradient in child outcomes – the role of attitudes, behaviours and beliefs from birth to age 5: evidence from the Millennium Cohort Study

Luke Sibieta et al, Institute for Fiscal Studies, UK

Our analysis shows that there are big differences in cognitive development between children from rich and poor backgrounds at age 3, and that this gap widens by age 5. There are similarly large gaps in young children’s social and emotional well-being at these ages.

Children from poor backgrounds also face much less advantageous “early childhood caring environments” than children from better off families. For example, we have identified significant socio-economic differences in:

- health and well-being;
- family interactions;
- home learning environment;
- parenting styles and rules.

Differences in the home learning environment at age 3 have an important role to play in explaining *why* children from poorer backgrounds have lower test scores. However a much bigger proportion of the gap remains unexplained, or appears directly related to other aspects of family background (e.g. mothers’ age) that are not mediated through the early childhood caring environment. This suggests that policies to improve parenting skills and home learning environments in isolation cannot possibly eliminate the cognitive skills gap between rich and poor young children. However, they may have a greater role to play in reducing the socio-economic gap in children’s social and emotional development.

The socio-economic gradient in child outcomes – the role of attitudes, behaviours and beliefs in the primary school years: evidence from ALSPAC

Elizabeth Washbrook et al, Institute for Fiscal Studies, UK

Our analysis suggests that the socio-economic gap in attainment, already large at age 5, grows particularly quickly during the primary years, with only three quarters of children from the poorest fifth of families reaching the government’s expected level at age 11, compared to 97% of children from the richest fifth. In particular, poor children who perform well in Key Stage tests at age 7 are more likely than rich children to fall behind by age 11, and poor children who perform badly at 7 are less likely to improve their ranking than children from wealthier families.

Some of the factors that explain this widening gap are:

- Parental aspirations for higher education;
- Children’s behavioural problems.

For example, 81% of the richest mothers say they hope their 9-year-old will go to university, compared with only 37% of the poorest mothers. Such adverse attitudes to education amongst disadvantaged mothers are one of the single most important factors associated with lower attainment at age 11. Our findings suggest that policies which aim to change mothers’ and

children's attitudes and behaviours during primary schooling could be effective in reducing the growth in the rich-poor attainment gap that takes place over this time.

Explaining the socio-economic gradient in child outcomes during secondary school: evidence from the Longitudinal Study of Young People in England

Haroon Chowdry et al, Institute for Fiscal Studies, UK

Our analysis confirms that attainment gaps at age 11 are already large, but that they don't widen very much during the teenage years. By age 16, only 21% of children from the poorest fifth of families gain five good GCSEs (grades A*-C, including English and Maths), compared to 75% of the richest fifth. We find that young people are more likely to do well if **their parents:**

- think it likely that their child will go to university;
- devote material resources towards education;

and if **the young person themselves:**

- thinks it likely that they will apply to, and get into, university;
- avoids risky behaviours such as smoking and truancy.

Since young people growing up in poor families do less well in *all* these respects, this provides some explanation for their lower attainment. However, it should be noted that HE aspirations, for example, are high across the board, suggesting that there is not necessarily an "aspirations gap" to be addressed. While intervening earlier in childhood is likely to be most effective, policies aimed at improving attitudes and behaviours among teenagers could also help prevent children from poor backgrounds falling further behind during the secondary school years.

Explaining the socio-economic gradient in child outcomes: the inter-generational transmission of skills and attitudes - Robert Joyce et al, Institute for Fiscal Studies, UK

Our analysis of the children of the BCS finds that children's test scores are lowest when poverty has persisted across the generations, and highest when material advantage has been long-lasting.

We show that parents' cognitive abilities and other childhood circumstances play an important role in explaining the gap between test scores of rich and poor children today. For example, nearly one fifth of this gap is explained by a 'direct' link between the cognitive ability of parents and their children. Moreover, this is the contribution we find after controlling for a wide range of environmental factors, and channels through which cognitive ability might operate, such as parents' educational attainment. While we acknowledge that the way in which genetics and environments interact is complex, we posit that this provides evidence of a genetic component to the inter-generational transmission of cognitive skills. It should be noted, however, that accounting for traits (such as parental ability) that are unobserved in the other studies does not diminish the role of attitudes and behaviours in explaining the rich-poor test gap: attitudes and behaviours amongst the current generation account for 15-20% of the attainment gap regardless of whether we control for these typically unobserved factors.

Symposium – Qualitative Longitudinal Research, Session 2

Qualitative longitudinal data and secondary analysis: researching identities, the life course and social change - Sarah Irwin, University of Leeds, UK

The presentation reports on aspects of the work of the ESRC Timescapes Qualitative Longitudinal Initiative: 'Changing lives and times: relationships and identities through the life course'. Timescapes comprises a range of activities including seven substantive research projects which focus on identities, experience and social relationships across diverse life course stages and points of transition, and which are all contributing to the Timescapes Archive of longitudinal qualitative data. Timescapes also includes a range of activities designed to encourage data re-use and secondary analysis. Within Timescapes, the Secondary Analysis Project is developing some exemplar studies with a view to developing substantive insights and drawing methodological lessons. Within this project we are following different lines of enquiry. The presentation takes as a focus two of these, and offers some early analyses, and a platform for critical reflection on methodological issues. First I consider our work across Timescapes data sets, where we are analysing responses to those questions asked in common across projects, as well as researching common themes relating to identity and social relationships across different phases of the life course. I consider early outcomes of these analyses, and explore questions about the scope for working across data sets in this way. Is it possible to build conceptual insights from a process which necessarily abstracts from the immediate contexts of data collection? Are the difficulties magnified when it comes to re-using qualitative *longitudinal* data? Are there useful general lessons to be drawn about effective strategies for the re-use of such data?

Secondly I consider our work in making links between Timescapes and external data, through the example of the Young Lives and Times project. Here we have developed points of connection with quantitative data sets, running a survey to complement the qualitative research and building lines of questioning into the latter, which complement evidence being gathered in the Longitudinal Study of Young People in England and 'Understanding Society' (the UK Household Longitudinal Study). In this example I consider issues relating to gender and expectations for the future, and how these change over biographical time. In turn such dynamics link to wider, structural, changes. I explore the scope for bringing together qualitative and quantitative data in a meaningful way to shed light on developments here.

Education, homogamy, reproduction, and inequality: a twenty-two year inter-generational perspective of Canadian women and men - Lesley Andres, University of British Columbia, Canada

In his 2009 book, Gøsta Esping-Andersen advances the bold statement that "social inequality has always been the core disciplinary concern in sociology. But the brusque return of major inequalities seems to have passed the profession by" (p. 169). One source of increasing inequality in recent years is that of assortative marriage and relationship patterns. In the past in western countries, men were more likely to be more highly educated than their wives and as such, households were more heterogamous in nature. Today, Esping-Andersen argues that there is a trend toward more educationally homogamous (similar) household formation. He asserts that "to the extent that higher education constitutes an important marriage market, it also becomes a strong social filter in terms of social background, world outlooks, and tastes" (p. 41). Homogamy among highly educated couples is likely to lead to more stable relationships, lower levels of unemployment, more commitment to dual careers, and more equal sharing of domestic labour.

In addition, the cultural, social, and symbolic capital available in these households is more likely to be transferred to children in ways that ensure favourable educational and occupational outcomes.

Conversely, homogamy among low-educated couples is more likely to result in lower family incomes, a higher risk of unemployment, less stable relationships, more traditionality, and more unequal sharing of domestic duties. Additionally, the cultural, social, and symbolic capital available in these households is less readily convertible to higher levels of academic capital and higher levels of occupational attainment by their children. Although analyses have been conducted in multiple countries (Blossfield & Timm, 2003), the nature and extent of homogamy in Canada remains under-examined.

The purpose of this paper is to explore the extent to which today's couples are homogamous and to determine how homogamy translates into levels of family income, unemployment patterns, and the gendered division of household labour. To examine these relationships, I employ 22 years of longitudinal data from the British Columbia, Canada *Paths on Life's Way* project. Through a mixed method design employing quantitative analyses of questionnaire data and qualitative analyses of interview data, I will provide a detailed account of the relationship between homogamy and levels of family. This analysis is unique in that I can follow the same individuals over time. In doing so, am able to examine the changes in homogamy between my respondents' parents and my respondents and whether the forms of cultural, social, and symbolic capital (e.g., enrichment classes, involvement in language classes, music lessons) transmitted to my respondents' children differ in relation to the homogamous nature of the family. Also, I can examine inequality in how family formation patterns (e.g. timing of marriage and children) and unfold over the life course of the *Paths* respondents take . The findings of this paper add a new twist to the value of a post-secondary education in relation to marriage strategies, and the reproduction of inequalities.

The linked lives of fathers in and through time

Fiona Shirani; Karen Henwood, Cardiff University School of Social Sciences, UK

Qualitative longitudinal study (QLL) provides the opportunity to consider fluctuations and changes across the life course, seeking insight into the subjective experience of personal change over time. The collection of temporal data is inherent in the design of qualitative longitudinal research as participants are revisited at different periods in time, capturing changes and continuities in their views and lived experiences. This paper seeks to foreground the temporal aspect of QLL research by focussing on men's relationships with their parents during a period of life course transition. Using data from the Timescapes network 'Men as Fathers' project, we explore the ways in which identities, relationships and linked lives are transfigured through biographical, generational and historical flows of time across the transition to first-time fatherhood. The analysis involves a case study approach to capture how change occurs, is experienced and understood by participants, demonstrating the methodological insights of temporal QLL research. By foregrounding the temporal, we demonstrate the unique potential for QLL to explore the dynamic experience of lived lives and inter-subjective experience across a momentous life course transition and period of identity change.

Symposium – Methodology

Analysing the propensity for attrition in a longitudinal survey

Harvey Goldstein et al, University of Bristol, UK

This paper aims to analyse predictors of attrition in a major UK longitudinal survey, the Family and Children Study, and thus to contribute to a deeper understanding of the process and reasons for attrition as a social phenomenon. Multilevel modelling techniques are used to analyse attrition across several waves and to account for clustering of sample members within interviewers.

Extending the Scottish Longitudinal Study back through time

Paul Boyle, University of St. Andrews, UK (now Chief Executive, Economic & Social Research Council, UK)

This paper will describe the creation of the Scottish Longitudinal Study. It will then describe some pilot work which has explored the possibility of creating a truly inter-generational study. This would involve linking into historical vital events records dating back as far as 1855. We explain some of the research benefits that could be derived from such a unique resource.

SITAR – a suitable instrument for growth curve analysis

Tim J. Cole, UCL Institute of Child Health, UK

Puberty is a clearly defined stage in the life course when the timing and intensity of the growth spurt may have an important impact on later health. SITAR (Super Imposition by Translation And Rotation) is a novel form of growth curve analysis that summarises the pubertal height growth patterns of children as a single summary curve, and at the same time defines each individual's curve in terms of three random effects that transform it to closely match the summary curve. The three parameters are biologically meaningful; size (cm) is an up-down shift in the individual curve (defining relative mean height), tempo (years) is a left-right shift in the curve (defining the relative timing of puberty), and velocity (%) is a stretching-squashing of the curve's age scale (defining relative peak velocity). Transforming the subject curves leads to a set of curves that deviate little from the fitted summary spline curve (residual SD 0.7 cm), indicating that the three parameters explain virtually all the heterogeneity in pubertal growth. The model also works well with infant growth. The method is illustrated with datasets including serial pubertal height and IGF-1 data, which show that growth tempo predicts IGF-1 measured 50 years later.

Comparability of categorical variables in longitudinal survey research

Paul Lambert et al, University of Stirling, UK

In working with longitudinal social surveys, we sometimes ignore, or at the very least oversimplify, challenges of measurement comparability in variables over time. Often, our approaches to harmonization involve searching for categories with consistent names over time, frequently achieving such 'nominal equivalence' by reducing the level of detail of measures to the so-called lowest common denominator.

In this paper we highlight some well-known, and some less well-known, comparability problems for categorical measures in longitudinal surveys. We focus on UK studies and their measures of occupational position, educational qualifications and ethnicity. These are widely measured and important categorical variables, whether being central analytical variables, or relevant controls in analyses with a different focus. We propose contributions in the form of (i) new online services that can assist in harmonizing measures, which we have generated through a recent ESRC-funded project on 'data management' (www.dames.org.uk), and (ii) our own suggestions on achieving effective harmonization of longitudinal variables, which focus upon documentation for replication, the recognition of age-cohort distributional differences, and a general advocacy of scaling categories as part of a strategy of 'functional equivalence'. These cannot solve every comparability challenge in these areas, but, we argue, are steps in the right direction.

Symposium – Transition to adulthood: the role of motivation and self-concepts

The role of career aspirations and ambition in predicting adult social status and earnings

Julie S. Ashby et al, Institute of Education, UK

Using a developmental contextual framework, this paper examines the role of teenage career aspirations and ambition in shaping social status and income attainment in adulthood. Drawing on data from an 18-year British follow up study, we tested a path model linking family background factors (such as family social background and parental aspirations) and individual agency factors in adolescence (in particular, career aspirations, and the value attached to job ambition) to social status and income attainment in adulthood. The findings suggest that ambition value is linked to adult earnings. That is, young people for whom it is important to get on in their job earn more money in adulthood than their less ambitious peers. The findings also confirm that teenage career aspirations are linked to adult social status attainment, and suggest that family background factors, teenage aspirations and ambition value, interact to influence social status and income attainment in adulthood.

School motivation as a predictor of career development

Helen Cheng et al, Institute of Education, UK

This study examines the associations between school motivation and adult social status attainment in two large representative samples of the British population born in 1958 and 1970. The notion of school engagement and motivation has been recognised as a potential antidote to declining academic motivation and achievement; there are however very few longitudinal studies examining the long-term consequences of being engaged in the school context and enjoying one's studies. Using a developmental-contextual framework, the antecedents and long-term outcomes associated with school motivation are tested using Structural Equation Modelling (SEM). The model specifies the pathways linking early influences on adolescents' school motivation and subsequent adult outcomes. Results show that family social background and academic attainment both had a direct influence in school motivation and social status. School motivation in turn, influences education participation and socio-economic status attainment, and is negatively associated with experience of unemployment – in addition to and above the influence of parental social background and academic capabilities. The study thus highlights the role of school motivation as a resource factor, enabling young people, even those from relative disadvantaged backgrounds, to succeed in their transition to adulthood. Findings are discussed in terms of their policy implications.

Predicting university majors from academic ability and self-concept: an application of the internal-external frame of reference theory

Philip Parker et al, University of Tuebingen, Germany

Mathematics in high school represents a critical filter for university majors in science, technology, engineering, and mathematics (STEM) and access to a number of prestigious careers. As such, a great deal of research has focused on the role of mathematics in high school as a predictor of later university course majors and of gender differences in STEM involvement. However, choice of university majors involves the comparison and influence of ability and self beliefs associated with multiple domains, not just mathematics. The internal/external frame of reference (I/E) model highlights the role of cross-domain comparisons between math and verbal domains as a basis of self-concept formation and, as a consequence, choice of behaviour. While it has been suggested that this model may be useful in explaining academic choices, little research has explored I/E theory with reference to university majors. In the current research, the I/E model was used to predict university majors with a longitudinal sample of young adults (N=1881). Multi-group SEM indicated gender differences in the I/E model, and multinomial logit analysis suggested that intra-individual comparison in the mathematical and verbal domains was important in predicting involvement in STEM fields in university. Implications for policy and intervention are discussed.

A study demands-resources model of study burnout and engagement

Katariina Salmela-Aro, University of Helsinki, Finland

This study tests the association between study demands and school burnout in the context of school transitions. A study demands-resources model was tested following the assumption that high study demands would be related to study burnout, while the availability of study resources would be related to study engagement. Study burnout, in turn, is assumed to be related to later ill-health, such as depressive symptoms, while engagement would be related to later commitment and well-being. The study draws on the Helsinki Longitudinal Student Study, following 700 students from their last year in comprehensive school with further three annual assessments after the transition to upper secondary education. The findings suggest that study demands were related to students' later school burnout, while study resources were positively related to later school engagement and negatively to burnout. Moreover, both school burnout and engagement showed stability, and school burnout predicted negatively school engagement one year later. Finally, school burnout predicted later depressive symptoms, while engagement predicted later life satisfaction. The demand-resources model has been used in the work context but based on our results, it seems to fit well also to the school context.

Symposium – Antisocial behaviour and crime: development across childhood, adolescence and early adulthood

The role of callous and unemotional traits in the diagnosis of conduct disorder

Richard Rowe et al, University of Sheffield, UK

Background: Callous and unemotional (CU) traits might usefully subtype DSM-IV conduct disorder (CD). We investigate this hypothesis in a large, nationally-representative sample of 5-16-year-olds. We also examine the characteristics of children with high CU traits but without CD.

Methods: Data come from the 2004 British Child and Adolescent Mental Health Survey including 7,977 children, 5,326 of whom were followed up after 3 years. DSM-IV diagnoses of psychiatric disorder were based on parent, teacher and child report. CU traits were assessed by parent report.

Results: Of the 2% of the sample who were diagnosed with DSM-IV CD, 46.1% were high on CU traits. In addition, 2.9% of the sample were high on CU traits without CD. Children with CD and CU traits showed more severe behavioural disturbance and were at substantially higher risk of CD diagnosis 3 years later. Children high on CU traits without CD showed evidence of disturbed functioning.

Conclusions: Sub-typing CD using CU traits identifies children with more severe and persistent psychopathology. Children with high CU traits but no CD diagnosis require further investigation.

Androgens and conduct disorder in early-mid adolescent girls

Barbara Maughan et al, Institute of Psychiatry, UK

Background: Rising androgen levels may be implicated in the sharp rise in risk-taking and antisocial behaviours that occurs in early-middle adolescence. Studies in boys point to biosocial interactions, whereby elevated testosterone levels are especially associated with antisocial outcomes in social contexts that press for deviant or delinquent behaviours.

Method: We studied androgen-behaviour associations in a representative sample of 9-15 year-old girls (n=1276 observations) studied in the first three waves of the US Great Smoky Mountains Study, an epidemiological/longitudinal study of psychiatric disorder in childhood and adolescence. Hormone levels were assayed from blood spots. Conduct Disorder (CD) and other psychiatric disorders, along with social background and peer factors, were assessed in interviews with children and caretakers.

Results: Girls with CD did not differ from others in levels of androstendione, but did show elevated levels of DHEAS and testosterone. Adjustments for comorbid psychiatric disorders (depression and substance use) and pubertal timing, reduced these effects to non-significance. Androgen levels showed no associations with physical aggression. Risk for CD was, however, elevated in girls with high androgen levels who also had behaviourally deviant peers.

Conclusions: Hormone-behaviour relationships in adolescence show evidence of moderation by social context in girls as well as boys.

Income supplementation and the prevention of adult criminality: follow-up of a natural experiment - *E. Jane Costello et al, Duke University, USA*

In a natural experiment in which some families received income supplements, adolescent delinquency fell. Here we examine the effects of income supplements on adult criminality, controlling for psychiatric and substance use disorders.

Using a quasi-experimental, longitudinal design, a representative sample of 1420 children ages 9, 11, or 13 in 1993 (25% American-Indian) were evaluated up to age 21. From 1996, when a casino opened on the Indian reservation, every American-Indian received an annual income supplement increasing from \$500 to around \$9000. We surveyed all study participants at age 21 for criminal charges since age 16. Results were adjusted for age, sex, length of time in the family home, and number of Indian parents.

Results. The youngest age-cohort of Indian youth had longest exposure to the income supplement. Fewer members of this cohort had records of minor offences than either Indians in older cohorts or any cohort of non-Indians. No differences were found for serious or violent offences. This group also had higher levels of education and lower rates of drug abuse/dependence. Income supplements in adulthood had no impact on crime rates.

We discuss the use of life course developmental data to test causal hypotheses about social influences on criminality.

Symposium – Becoming adult in the United States, Britain and Finland

Transition to adulthood in a changing social context: evidence from two British birth cohorts
Ingrid Schoon, Institute of Education, UK

Social, economic and demographic changes over the past three decades have brought about changes in life course transitions. Traditional pathways into adult life are said to have become de-standardised, more heterogeneous and differentiated, with individuals gaining greater control of their lives. But have these changes impacted on all young people in the same way?

The aim of this paper is to examine variations in the assumption of adult roles, their associations with family background, teenage academic capabilities, and adult levels of wellbeing. The study draws on two British birth cohorts born in 1958 and 1970. The transition to adulthood is defined through education, work, partnership, parenthood, and housing status. We specify a latent class approach to examine role configurations at age 26 years and their association with family background and teenage academic capabilities. In both cohorts we could identify five types of status configurations at age 26: double income no kids, or DINK; academic track; slow starters still living with parents; traditional families; and precarious families. There were surprising small differences between the cohorts regarding the prevalences of group membership, although there has been an increase of cohort members on the academic track, and a decrease of precarious families. Crucial predictors of role combinations are family social background, gender, cognitive ability, as well as high academic motivation. Our findings suggest that a delayed assumption of adult roles is not necessarily associated with high academic attainment, nor with increased levels

of adult wellbeing. Rather there appear to be different transition strategies for individuals on a fast versus slow track transitions, enabling them to become well-adjusted and contented adults.

Mid-twenties social role patterning: adolescents predictors and concurrent well-being across four transition types - Jennifer L. Maggs et al., *The Pennsylvania State University, USA*

Psychological models emphasizing self-directed exploration and sociological traditions emphasizing the interaction of social structure and personal agency in the creation of individualized life courses agree that the decade after completing education is pivotal for establishing healthy lifestyles and work and family roles. Navigating these transitions involves negotiating a diverse set of role changes. In two nationally-representative cohorts from the Monitoring the Future study in the United States (paralleling the birth cohorts in the British and Finnish studies), we use latent class analyses to identify four distinct configurations of role statuses in the mid-20s, focusing on education, residential status, employment, cohabitation/marriage, and parenthood. Latent classes replicate across cohorts, and are described as College Track to Careers No Kids (45/46% of sample for earlier/later born, respectively), Traditional Fast Track to Families (31%/27%), Working Singles at Home with Parents (17%/19%), and Students (7%/9%). We examine adolescent (age 18) predictors of role status configurations and concurrent (age 26) health and adjustment, including life satisfaction; no or low tobacco, alcohol, and illegal drug use; and abstention from crime. Results from these two long-term longitudinal national cohort studies document systematic and sustained heterogeneity in social role patterning, predictors, and correlates.

Mapping pathways to adulthood in Finland

Katariina Salmela-Aro et al, University of Helsinki, Finland

The aim of this paper is to examine differential pathways to adulthood across four life domains (residence, career, partnership, and parenthood), and their differences in background factors and subsequent well-being, by using two Finnish longitudinal studies. The Jyväskylä Longitudinal Study of Personality and Social Development (JYLS) follows the lives of 292 individuals born in 1959 from age 8 to age 50. The Helsinki Longitudinal Student Study (HELS) comprises 300 first year university students (born about 1970) who were followed over 18 years. Comparing transition outcomes of these two cohorts at age 26 shows variations in fast versus slow transitions, defined by the combination of work and family-related roles and education participation. In HELS, based on latent class analysis, three groups emerged: slow starters (65%), early starters (14%) and work-orientation (21%). In JYLS, 5 groups were identified: traditional fast track (42%), academic track (12%; more women), working singles (34%; more men), students (7%), and mixed track (pronounced career problems; 5%). Differences and similarities in the emerging patterns are discussed, as is their association to family background and individual characteristics as well as later outcomes regarding psychological wellbeing.

Pathways of transition to adulthood and early adult well-being

Jeylan Mortimer et al, University of Minnesota, USA

The principle of timing is a rockbed tenet of life course analysis; individuals who undergo transitions “off-time” are expected to suffer negative outcomes. Classic conceptualizations of age-grading (Neugarten), however, occurred during an historical period when life course transitions were more standardized; little is known about the consequences of following the diverse, prolonged and individualized contemporary transitions to adulthood. Eliason et al’s latent class analysis of age-graded social roles, role configurations, and pathways from age 17 to 30, identified five latent life pathways (LLPs) in the Youth Development Study cohort, born in the mid-seventies: two “early parent,” varying in partnership and adult-like, full-time work; and three “traditional school-to-work,” with family formation “on-time,” “delayed,” or “negligible.” Significant variation across pathways exists in attainment (education, income, financial strain, savings), mental health (depressed mood), and physical health (subjective, pain, specific problems). Whereas traditional school-to-work pathways are associated with better outcomes than early parent pathways, “delayed” family formation tends to be more salutary than “on time” or “negligible” family formation. We find that LLPs fully mediate the effects of social class origin on depressed mood; we continue to examine interrelations of social background, pathways of adult transition, and key early adult outcomes.

Symposium – Qualitative Longitudinal Research, Session 3

Mixed methods and life course research

Udo Kelle, University of Marburg, Germany

Life course research is among the first domains in the social sciences where extensive use has been made of what has later been discussed under the label “Mixed Methods Designs”. However, as in other fields where Mixed Methods have been utilised, the combination of qualitative and quantitative methods in the research process is often conducted in a merely pragmatic manner without a solid methodological and theoretical foundation.

In my paper I will explore the links between (meta)theoretical approaches in life course research and the use of different types of data and their combination. The investigation of the life course in modern societies requires an integration of macro- and micro-sociological perspectives, whereby both the significance of societal structure and individual action in the life course is reflected. If such a research programme is translated into empirical practice, it demands research designs with alternating steps of qualitative and quantitative data collection and analysis. By drawing on examples from research practice, I will show how such research designs can be employed to overcome specific weaknesses and problems that both qualitative and quantitative methods have if they are used in mono-method designs.

Working collaboratively in generating analytic insight: reframing ageing and (grand)parenting
Joanna Bornat, The Open University, UK

The secondary analysis strand of Timescapes encompasses a range of different activities, including the bringing together of data, and researchers, within the Timescapes network. This paper builds on a series of internal collaborations where Timescapes members have linked data from different research projects to explore common themes. I consider a range of methodological issues including confidentiality, knowable context, and working within and across disciplinary boundaries. I then look at the insights gained by a series of paired project meetings focusing on issues relating to ageing, later life and (grand)parenting. As in any secondary analysis or re-use of data, the result was new interpretations and ways of framing the original material. The collaborations, all in different ways, contributed to the emergence of new evidence from the original data. In the paper I draw out three examples from the pairings, each illustrating a different analytical outcome of collaborative secondary analysis. These are: identification of emergent themes; recasting of data and expanding understanding of access, sampling and social networks.

Narrative from numbers: constructing individual life histories to explore childlessness
Roona Simpson, CRFR, Edinburgh; Jane Elliott, CLS, IoE, London

Narrative as an analytic tool has increasingly been used to enhance understandings of social change across the social sciences, however it is predominantly associated with qualitative research. The use of survey data to create narrative accounts which transcend qualitative and quantitative boundaries is beginning to be considered. The level of detail about individual lives, and information on changes over time at the individual and societal level that such data provides, offer considerable potential for the construction of narratives, or individual life histories.

This paper reports on a pilot study investigating the use of longitudinal survey data to construct individual life histories, and exploring how these, alongside more conventional biographical interviews, can be used to generate hypotheses for future research. The substantive topic is childlessness amongst men and women aged 50, drawing on data from the National Child Development Survey. The extent to which childlessness is chosen is a matter of much debate: data on fertility intentions in early adulthood distinguishes those 'choosing' childlessness. Information on socio-economic background, educational and employment attainment, and residential and partnership histories provides the situational context of individual trajectories. Comparisons of these life histories with biographical interviews conducted at age 50 provide insight into the extent to which such different data complements each other, the hypotheses each generate and the future research needed to answer them.

Symposium – Methodology

Recall error and recall bias in life course studies

Gindo Tampubolan, University of Manchester, UK

Aims: I propose to distinguish between recall error and recall bias and to examine the effect of childhood deprivation on adult health subject to such recall problems. These childhood factors are often elicited in retrospective life course study. Unfortunately, they are often subject to recall error and recall bias. There is surprisingly little methodological work on how to purge their effects in life course studies (Andrew Pickles, personal communication, 1 April 2010).

Methods: I recast a variant of generalised latent variable models as covariate error measurement model to purge recall error and endogeneous treatment model to purge recall bias. I apply both models to estimate the effect of childhood deprivation on adult health of 350,000 respondents from 23 European countries (EUSILC 2005).

Results: Childhood deprivation has a strong effect on adult health. Once recall error is accounted for, the effect reduced markedly. Moreover, model of recall bias suggests that childhood deprivation is systematically mis-reported. Once this is purged, the effect of childhood deprivation on adult health is reduced substantially. I also apply the models to study the effect of childhood deprivation on the elderly's health using the English Longitudinal Study of Ageing Life History Module.

The surprising respondent: using topic saliency to minimise attrition among vulnerable groups

Tania Smith, University of Edinburgh, UK

Surprising respondents are individuals who display many of the risk factors for attrition but who continue to participate in longitudinal surveys at each wave. Using data from the Scottish birth cohort study, 'Growing up in Scotland', this paper argues that topic saliency is an important factor in securing the continued participation of frailer respondents and so maintaining the quality of survey estimates. The analysis finds that surprising respondents contribute significantly to bias reduction on measures of deprivation, health, social behaviour and service uptake and that the effects of their attrition would be patterned and analysis-specific. There is therefore value in making extended efforts in the field to secure the ongoing involvement of these participants. Using measures of parenting attitudes and behaviours as indicators of topic saliency, suggestions are offered for fieldwork interventions which maximise the saliency of the survey to other vulnerable respondents in order to minimise sample wastage.

Combining longitudinal survey data and register data – opportunities and difficulties

Sara Korzen et al, Danish National Centre for Social Research, Denmark

The objective of our presentation is to study the opportunities and difficulties social scientists are facing when they combine longitudinal survey data with data from registers. In Denmark social science researchers have unique opportunities to combine survey data with a rich variety of register data. Using a Danish longitudinal study of children placed in out-of-home care as a case, we will study the experiences gathered during the first two waves of data production and

analysis, and the strategies being developed for the third data wave. The study includes all children from the 1995 cohort who are, or have been, placed in out-of-home care. The study includes survey data on parents, child protection social workers, the care environment and the children themselves, as well as data drawn from several public registers at Statistics Denmark. In the paper we identify challenges when combining survey and register data. We identify several areas where the discrepancy of survey and register data is distinct. For instance, there is little accordance between out-of-home care history from survey data and register data. The explanations of the discrepancies include a variety of problems. Based on our analysis we present recommendations for future combinations of survey and register data.

A comparison of methods of turning banded family income into a continuous variable using longitudinal data

Sosthenes C. Ketende, Institute of Education, UK

It is common practice for surveys to collect income data using income bands, especially if income information is not the main focus of the survey. This is done for various reasons, including reducing respondent burden. Longitudinal studies have a wealth of information on the same individual over time. It is often attractive to use income data beyond the tabulations of income bands with other categorical variables. The studying of income poverty or income dynamics, where percentile or quintile distribution of income is of interest, are examples of situations where continuous income is preferred to banded income. At each wave of all the four waves of the Millennium Cohort Study (MCS), banded family income data was collected. In this paper we first investigate longitudinal predictors of income item non-response, and we use the predictors to impute missing data due to item non-response, and to predict continuous income conditional on the observed bands. We use interval regression and multiple imputations for the imputation and prediction of continuous income. Secondly, for the purpose of studying child income poverty and family income dynamics, we compare the imputed income distributions to the commonly used band midpoint distribution.

Symposium – EUCCONET

Data management in child cohort studies

Andy Boyd, University of Bristol, UK

Cohort studies are complex projects that generate vast amounts of data over long periods of time. These data need to be organised and secured in a way which enables the long-term follow up of the study families, archiving of data and the provision of data for complex research purposes. Studies typically employ some specialists to work in this area, for example database administrators; however these roles are often carried out by short-term contractors or distributed amongst researchers who may not have software programming or broad Information Technology expertise.

The EUCCONET Data Management Interest Group (EDMIG) was designed to provide a forum for specialists and researchers working within the data management and study IT infrastructure fields to meet and discuss and identify best practice from the various methodologies utilised within studies in the EUCCONET network.

The group met for the first time in Bristol in March 2010. Summaries of discussions regarding the design of administrative databases needed to manage cohort studies, the IT requirements of bioinformatics research and moves towards 'open access' data provision can be found on the EUCCONET website. The key strength of the group was identified as allowing networking to occur between researchers working in this field and study managers.

The group wish to promote the EUCCONET forum and the role it could play in providing opportunities for data specialists to exploring specific questions and also study managers seeking advice while considering the long term projects and study infrastructure requirements. The EUCCONET forum can be found at: <http://euconet.forumotion.com/>

'Born in Bradford: A longitudinal study of babies in Born in Bradford and their mothers and fathers' - *Pauline Raynor et al, Bradford Royal Infirmary, UK*

Bradford is a multi-ethnic city where deprivation, life expectancy, early death and infant deaths are significantly worse than the England average. The Born in Bradford (BIB) birth cohort study began recruitment in March 2007. Pregnant women are recruited to the study at around the 26th week of pregnancy. To date 11,496 women are enrolled with recruitment continuing until the end of 2010. This presentation describes the characteristics of the first 5000 women recruited to the study. 38% of women were of White British ethnicity and 46% were of Pakistani ethnicity with 43% of the Pakistani women being UK born. There are significant differences between the White British and Pakistani women in measures of socio-economic position (93% of White British women and 53% of Pakistani women were or had been in paid employment) and lifestyle factors, such as smoking (57% of White British and 7% of Pakistani women have ever smoked). Our analyses will explore whether differences remain or reduce across three generations of Pakistanis in Bradford. In addition, future work will incorporate linkage between study questionnaire data and sources of routine health data, to examine differences in health between ethnic groups and the mechanisms underlying these differences.

Getting Growing Up in New Zealand off the ground

Susan Morton and Elizabeth Peterson on behalf of the Growing Up in New Zealand team, University of Auckland, New Zealand

Growing Up in New Zealand is a new longitudinal study following 7000 New Zealand children recruited from before birth. The overarching objective of the study is to provide robust, population relevant evidence about growing up in New Zealand in the 21st century, to better inform inter-sectoral public policy designed to optimise children's life course health and development. Throughout the development phase until 2007, and the subsequent recruitment and early retention phases from 2008, a trans-disciplinary and collaborative approach to the study has been taken. Building meaningful relationships within the multi-disciplinary project team, multiple government agencies, diverse communities, and especially with participants, has been central to establishing this new study in the current New Zealand environment. Current policy issues have informed all stages of the development and implementation phases of the study, and relationships have been established that will facilitate efficient translation of the research evidence into policy. Because the cohort will be broadly representative of all children born in New Zealand it will be particularly well placed to provide relevant evidence to inform

policy to address the persistent, and often widening, inequalities that exist in outcomes for our children in terms of their ethnicity and socio-economic status.

Symposium – Studying military service in the life course

Studying military service in the life course: an introduction

Glen H. Elder Jr., University of North Carolina, USA

In this new century, we see a flourishing perspective on military service, one that places it within history and the life course. The co-development of longitudinal studies and life course thinking has tended to generate new questions about military service. Who enters and why? What are the effects of military experiences on lives in the post-service years?

The three papers in this symposium bring complementary perspectives to "studying military service in the life course." David Segal and Reeve Vanneman lead off by noting how methods for studying military service have changed, and how the US military itself has changed, creating new challenges for field studies. In her study of public attitudes toward veterans, Meredith Kleykamp shows that employers prefer veterans as new employees, and that Americans are generally more positive toward military personnel than their Middle East wars. This study brings to mind the negative homecoming experienced by returning soldiers and marines from the Vietnam War. The third presentation draws upon the National Longitudinal Study of Adolescent Health, to identify young men who have entered the all-volunteer military instead of college. It focuses on the motivating incentives for this course of action and its implications for their life course and health.

American military service and the life course: what we know, what we don't know, how to fill in the gaps - David Segal et al, University of Maryland, USA

Social scientists in the United States started studying the impact of military service on post-service lives during World War II, initially using cross-sectional surveys, government databases, and longitudinal surveys. From the 1960s to the 1980s, national longitudinal studies gave us insights into the lives of Vietnam veterans and people who served in the early years of the all-volunteer force as they transitioned into civilian roles. However, military service and war have changed in the twenty-first century, and existing data archives provide little basis for understanding the impact of military service on the current generation. In addition, we have veterans returning from war zones with significant physical and psychological wounds, their families, who are linked to their lives, and the communities from which they come and to which they return after service. This paper imbeds a description of a proposed new large-scale longitudinal research effort that addresses these issues, in a discussion of what we know about previous generations of veterans, and why today's issues are more complex than those of the past.

Status configurations as pathways to military service

Glen H. Elder Jr. et al, University of North Carolina, USA

The volunteer Armed Forces in the United States offer young men (and women) both educational and training benefits as an incentive for military service. Using longitudinal data from Add Health, this study employs a person-centered approach to investigate whether particular status configurations (i.e. being high on one dimension and low on another) enhance the appeal of the military as a source of advancement for young adults. The study focuses on three status-related dimensions that are especially consequential for young people — academic performance, cognitive ability, and socioeconomic status of origin. We test the hypothesis that particular configurations of status inconsistency (e.g. higher cognitive ability than school grades and socioeconomic origin) orient young adults to enlist in the military. Young people with this status profile have relatively poor prospects for higher education. Further, we examine whether military enlistment actually increases access to college for the disadvantaged who enlist. Two of six identified clusters — Underachievers and Model Students — show a substantial increase in the likelihood of military enlistment. The analysis also shows that these young adults and those from the Truly Disadvantaged cluster are more likely to enter college and a path to greater opportunity if they had served in the military.

The context of reception for veterans

Meredith Kleykamp, University of Kansas, USA

A core insight of the life course perspective is that historical and social context plays a key role in shaping individual life trajectories. This paper examines the role of the societal context of reception for today's military veterans in the United States by drawing on two empirical studies designed to capture information about public attitudes towards veterans. First, the results from an audit study of hiring suggest that when evaluating equivalent job applicants, employers prefer military veterans. Second, the results of a nationally representative survey suggest the general public tend to see veterans (and combat veterans in particular) as likely to face a number of problems (mental health, violence and substance abuse) but that they are highly deserving of public assistance and social integration. The public appears to want less social distance from, and to provide more help to, combat veterans (relative to private contractors and non-combat veterans), even while they are perceived to have psychological, substance and aggression problems. Although the wars in Iraq and Afghanistan may be highly unpopular, those who fought in them are not. These studies highlight the importance of taking context seriously in the study of the military in the life course.

Symposium – Health and wealth in the lifecycle

Socialization into physical activity: findings from a 17 year longitudinal study

Bente Wold et al, University of Bergen, Norway

The aim is to examine changes in participation in physical activity from age 13 to age 30, and to study how relationships to major socializing agents (primarily family, school and leisure activities) during adolescence relate to participation in physical activity in adulthood. The theoretical background is social cognitive theory, in particular elements of observational learning. MPlus analysis is applied to longitudinal data from surveys of a sample of 924 Norwegian adolescents. Nine waves of data collections have been carried out, the first when the study participants were 13 years old in 1990, and the final one at age 30 in 2007. Preliminary analyses suggest that on average, physical activity drops during adolescence, then flattens out, and increases slightly in adulthood. However, there is considerable heterogeneity in the changes of physical activity over time. Encouragement from parents and family and peer participation in physical activity during adolescence, as well as adolescent participation in youth sports are weakly associated with adult physical activity. Further analyses will be carried out to identify trajectories of changes in physical activity, and to examine correlates of these trajectories linked to adolescent perceptions of family, peers and sport involvement.

Educational attitudes and social stratification: a multivariate analysis of the British Youth Panel

Vernon Gayle et al, University of Stirling, UK

There has been a longstanding interest in young people's attitudes and aspirations. In this research, we are substantively interested in how young people's attitudes to school and to education are socially stratified. The British Youth Panel (BYP) is a special dataset that comprises young people who live in households surveyed in the British Household Panel Survey (BHPS). The BYP is a standard rotating panel, in which the child enters the sample at age 11 and is surveyed annually until they enter the BHPS adult survey at age 16. The BYP contains a short battery of attitudinal questions that survey the young person's attitude to education and school life. We investigate these attitudinal questions and model both individual and household characteristics, and parental information. We estimate bivariate ordinal response models with correlated random effects to investigate responses to pairs of attitudinal questions. This approach is methodologically innovative because these models are not currently available in standard statistical software. Through this modelling approach we are able to investigate more complex interrelated patterns of social stratification. We exploit the panel element of data to explore both individual and cohort level attitudinal change over time.

Model uncertainty over the life course: the case of early health and educational attainment

Robert G. White et al, University of Wisconsin, USA

Life course research has examined increasingly earlier periods of the life course to understand the persistence of social inequalities during adulthood. While registry data and cohort studies in Europe have given rise to growing reports that pathways related to human development may link childhood conditions to adult inequalities, it remains unclear how comparable processes may unfold in the distinct context of the United States. The fundamental obstacle is the absence of a

nationally representative cohort study that covers a sufficient span of the life course with adequate measures of socio-economic status and individual development. We propose a method for constructing a synthetic cohort, which satisfies the demands for inferences involving distant events over the life course. We match individuals from separate cohort studies in the United States and report model estimates of the relative importance of childhood cognitive and socio-emotional skills in the pathways linking early child health to adult inequalities. The robustness of the proposed matching method and the sensitivity to changing cohort effects across matched cohort studies, are assessed in a set of micro-simulations using the 1970 British Cohort Study.

Symposium – Design, development and response issues: understanding society and MCS

Understanding Society: Key design features and analysis potential

Heather Laurie, Institute for Social and Economic Research, UK

Understanding Society, the UK Household Longitudinal Study, is a new annual household panel survey of 40,000 households. It is the successor study to the British Household Panel Study (BHPS) which has been collected since 1991. Fieldwork for wave 1 of *Understanding Society* began in January 2009 and wave 2 commenced in January 2010. The BHPS sample is incorporated within *Understanding Society* from wave 2 of the study. This paper provides an overview of the key design features of *Understanding Society* including the sample design and data collection plan, an Innovation Panel for methodological research, an ethnic minority oversample, the collection of bio-markers, data linkage to administrative records and the potential for linked qualitative studies. The paper outlines the long-term content plans for the study and discusses the analysis potential for users of longitudinal data. These include the possibilities offered by the large sample size, the household panel design, the multi-topic content for interdisciplinary use, and the new forms of data being collected or added to the study. The rationales for decisions made in incorporating the BHPS into the new study to provide longitudinal consistency, while reconciling the competing demands for continuity and innovation, are also discussed.

Health and Bio-measure Data in Understanding Society

Amanda Sacker, Institute for Social and Economic Research, UK

The health-related data of *Understanding Society* presents intriguing research opportunities. There are several varieties of health-related data. In the main or self-completed surveys, health data is collected from each adult in the household annually or in rotating modules. The self-completed youth questionnaire collects information about health status and health behaviours from youth aged 10-15 years. This paper will summarize the health measures for adults and youth. Nurse collection of objective bio-measures was recently introduced for adults successfully interviewed in Wave 2. The battery of measures includes anthropometric measures, blood pressure, lung function, and the collection of whole blood through venipuncture. Consents to link administrative health records have been requested. This will permit data linkage to examine health care use, diagnoses, and mortality. Descriptive results on self-reported health measures from the first wave will be presented. The strength of the health data of *Understanding Society* stems from the ability to examine health in connection with other areas of social variation and in being able to examine individuals in the context of family, community and the larger social structure.

Developing ethnic identity questions for *Understanding Society*: UK Household Longitudinal Study - Alita Nandi et al, Institute for Social and Economic Research, UK

In an increasingly multi-ethnic, multi-cultural society as the UK, the role of ethnic identity as a major determinant of people's life choices, experiences, attitudes and outcomes has been clearly recognised by both policy makers and social scientists. However there is a dearth of longitudinal data for ethnicity-related research, both because of low sample sizes of ethnic minority groups as well as paucity of relevant questions. Understanding Society: UK Household Longitudinal Study has put ethnicity at the heart of the survey. In addition to a large sample size with an ethnic minority boost sample and dedicated question time, the questionnaire content has been developed after a wide consultation with users of ethnicity-related research to meet such research needs. Reviewing existing measures of ethnicity identity we concluded that there was a lack of consensus among researchers about their understanding of ethnic identity and none of the existing measures were adequate to meet the research needs of all. Such a measure is particularly needed in a multi-topic, multi-disciplinary survey such as the Understanding Society. In this paper we discuss how we developed ethnic identity questions that we hope will meet diverse research needs. These questions are currently being implemented in the second wave of the survey.

Is it worth persuading reluctant sample members to take part? Results from an experiment to convert refusals in an ongoing longitudinal study

Lisa Calderwood, Centre for Longitudinal Studies, UK

Most surveys typically devote considerable resources to maximising response rates because non-response is the main source of non-observational error in sample surveys. In the context of declining response rates over recent years, survey organisations have had to make increased efforts to maintain good response rates and there has been a growth in methodological research into the effectiveness of fieldwork strategies to minimise non-response.

However, it is well established that higher response rates do not necessarily imply lower levels of non-response bias as this depends on whether or not non-respondents are systematically different from respondents on observed variables of interest. Refusal conversion is one of the fieldwork strategies commonly used to minimise non-response and involves re-approaching sample members who refuse the initial request for an interview with the aim of persuading them to take part. This paper evaluates the cost-effectiveness of refusal conversion on an ongoing longitudinal study, by assessing its impact on sample size, response rate and non-response bias. It presents evidence from a methodological experiment designed to convert refusals, which was carried out on the fourth wave of the UK Millennium Cohort Study.

Symposium – Childhood inequalities and outcomes

The outcomes for children of teenage and early motherhood: evidence from the UK Millennium Cohort - *Denise Hawkes, University of Greenwich, UK; Heather Joshi, Institute of Education, UK*

The timing of motherhood in the UK has become increasingly socially polarised. Early motherhood is associated with having been brought up in disadvantaged circumstances, whilst women with educational and other advantages start having children later. Teenage mothers, though now a small minority, have particularly unfavourable backgrounds and their children have particularly poor prospects. This paper attempts to see how far the disadvantages experienced by the children of young mothers can be attributed to disadvantages already established before their mothers' first birth.

We relate the timing of motherhood to child cognitive and behavioural outcomes at age 5 from the Millennium Cohort Study. We control for circumstances earlier in the cohort child's life as well as some characteristics of the life course experience of the cohort child's mother. It focuses particularly on whether the families of mothers having their first birth as teenagers, are distinctively more disadvantaged than those of other 'early mothers' having their first birth at 20-24, and also presents some evidence on the association of maternal employment with the child outcomes.

The results are discussed in terms of government policies aimed at reducing the teenage pregnancy rate and the child poverty rates in the UK.

Inequality during the early years: child outcomes and readiness to learn in Australia, Canada, United Kingdom and United States - *Elizabeth Washbrook, University of Bristol, UK*

How does the association between parental resources and early child outcomes differ across the US, UK, Canada and Australia? Are these patterns associated with the different policy and economic environments in the four countries? This paper addresses these issues using data from four 21st century nationally representative longitudinal birth cohort studies.

Though there is much communality in the cultural, economic and social welfare systems of these four countries, there are some important differences. The US, for example, relies more heavily than the other countries on the private market for early childhood care, education and health care.

The paper uses data from the ECLS-B in the US, the MCS in the UK, the NLSCY in Canada and the LSAC in Australia. Parental resources are measured using parental education and income. Child outcomes at age 4 to 5 cover cognitive measures (such as the Peabody Picture Vocabulary Test) and non-cognitive measures (such as the Strengths and Difficulties Questionnaire). Though there are many overlaps in the data items covered in the surveys, measurement differences between the surveys are unavoidable. Addressing these are a focus of the paper and we undertake a range of sensitivity analyses when we are unable to achieve full harmonisation.

Influence of socio-economic status in BMI change between childhood and early adolescence in Florianopolis, southern Brazil

Maria Alice de Assis et al, Federal University of Santa Catarina, Brazil

Objective: To assess the association between socio-economic status (SES) and body mass index (BMI) change from childhood (7-10y) to early adolescence (11-14y).

Methods: School-based prospective study. In 2002 and 2007 a systematic sample of school children (n=586; 58% girls) in Florianopolis (Brazil) was examined. Weight and height, and socio-economic variables were collected. BMI for age z-scores (BAZ) were generated based on WHO growth standards, and differences between the two periods were estimated. Multivariate linear regression analyses were performed based on a hierarchical model.

Results: In 2002 and 2007, mean BAZ was higher among boys (0.56 and 0.47) than girls (0.24 and 0.08). In boys, BAZ was directly associated with family income and persons/room in both years; number of siblings was inversely related to BAZ reduction between 2002-2007. In girls, BAZ was directly associated with the number of persons/room in 2002 and inversely related with family income in 2007. BAZ reduction was larger among girls with higher family income and lower number of persons/room.

Conclusion: Among boys there was a direct association between SES and BAZ in childhood and adolescence. For girls, an inverse association became apparent in adolescence, with BAZ decreasing among the wealthiest and increasing in the poorest.

Two inter-related processes: health and education early in life. Evidence from Young Lives long study - Mariachiara Di Cesare and Ricardo Sabates, University of Sussex, UK

The last decade has witnessed a growing interest for the analysis of early life events and their potential effects on adult life chances. In particular, the exposure to risk and disadvantage during childhood, which tends to accumulate during early adulthood, is likely to manifest itself into adult disadvantage, unless the cycle is broken. This cumulative process is responsible for the persistence of wealth and health inequalities between and across generations.

In developing countries where neither health nor education early in life are secured, there seems to be little hope for the reduction of health and educational inequalities over time. This paper seeks to investigate the potential role of antenatal care in reducing educational inequalities transmitted via health inequalities. The paper uses data from the Young Lives Longitudinal Study (YL), a 15-year study of childhood poverty in 4 developing countries – Ethiopia, Peru, Vietnam, India (Andhra Pradesh) - to analyze the effect of antenatal care on child nutritional status at age 2 and on cognitive development at age 5. The main motivation is the possibility that antenatal care may mitigate the direct link that health inequalities have on educational inequalities.

Results show that, as expected, good antenatal care is positively associated with child's cognitive development in all countries; however, once controlling for other covariates the relation persists significant only in Ethiopia and Peru. But interestingly, good antenatal care weakens the association between malnutrition and cognitive development in Ethiopia, Peru, and Vietnam. These results support the importance of early life interventions to mitigate the impacts of health inequalities on educational outcomes.

Disadvantage and depression in the life course

Birth outcomes and early-life social characteristics predict unequal educational outcomes: consistency across Swedish cohorts born 1915-1929 and 1973-1980

Anna Goodman et al, London School of Hygiene and Tropical Medicine, UK

We investigated the effects of adverse birth characteristics and social disadvantage upon educational outcomes over the lifecourse and across generations. Our subjects were 12674 Swedish infants born 1915-1929 and 9706 of their grandchildren born 1973-1980. Within both cohorts, better school achievement (schoolmarks in elementary school) was predicted by: heavier birthweight, lower birth order, older mother, married mother and higher family social class. These effects persisted after mutual-adjustment, and birth characteristics and family composition did not play a major role in explaining social class effects. There were no independent effects of preterm or twin status, but weak evidence of a disadvantage to postterm infants. The predictors of education continuation (secondary school attendance and entrance to tertiary education) were very similar, with family composition and social class effects persisting even after adjusting for school achievement. In cross-generational analyses, better educational outcomes in the grandchildren were predicted by heavier birthweight, lower birth order and higher social class in the grandparents. These associations became non-significant and/or were substantially attenuated after adjusting for grandchild socio-economic position in childhood, suggesting that this was the major mechanism for this effect. We conclude that multiple early-life characteristics predict educational outcomes across the lifecourse and across generations. This includes birth outcome and family composition effects which typically receive far less attention than socio-economic influences. Most effects were remarkably stable across the half-century separating our cohorts, suggesting their potential relevance for understanding educational inequalities in populations around the world.

A life-course perspective on postponement and recuperation of fertility in Europe

Karel Neels, Antwerp University, Belgium

Period circumstances are widely considered to present the prime source of variation in fertility rates. With evidence of cohort effects being limited, cohort completed fertility is merely considered an outcome of period circumstances that cohorts experience throughout their lives. This assumed absence of cohort effects has increasingly directed attention to period measures in monitoring fertility trends in Europe. However, using data from the 2001 Belgian census and the Generations and Gender Surveys, this paper illustrates the relevance of a life-course perspective to understand i) long-term shifts in the level and timing of fertility in Europe and ii) the effect of short-run period disturbances such as economic recession on cohort fertility outcomes. Longitudinal analysis of birth hazards in Belgium between 1960 and 2000 indicates that the secular trend of fertility postponement since the 1970s is closely related to cohort composition effects in terms of education. In addition, adverse economic conditions exert negative short-term effects on birth hazards at younger ages, but are equally associated with positive effects at longer time-lags, indicating recuperation of fertility later in the life-course, particularly among higher socio-economic groups. The analysis further includes France, the Netherlands and countries in Eastern Europe to allow variation in institutional contexts.

Measures to detect depression – CES-D

Randall Olsen et al, Ohio State University, USA

In the US, a commonly used measure to detect depression is the Center for Epidemiological Studies depression scale, known as the CES-D. Often longitudinal studies use various subscales derived from the basic 20 CES-D items. What is not as well understood is how this depression scale works over the life course in a population-based sample, and to what extent depressivity is linked across generations. In longitudinal studies, sometimes different sets of items are asked over time, making it difficult to construct comparable scores. In this paper we will use Item Response Theory (IRT) to determine whether the items in the CES-D perform in a comparable manner over the life course, the degree to which depressivity is stable, and whether we can explain the variation in the estimated measures of depression based upon IRT with not only background factors, including maternal depression as measured by the same scale, but also the evolution of personal factors that change over time. The analysis will utilize data from the women's cohort of the National Longitudinal Surveys (NLS) from biennial surveys 1995 through 2003, and the 1979 cohort of the NLS and the Young Adult survey which tracks the children of the female respondents.

Repeated exposure to socio-economic disadvantage and health selection as life course pathways to mid-life depressive and anxiety disorders

Stephen Stansfeld, Barts and the London School of Medicine and Dentistry, UK

Background: Socio-economic position (SEP) in childhood and adulthood influence the risk of adult psychiatric disorder. How does cumulative childhood manual SEP influence the risk for mid-life depressive and anxiety disorders? What is the contribution of health selection, based on psychological disorder in childhood and psychological distress in early adulthood, on mid-life social position?

Methods: 9,377 participants of the 1958 Birth Cohort were followed up at 45y with the Revised Clinical Interview Schedule to measure depressive and anxiety disorders. SEP was measured by Registrar General Social Class in childhood (ages 7, 11 and 16) and adulthood (ages 23, 33 and 42).

Results: Cumulative manual SEP in childhood was weakly associated with increased risk of mid-life disorder. Childhood internalising and externalising disorders were associated with less upward social mobility and manual adult social position. Psychological disorder on three occasions in childhood was associated with manual adult occupational status (OR=3.33 95%CI 2.63-4.21) even after adjusting for childhood SEP and malaise score at 42y.

Conclusions: Both social causation and health selection contribute to the association of childhood socio-economic disadvantage and mid-life psychiatric disorders. Understanding the educational and occupational consequences of childhood psychological disorders is an important next step in understanding health selection.

Symposium – An exploration of young people’s experiences at secondary school using the Longitudinal Study of Young People in England

The impact of family interaction and parental involvement at school on the educational and mental health outcomes of adolescents: evidence from the Longitudinal Study of Young People in England - Catherine Rotheron et al, Queen Mary University of London, UK

Background: A number of welfare outcomes for young people have been highlighted as being related to family interaction and parental involvement at school.

Aims: To examine the association between family interaction/parental involvement and mental health/educational outcomes in adolescents.

Methods: The data come from the Longitudinal Study of Young People in England. Family interaction and parental involvement were measured at age 13-14, using a variety of instruments (child-parent relations, having a family evening meal, parental surveillance, parental involvement in school activities). Mental health was measured at age 14-15, using the General Health Questionnaire (12-item). Educational achievement was measured at age 15-16, using a national benchmark (5+ A*-C at GCSE). Logistic regression analyses tested associations.

Results: Poor relationships with parents were associated with worse mental health and lower achievement. Greater frequency of having an evening meal with parents was associated with lower odds of mental ill-health and higher odds of achieving the educational benchmark. Parental surveillance was not associated with either outcome. Parental involvement at school was associated with higher educational achievement but not with mental health outcomes.

Conclusion: The family is an important source of support in promoting positive outcomes for adolescents. Interventions to optimise outcomes should look beyond the school.

Disengagement from education among 14-16 year olds

Andy Ross, National Centre for Social Research, UK

Young people’s disengagement from school has long been a policy priority for Western governments. The implications of disengagement for the young person and for wider society are well known and lead to poor labour market opportunities and the risk of being “not in education, employment or training”, as well as other associated negative outcomes. Using Latent Transition Analysis (LTA) this study creates a typology of engaged / disengaged young people that describe typical ways in which disengagement is expressed in our schools today, and then explores transitions between these types over time. Using data from the Longitudinal Study of Young People in England (LSYPE) four types of young people were identified including ‘engaged’, those ‘disengaged from school not education’, those ‘engaged with school not higher education’ and the ‘disengaged’. Characteristics associated with disengagement included being male, white, having non-professional parents, having a mother with low qualifications, and living in a step or single parent family. Other important factors included parental attitudes and aspirations, parent-school relationship, homework supervision, teacher-pupil relationships, peer group and being bullied. There were also strong associations with engagement / disengagement type and young people’s attainment, main activity at age 16/17 and engagement in risky behaviour.

Characteristics of bullying victims in English schools

Rosie Green, National Centre for Social Research, UK

This study uses data from the Longitudinal Study of Young People in England (LSYPE) to carry out an analysis of bullying victims aged 14–16 years in England. All the analyses were undertaken in a multilevel framework, allowing us to explore the relationship between pupil and school and to estimate the amount of variation in bullying due to differences between pupils and between schools. We found that almost half the young people reported being bullied at age 14 (47%), but this proportion decreased with age to 41% at age 15 and 29% at age 16. Characteristics associated with being bullied included being female (although boys were more likely to report physical types of bullying), being white, having a religion the young person felt to be very important to them (although only for name-calling), having a special educational need or disability, having been in care, living in a step-family, being a young carer and having changed school at age 14-15. Young people who had reported being bullied had lower GCSE scores than those who did not. They were also more likely to leave full time education at the age of 16, and were particularly likely to be NEET.

Alcohol consumption among 14-17 year olds and its relationship with other outcomes and behaviour - Rosie Green, National Centre for Social Research, UK

Using data from the Longitudinal Study of Young People in England, we used multilevel models to explore relationships between alcohol consumption and individual and school characteristics. We also used causal models to look at uptake and increased prevalence of alcohol consumption and other risky behaviours. We found a number of characteristics that were associated with having tried alcohol, including being female, white, non-religious and having been bullied in the previous year. Characteristics associated with not having tried alcohol included having a special educational need or disability, having unemployed parents and having a mother with no UK qualifications. In our causal models, we found links in both directions between trying alcohol and other risky behaviours, including smoking, trying cannabis, truancy and criminal behaviour. However, the relationships where alcohol use preceded other risky behaviours tended to be stronger than those in the reverse direction. Finally, we found that drinking was associated with a greater likelihood of being NEET, leaving full-time education at 16 and having lower GCSE results. However, these relationships were largely explained by the links between drinking and other risky behaviours, and by lower aspirations and more negative attitudes to education among young people who had tried alcohol.

Contributed Poster Session/Drinks Reception

Trajectories of global self-esteem development during adolescence and associations with outcomes in adulthood - Marianne Birkeland, University of Bergen, Norway

Variable-centred studies of adolescent global self-esteem development have revealed that on average, global self-esteem is high and stable during adolescence. The present study argues that a person-centred approach may provide additional information about different subgroups of adolescents. A 17-year longitudinal study of 1,079 adolescents from age 13 to 30 years old was used, and latent growth mixture modelling identified 3 trajectory classes from age 13 to 23 years; consistently high global self-esteem, chronically low global self-esteem and U-shaped global self-

esteem. At age 30 years old, individuals in the consistently high class reported significantly higher levels of life satisfaction and significantly lower levels of somatic complaints than the other two classes. The chronically low and U-shaped global self-esteem classes did not show any significant differences, and memberships in none of the three classes predicted frequency of physical activity at age 30. Identifying subgroups of trajectories of global self-esteem during adolescence may provide useful knowledge about normative and non-normative development trajectories and their consequences in young adulthood.

Exploring sustainable lifestyle changes at points of transition: a qualitative longitudinal study

Kate Burningham, University of Surrey, UK

This poster introduces a new mixed-method longitudinal study (funded by DEFRA and ESRC) which will explore the opportunities and constraints for sustainable lifestyle changes during two life course transitions - having a first child and retiring. Such transitions are known to bring about changes in household economy, leisure practices, and social networks (Wellman et al 1997; Kalmijn and Vermunt 2007), and potentially to prompt changes in habits (Verplanken et al 2008). Thus they offer particularly useful contexts for exploring how lifestyles change and how considerations of sustainability may enter into choices made.

The study will last for three years (in the first instance) and involve around 80 participants in four locations in the UK. Participants will be surveyed at the start and end of the study and be interviewed in depth on three occasions. The poster will introduce the study within the broader context of research on sustainable lifestyles.

The impact of parental employment on children's educational well-being

Linda Cusworth, University of York, UK

Over recent decades there have been dramatic changes in the employment patterns of men and women, with particularly significant increases in maternal employment. Government policy has also increasingly encouraged parents, particularly lone mothers, into work, with a focus on paid work as a defence against poverty. This raises questions about the impact of parental employment patterns on children, with the suggestion of influence in a number of ways: impact on household income; provision of a role model; and impact on expectations and aspirations.

Using longitudinal data from the British Household Panel Survey, this paper considers the impact that both childhood and current parental employment patterns have on teenagers' educational well-being, in terms of self-reported truancy, exclusion from school and attitudes to education.

A number of key findings will be discussed, including the detrimental impact of the experience of paternal unemployment or household worklessness, and the potentially protective effect of having a mother engaged in part-time (as opposed to full-time) employment. A form of capital (Bourdieu, 1983) approach will be employed to contextualise and explain the relationships observed. The paper also discusses the implications of these findings for policy, and plans for future work.

Cross-national differences in the effect of women's socio-economic status on the timing of first births - Dieter Demey, University of Cambridge, UK

Over the past 50 years fertility change in the developed world has been characterised by a decline in average family size, a rise in the incidence of childlessness and a delay of childbearing. Sociological, economic and socio-demographic theories stress the central role of women's increasing participation in the education system and the labour market for understanding these distinct though strongly inter-related components of fertility change. Furthermore, there is strong support in the literature that the strength of the effect of women's educational and employment characteristics depends on the wider institutional and socio-cultural context. However, this hypothesis has remained largely untested since most empirical studies focus on one country. This study therefore examines whether there are country-specific effects of educational attainment and enrolment on the timing of entering motherhood in two Western European countries. I analyse first birth histories derived from the Panel Study of Belgian Households (PSBH) and the British Household Panel Survey (BHPS) using event history analysis. The results indicate that the negative effect of educational attainment is stronger in Britain than in Belgium, whereas the reverse is found for educational enrolment. Furthermore, the transition to motherhood after leaving full-time education is accelerated in Belgium but decelerated in Britain.

Application of First Differences Model to Analysis of Repeated Measures over the Lifecourse in Relation to Later Outcomes - Russell Ecob, Ecob Consulting, UK

Lifecourse researchers are often interested in relationships between variables that change over the lifespan e.g. BMI and distal outcome variables. Analyzing these relationships is a common methodological challenge. Existing approaches include use of latent trajectory modeling and joint models. First difference, conditional, models (de Stavola et al 2004, 2006) consider differences in measures between adjacent waves, in addition to first wave measurement, as explanatory variables and provide an efficient, easily interpretable, parameterization of the relationship between variables that change over the lifecourse and later outcomes. We present a comparative analysis of existing modeling approaches, and illustrate the application of the first difference model to analysis of the relationship between BMI over the lifecourse and mid-life hearing ability using data from the 1958 British Birth Cohort study.

Social and biological determinants of reproductive success in Swedish males and females born 1915-1929

Anna Goodman et al, London School of Hygiene and Tropical Medicine (LSHTM), UK

We studied determinants of reproductive success using multi-generational data from a large, population-based cohort of 13,666 individuals born in Sweden between 1915 and 1929. We investigated the effects of birthweight for gestational age, preterm birth, birth multiplicity, birth order, mother's age, mother's marital status and family socio-economic position upon reproductive success, measured as total number of children and grandchildren. In both sexes, higher birthweight for gestational age, term birth and a younger mother independently predicted a greater number of descendants. A married mother and higher family socio-economic position predicted more descendants in males (but not females), while higher birth order predicted more descendants in females (but not males). These associations were mediated by sex-specific effects upon the probability of marriage. Marriage was also affected by other earlylife characteristics including birthweight, indicating how 'biological' characteristics may operate via social pathways. We conclude that earlylife characteristics can affect reproductive success even in post-demographic transition populations, and that these effects operate via both biological and social pathways. These findings can inform analyses of reproductive career as a determinant of health in later life in this and similar populations. They also generate hypotheses regarding the longterm consequences of adverse early environments in concurrent cohorts around the world.

The Relative Importance of Nature, Nurture and Peer Effects on Educational Attainment: Evidence from the Twins of the National Child Development Study and the 1970 British Cohort Study - Denise Hawkes, University of Greenwich, UK

What determines educational success? Are we just born with the ability to do well at school or do our family provide us with the tools needed to excel in education? Can even the best genes and family be overridden by the bad influence of our peers? This paper uses a new addition to the National Child Development Survey (NCDS) and the British Cohort Study 1970 (BCS70), data on the twins, to shed new light on this age old question.

The analysis undertaken was based on the sample obtained from a postal questionnaire which aimed to identify the twins as identical or not. Of the 121 NCDS twin pairs, 23% were identical twins, whilst of the 101 BCS70 pairs, 31% were identical twins. For this sample nurture was found to be the most important determinant of educational attainment at age 33/34 for those born in 1958 and 1970. This was a much more important effect than that of nature or peers. There appeared to be a very slight and marginally significant increase in the importance of the common environment between the two cohorts. Overall the results provided strong evidence that the good family is the key to educational success.

**The impact of different socialization contexts on child development during early childhood:
Outlines of the German NUBBEK Study - Bernhard Kalicki, IFP, Germany**

The impact of early day-care experiences on child development during early childhood has moved up the scientific and public agenda. One reason is the need for reconciliation of work and family life and the resulting expansion of daycare services for the under-threes. Beyond that early childhood education and care is increasingly regarded as belonging to the public education system. Furthermore, early childhood education and care should compensate social disadvantages of children. The National Study on Education, Care, and Upbringing during Early Childhood' (NUBBEK) is an ongoing multi-center study focussing on the effects of various daycare arrangements on the development of two- and four-year-old children as well as feedback effects on the family. Main features like type, amount, and quality of care are measured both in the extra-familial setting (e.g., center-based care) as well as within the family setting. The target sample consists of N=1950 two- and four-year-old children. One third of this sample is characterized by a background of migration, representing the two main migrant groups in Germany (Turkish and Russian). Political background, leading questions and the design of this large-scale study are outlined. The option of transforming this cross-sectional study into a sequential design that combines cross-sectional comparisons and follow-up measurements is discussed.

Human capital accumulation, institutional contexts, opportunity costs and the timing of finally withdrawing from the labor force - Volker Lang, University of Tuebingen, Germany

My paper investigates individual labour force attachment at a certain life course event: finally withdrawing from the labour force. Human capital accumulation is conceptualized as the basic mechanism influencing labour force attachment. The logic of this mechanism is based on calculations of opportunity costs. In empirical applications this aspect of the theory is still underdeveloped, even though considering differences in opportunity costs has the potential to integrate individual and structural/institutional approaches into the explanation of labour market outcomes. For instance, structural changes in the working environment itself (for example an increasing demand for qualified labour) and in the family context of those people supplying labour (for example a decreasing stability of relationships) are empirically observable factors influencing the opportunity costs and linking individual decisions to their social contexts. In my empirical application, this gap is addressed and different modeling strategies are compared: I utilize different data sets containing retrospective life course information to construct classic hazard rate models. Using imputation techniques these data are supplemented by wage information from cross-sectional surveys to construct models based on calculations of opportunity costs (option value models).

Inter-generational Transmission of Poverty in Rural Pakistan: Evidence from a Longitudinal Survey - Hari Ram Lahano, University of Bath, UK

Pakistan has a high incidence of rural poverty. Empirical literature on longitudinal studies and inter-generational transmission of poverty is very scarce. The country lacks longitudinal data sets to examine poverty transfers and dynamics. This paper contributes to the literature on survey methodology and poverty transmission by analysing a longitudinal survey of households in rural Sindh, Pakistan.

The original survey was conducted by the International Food Policy Research Institute (IFPRI) between 1986 and 1991. The sample size for the study district, Badin, Sindh, was 239 households. The re-survey of these households was conducted by the present researcher in 2004-05. This re-survey carefully tracked and interviewed 226 (95%) 'core matching panel' households (typically older surviving parents) with a very low attrition rate, 13(5%). This re-survey also interviewed 46 'split panel' households (typically children members of the original panel who had married and formed their own household). The total sample size for this resurvey was 272 households.

The main questions addressed in the paper are: 1) what explains a low attrition rate for longitudinal survey in rural Pakistan; 2) how poverty is transferred from one generation to another; and 3) what are key factors which trap two generations in poverty.

A healthy sorting machine? Social inequality in the transition to upper secondary education in Germany

Silke Schneider, Nuffield College, UK; Nicole Tieben, University of Mannheim, Germany

The German secondary education system is highly stratified. However, the distribution of students across the different tracks has changed substantially over the last decades, leading to a vast expansion of the higher tracks. Furthermore, several smaller educational reforms have increased the flexibility of moving between different tracks. This study describes the changing distributions over the last 35 years and examines whether social inequality in lower secondary education outcome and transition to upper secondary education has changed during the process. We find no robust evidence for change in social inequalities in the attainment of lower secondary school-leaving certificates or entry into the various upper secondary options. Most but not all of the observed inequality is due to individuals' lower secondary track placement.

IT-Solution for administering Cohort Studies

Arlide Sunde, Norwegian National Institute of Public Health, Norway

Introduction: The Norwegian Mother and Child Cohort Study (MoBa) is a national study comprising 100 000 pregnancies. Mother, father and child are included and data is collected using questionnaires and biological samples. The main IT-system developed for administrating the studies participants is called MoBaStudy. MoBaStudy is both a logistics system for administering questionnaires and other documents and a LIMS system for handling biological material. The system is very generic and can easily be adapted for other studies. The system is currently used by three independent studies.

Objective: To present the system.

System overview and functionalities:

- Generic logistics and LIMS system
- Client application
- Developed in VisualStudio 2005 C#
- Database MSSQLServer 2005
- Dual language support
- Used by 3 independent studies
- Easy setup for new studies
- Participant administration
- Sample management
- Sample retrieval
- Communicates with laboratory robots
- All user interface labels, menus and messages are defined in the database
- User rights to all interface components defined in the database
- Change/audit log for all database fields
- Standard and user defined reports

Identity Management - The second immigrant generation in transition after graduation - Multiple, hybrid and hyphenated identities in a process of negotiation

Janne Grote, Bremen International Graduate School of Social Sciences (BIGSSS), Germany

In transition after graduation, individuals face changes and challenges which resolve adaptation processes in all possible identity categories. Additional complexity emerges in the identity construction of the second immigrant generation. They can choose from several identity categories, such as their territorial, cultural or family identity of the country of origin of their parents and the host country. This qualitative panel study combines symbolic interaction and identity theories with a life course perspective to answer the following research question: Do changes and challenges within the transition lead to different self-attributions and attributions by others of those adolescents with and without a migration background? In several graduating classes of Hamburg's secondary modern schools (Hauptschule) and grammar schools (Gymnasium) 32 students were interviewed – eight students each from Turkish, Polish and Ghanaian migration backgrounds as well as eight students without a migration background. One year later all interviewees were interviewed again.

Hyperbolic Discounting in Pregnancy

Kyle Fluegge, Ohio State University, USA

This research examines the role that hyperbolic discounting plays as a determinant of unhealthy birth outcomes. Given the significance of the fetal origins hypothesis, a focus on pregnancy behaviours could have life-long impacts for the child. If pregnant women discount hyperbolically, a reduction in personal delivery costs (via public insurance, for example) will exacerbate the disparity between each woman's short- and long-run rates of time preference, leading to greater engagement in unhealthy behaviours with long-run impacts.

This disparity in rates of time preference will also make it more costly for women to maintain traditional commitment mechanisms designed to keep them on their optimal path to achieving a healthy birth outcome. The data source comes from the Avon Longitudinal Study of Parents and Children (ALSPAC), in which over 14,000 mothers agreed to take part during their pregnancies in 1991 and 1992. The dependent variable of focus includes smoking before and during pregnancy. I use the trimester time as the stratification variable.

The method used was to calculate Kendall τ rank correlation coefficients (i.e., a non-parametric statistics used to measure the degree of correspondence between two rankings and assessing the significance of this correspondence - it measures the strength of association of the cross tabulations) in each trimester.

Results show that women who were pre-pregnancy smokers and stated they would cut down, but not quit ($n= 1788$), upon learning of their pregnancy did significantly increase their levels of smoking from the first to the second trimester. Although there was a slight decrease in smoking into the third trimester, the result was not significant, as given by Kendall correlations. For women who did quit at eight weeks gestation ($n= 234$), the increase in smoking was notable for being later than the former group, although missed significance; however, work in this subgroup should be investigated with a larger sample.

Power allocation within couples – Do life-course events have an impact on power?

Yvonne Lott, Bremen International Graduate School of Social Sciences (BIGSSS), Germany

Social inequality within intimate relationships is highly related to power imbalances. However, power is not a static characteristic of a relationship, but rather a dynamic process between partners. This means that, besides individual resources and alternative social relations, which social exchange theory and resource theory define as central power bases, life-course events affect power as well. Power might not only change with the duration of the relationship, but might also be affected by family events such as marriage and childbirth. Furthermore, as partners' lives are linked, one partner's change of employment status might also alter the power relation. This study will combine social exchange and resource theory with a life course approach to answer the following two research questions: (1) Are individual resources and alternative social relations associated with power within couples? (2) Do life-course events such as marriage, childbirth and the change of employment status have an impact on couples' power allocation? Two power dimensions will be considered: manifest power defined as financial decision-making and latent power defined as money management. Random-effects models will be estimated using the German Socio-Economic Panel Study (GSOEP) in 2004, 2005 and 2008.

Archiving Qualitative Longitudinal Data. Potentials and restrictions for linking, sharing and reuse - Andrea Smioski, WISDOM, Austria

This paper will address qualitative data archiving as an emerging culture enabling entirely new ways of integrating data sets from different times and localities. These possibilities are further enhanced if the collected data derives from longitudinal projects, following the same participants over a period of time and thus exploring more profound processes of continuity and change. However, besides the enormous potentials of archiving and reusing qualitative longitudinal data, one should not neglect the serious methodological and ethical questions that arise therewith. Until recently most qualitative research data remained in the hands of individual researchers and was therefore lost to empirically based comparison, extensive use and as base for further research. Over the last few years specialized archives for qualitative data have formed, preserving data for further use and encouraging dialogue in qualitative methodology. Qualitative longitudinal research is conducted through time, providing not only snapshots (Berthoud 2000) of individual`s lives, but detailed and textured narrations. By integrating data collection and data analysis, the longitudinal perspective, with its rich array of different qualitative methods, allows for a deeper understanding of social change and continuity, capturing, as C. Wright Mills put it, "change in the making" (Neale 2007). Sharing and reusing archived qualitative longitudinal data can provide a unique chance to pose interesting questions to extremely rich material. However, ethical and methodological questions are always accompanying the whole debate of archiving and reusing qualitative data. Besides giving an overview over the field, this paper aims at contrasting potentials/ benefits and possible restrictions/ objections relating to the secondary use of qualitative longitudinal data.

Day 3 - Friday 24th September 2010

Journeys through time: time as a conceptual category and methodological strategy in Qualitative Longitudinal Research - Bren Neale, University of Leeds, UK

Qualitative Longitudinal (QL) research - defined simply as qualitative enquiry conducted through or in relation to time - is a powerful tool for discerning the intricate mechanisms of social change and the interior logic of individual and collective lives as they unfold. It can discern how change is created, lived and experienced, working, so to speak, from a grounded perspective, in tune with changes as they occur, and producing distinctive forms of knowledge. As a research method that is situated, contextually sensitive and flexible, it is ideally suited to understanding the dynamics of complex social problems. This can be seen in its imaginative application across the social sciences, in STEM disciplines, and in public and third sector research, where it is becoming a tool not just of service evaluation but of mediation between the fields of research, and policy and practice. This presentation will explore three broad dimensions of QL research: theoretical understandings of time, engaging qualitatively with time in research design and practice, and the production of distinctive forms of knowledge for evidence-based policy and practice.

Symposium - ESRC Timescapes: Archiving, Ethics and Secondary Analysis in Practice

An introduction to Timescapes

Janet Holland, London South Bank University, UK

An introduction to Timescapes: its objectives, structure and scope, and its fit within UK policy on social science research and infrastructure.

The Timescapes data archive

Libby Bishop, University of Leeds, UK

This presentation will report on a core development within Timescapes: the creation of the Timescapes Archive. It will demonstrate the functions of the archive and how to gain access to it. The presentation will explain a number of the key ideas guiding the archive's development: how it is gathering together the rich data generated through the seven empirical projects into a composite resource for sharing and re-use; its design as a multimedia resource, giving consideration to textual, audio and visual data; and its inclusion of research outputs and an extensive array of metadata (i.e. contextual information) to enable the personal accounts of participants to be placed in historical, geographical and cultural contexts. There will be a focus on issues arising in connection with some of the key features of the Timescapes approach to archiving, in particular, the way it is built on a stakeholder model of engaging researchers in archive development and the challenges that emerged as that model evolved, such as the double burden on researchers to both conduct primary analysis while simultaneously preparing their data to be archived.

Temporal ethics for QL research and resources: unpacking the Timescapes experience

Karen Henwood, University of Cardiff, UK

The paper will highlight the ethical implications and challenges of researching lives qualitatively through time. The Timescapes experience will be unpacked and discussed in relation to the QL methods and ethics literature. Within QL study today, there is a broad commitment to relational and processual, over contractual, ethics (Miller and Boulton, 2007), yet ways of researching ethically are methodologically more diverse. The presentation will address some of the ethical complexities and challenges arising in long-term study of relationships, lives, identities and change-in-the-making, by adopting the principle of making "careful judgement based on practical knowledge and attention to detail in the context of time and place" (Edwards and Mauthner, 2002). It will be argued that such challenges are greatly magnified in an initiative such as Timescapes, where research is conducted within collaborative networks of distributed project teams. In these circumstances, an innovative stakeholder approach to ethics is necessary: one that takes into account the perspectives of participants and the groups to which they belong, researchers and research leaders, archivists and secondary analysts, funders and the wider public.

Qualitative secondary analysis and working across the Timescapes project data sets

Mandy Winterton and Sarah Irwin, University of Leeds, UK

The presentation reports on aspects of the work of the ESRC Timescapes Qualitative Longitudinal Initiative: 'Changing lives and times: relationships and identities through the life course'. Timescapes comprises a range of activities including seven substantive research projects which focus on identities, experience and social relationships across diverse life course stages and points of transition, and which are all contributing to the Timescapes Archive of longitudinal qualitative data. Timescapes also includes a range of activities designed to encourage data re-use and secondary analysis.

Within Timescapes, the Secondary Analysis Project is developing some exemplar studies with a view to developing substantive insights and drawing methodological lessons. Within this project we are following different lines of enquiry. The presentation takes as a focus, two of these, and offers some early analyses, and a platform for critical reflection on methodological issues.

First I consider our work across Timescapes data sets, where we are analysing responses to those questions asked in common across projects, as well as researching common themes relating to identity and social relationships across different phases of the life course. I consider early outcomes of these analyses, and explore questions about the scope for working across data sets in this way. Is it possible to build conceptual insights from a process which necessarily abstracts from the immediate contexts of data collection? Are the difficulties magnified when it comes to re-using qualitative *longitudinal* data? Are there useful general lessons to be drawn about effective strategies for the re-use of such data?

Secondly I consider our work in making links between Timescapes and external data, through the example of the Young Lives and Times project. Here we have developed points of connection

with quantitative data sets, running a survey to complement the qualitative research and building lines of questioning into the latter which complement evidence being gathered in the Longitudinal Study of Young People in England and 'Understanding Society' (the UK Household Longitudinal Study). In this example I consider issues relating to gender and expectations for the future, and how these change over biographical time. In turn, such dynamics link to wider, structural, changes. I explore the scope for bringing together qualitative and quantitative data in a meaningful way to shed light on developments here.

Family pathways and functioning

Family pathways and income trajectories

John Holmes et al, University of York, UK

The structure of British families has undergone dramatic changes in recent decades leading to diverse, complex and less stable family forms. In this paper, we use data from the UK Millennium Cohort Study to examine the income trajectories of married, cohabiting and single mother families experiencing different family pathways of stability and instability.

Latent growth curve models are used to estimate the income trajectories and the sample is split into three groups based on high, medium and low income to establish how the income trajectories of family pathways differ across income groups.

The results show that family instability is both the product of lower initial income and also the producer of lower future income. Consequently, those in stable relationships have the highest incomes at the outset and the most positive subsequent income trajectories. The results also show that stably married and stably cohabiting families have similar income trajectories and we find no evidence of increasing returns from marriage. Although all exits from lone parenthood are associated with increases in income, we find the rate of increase in income for initially poor mothers is greater when moving into marriage with the natural father as opposed to other situations.

Adult Outcomes Associated with Family Structure Change in Childhood: Evidence from British Panel Data - *Karen Robson, York University, Canada*

In this paper, I use data from the British Household Panel Study to examine how family structure (various types of stable arrangements as well as changes) during childhood and adolescence affect aspects of adult well-being. I use the British Youth Panel, which was incorporated in the BHPS in 1994 as a survey of children and youth and administered to children living in BHPS member households who were between the ages of 11 and 15. The Youth Panel asks children a broad range of questions including those that address their feelings and mental health, relationships with parents, expectations about their schooling, characteristics of their friends, and leisure activities. Many items are repeated year on year. When the child is 16, she or he enters the adult panel. At the time of writing, there is year on year panel data available for several hundred children who have data in the Youth Panel and who transitioned into the adult panel. I am therefore able to examine how their adult life course trajectories were affected by their living arrangements during childhood. As outcomes, I examine adult mental well-being, highest academic attainment, and labour market activity.

Paths taken by women through work, family and education from early to mid Adulthood

Flora Macleod, University of Exeter, UK

An extensive review of the literature (Rogers, 2006) has demonstrated that gender issues have been ignored or overlooked in the current lifelong learning literature. This paper seeks to begin to address this neglected area by using data from the BHPS to examine the paths taken by a balanced sample of 345 women over a 15-year period (1991-2005). The life course was conceptualised as interdependent trajectories of social roles over time. The simultaneous interplay among social roles was investigated using latent class models estimating the probability of participation in formal adult education or training in relation to other social roles at four time points (1991, 1996, 2000 and 2005). Three distinctive paths emerged which were described as parent-oriented, work-orientated and multi-task oriented. It is argued that whilst most analysis of lifelong learning tends to put stress on individual learning paths, studying gendered patterns helps reveal insights into socially constructed forms of learning hitherto hidden which could open the door to a more socially transformative approach to lifelong learning.

Rogers, A (2006) Lifelong learning and the absence of gender, *International Journal of Educational Development* 26, 189–208

Communal solidarity or pecking order? How the family affects the lives of sons and daughters

Katrin Golsch et al, Bielefeld University, Germany

The intergenerational transmission of advantage is usually explored by looking at differences between families. However, within-family variation is an important source of inequalities as well, though it is rarely investigated. This applies not least to gender inequalities. Opposite-sex children usually experience the "same" family very differently. Yet we still know much less about the mechanisms creating disadvantages before entering the labour market than about the mechanisms creating gender inequalities in the labour market.

Based on longitudinal sibling analyses we investigate how various family and parental characteristics affect the life chances of sons and daughters. We use data from the German Socio-Economic Panel Study (GSOEP), linking the youth biography questionnaire with the follow-up waves and independent measurements of the parents' characteristics. The paper considers the following research questions: To what extent is there gender-specific inequality in parent-child relations for fathers and mothers with siblings? How does the sibling composition of the family, including especially sibling sex composition, influence parental involvement in childrens' development? Do the sibling composition of the family and the quality of parent-child relations differently influence occupational aspirations, occupational choices, and later educational and occupational trajectories (within an observation period of five years) of male and female siblings?

Early health and adult inequality in the United States with matched cohorts

Robert G. White et al, University of Wisconsin, USA

Identifying the pathways between early health and socioeconomic attainment remains an elusive goal across the social and health sciences. Although birth cohort studies often have extensive information for examining the life course, these studies point to conflicting pathways depending on the hypothesized causal ordering of exposures linking health with subsequent outcomes. This paper introduces a method that accounts for model uncertainty in studying health effects over the life course. We use the 1970 British Cohort Study and demonstrate the sensitivity of estimates of low birth weight among a set of structural equation models, that vary in their indirect and direct pathways, relating low birth weight and adult socio-economic attainment. We then implement a model averaging approach to generate estimates of adolescent cognition and behavioural outcomes, which are robust to model specification. The results highlight the sensitivity of model estimates to the secondary indirect effects in life course studies, and the importance of non-cognitive pathways over the life course.

Child growth and behaviour

Growth by 7 years in the Millennium Cohort Study: Better or worse for ethnic minority children? - *Amanda Sacker, University of Essex, UK*

This study examines ethnic disparities in markers of chronic disease risk at age 7 using data from the Millennium Cohort Study. Prior work has shown that minority children have lower birth weight on average than the ethnic majority, but that minority children were not shorter at 5 years. Indian, Black Caribbean and Black African children were actually taller on average. It is known that obesity is associated with risk of chronic diseases including diabetes and cardiovascular disease in adulthood, and it has been suggested that taller children are more likely to become obese. We examined whether ethnic minority children had a higher chronic disease risk profile at age 7 based on BMI, waist circumference and percent body fat. The height advantage observed at 5 years was still apparent at 7 years. It was confirmed that taller children were fatter as were children living in more socio-economic disadvantage. Body fat percentage was higher for all ethnic minority groups. Height and disadvantage independently attenuated the differences, but they were still apparent for all but the Black Caribbean group. Some findings for BMI contradicted those for body fat while waist circumference did not differentiate much between groups. The results suggest that when a more reliable measure of body fat is used, ethnic minority children are seen to be at greater risk for chronic disease in adult life. This work may help to shed light on the causal pathways underlying ethnic inequalities in adult health.

Family structure and child health: a longitudinal model using the Millennium Cohort Study

Lidia Panico, University College London, UK

Background: Studies have shown that children growing with two continuously married parents do better on cognitive, emotional and developmental outcomes. Less literature is available from the UK, looking at the child's physical health.

Methods: The Millennium Cohort Study follows about 18,000 British children born between 2000 and 2001. This paper will look at physical health outcomes including respiratory illnesses, BMI and waist circumference, and unintentional injuries, over the first 5 years of life. Graphical Chain Models are employed to examine the longitudinal importance of socio-economic disadvantage, parental mental health and parenting behaviours in mediating these outcomes.

Results: I will show that children living with continuously married parents do best, followed by those living with continuously cohabiting parents, while those living with a lone parent do worst (for example, 11.8% of children living with continuously married parents had asthma by age 5, compared to 22.2% of those always living with a lone parent and 14.4% of those living with continuously cohabiting parents). Those who experience changes in family structure are a heterogeneous group with diverse experiences. Cohabiting parents who marry in the first five years of the child's life do particularly well. I will argue that socio-economic disadvantage is the most important factor driving these results, although our models identify more proximal variables through which disadvantage works.

Effects of parental divisions in childcare and domestic labour on child socio-emotional behaviour: Longitudinal Evidence from the United Kingdom

Anne McMunn et al, University College London, UK

There is some evidence to suggest that the gender division of labour is weakening. Work has examined the effects of maternal employment on children's development, but little work has investigated the impact of increasing paternal involvement in children's lives. This study examines the effects of parental divisions in domestic responsibilities in the early years on child socio-emotional behaviour at age 5 in a recent birth cohort study in the United Kingdom. Participants of the Millennium Cohort Study were born between September 2000 and January 2002 (n=18,819). Data on parental involvement in childcare and domestic labour across three sweeps of data collection (infancy, age 3 and age 5) were used to investigate: (i) the extent to which the current generation of British fathers are equally involved in domestic responsibilities, as well as the predictors of equal sharing, (ii) whether equally shared parenting in the early years influences child socio-emotional behaviour at age 5, (iii) whether these relationships vary by the gender of the child. Child socio-emotional behavior was measured using the Strengths and Difficulties Questionnaire with clinically relevant cut-points for problem behaviors. Preliminary results show that parents were more likely to share childcare responsibilities than other forms of domestic labour.

The Circumstances of Persistently Poor Children Growing Up in Scotland

Jenny Chanfreau et al, National Centre for Social Research, London, UK

Poverty in early life has been linked with worse outcomes and the reduction of child poverty has been a policy aim for a decade. However, much research ignores the dynamic nature of poverty by using a static definition. This paper looks at the characteristics and outcomes of persistently poor children based on analysis of the first four sweeps of the Growing Up in Scotland (GUS) study. Funded by the Scottish Government, GUS is a longitudinal study tracking two cohorts of children with the main aim of informing policy. The paper defines persistent poverty as living in income poverty (below 60% of median equivalised income) in at least three of the four years of data, the definition also used in the Child Poverty Act (2010) for one of the four targets for eradicating child poverty by 2020. A somewhat higher point-in-time level of child poverty was found in this study than reported in official statistics and the likely methodological reason for this is discussed in the paper. The outcomes of persistently poor children are then compared with those of temporarily poor, and not poor, children using measures of social and behavioural problems, language development and physical wellbeing.

Equivalence scales and the cost of children: The case of household splits in Denmark, France, Germany and the United Kingdom

Gunther Schmaus et al, CEPS, Luxembourg

The family household is the basic unit in social life and social policy planning for non-aged couples. Couples households, however, are not static constructs. They may add children; they may separate over time. Especially in cases of household splits involving children, the question arises as to how to measure the changes in economic well-being. The EU equivalence scale is used to compare households of different sizes, and this scale makes assumptions about the needs of adults and children as well as the possible economies of scale. When the goal is to make

cross-national comparisons of income changes over time, the decisions about the equivalence scale can be even more critical. This paper will examine our previous results concerning the situation of post-separation women and men by varying the equivalence scale used; varying the economy of scale factor; varying the cost of a child; varying the assumptions of allocating the cost of a child between households after separation. Our main finding is that the rank order of countries in terms of men being better off than women after separation does not change even if variations of equivalence scales are used. Denmark emerges as the country where women with children do better post-separation by each variation used. For our country comparisons we use the comparable and longitudinal data from Consortium of Household panels for European socio-economic Research (CHER). The data for Germany (SOEP) and UK (BHPS) in CHER are derived from the respective national panel studies, and the data from Denmark and France come from the European Community Household Panel (ECHP).

Mental health in the life course

Proximal life events and mid-life depressive and anxiety disorders: the moderating role of childhood adversity and childhood psychopathology

Charlotte Clark, Barts and the London School of Medicine, UK

Background: Adulthood depressive and anxiety disorders have multi-factorial causation, being influenced by both proximal provoking factors, as well as distal vulnerability factors. This paper examines the association of proximal life events on depressive and anxiety disorders in mid-life, and examines whether the distal vulnerability factors of childhood adversity and childhood psychological ill-health, influence the strength of these associations.

Method: Data were from the biomedical survey of the 1958 British birth cohort (N=9377). At 45y, ICD-10 diagnoses for depressive and anxiety disorders and life events in the past 6 months were available. In childhood, measures of psychological ill-health and adversity were available (7y, 11y, 16y). Retrospective reports of parental sexual and physical abuse were available at 45y. Logistic regression analyses were carried out.

Results: 51% of the sample reported at least one life event and life events were associated with mid-life disorder (OR ranged 2.42-3.69). Any life event was associated with a 2.21 (95%CI 1.82-2.68) increase in odds for mid-life disorder. Associations were not moderated by childhood adversity or psychological ill-health.

Conclusions: Those experiencing childhood adversity or psychological ill-health may not be more reactive to life events. However, other distal vulnerability factors in childhood and early adulthood may be important.

Life course transitions and informational environments

Volker Lang et al, University of Tuebingen, Germany

We present results from a recently started research project on inter-relations between informational environments and life trajectories. In this project we relate the formation of biographical decisions to information and skills acquired during the life course. This paper puts special emphasis on links between life decisions and media use, in particular the use of digital media. We expect that decision-related information strategies vary with different forms of media use as well as with human capital endowments and cultural competencies. Furthermore, these endowments and competencies will affect media use itself. In our empirical example we focus on

inequalities in educational transitions related to the “first level digital divide”, meaning differences in access and amount of internet use. This implies looking at cohorts during a historical period when access to the internet was still very unequally distributed within the population of interest. In Germany this was the case during the late 1990s and early 2000s, the major diffusion phase of private internet access. For a first test of our hypotheses, we use retrospective data on educational careers supplemented by panel data on individual information behaviour. The different data sets are linked using multiple imputation methods.

A longitudinal examination of the inter-generational transmission of health inequality

Andrea Wilson et al, University of Western Ontario, Canada

One unanswered question in the sociological literature on health inequality is how to theoretically and empirically integrate life course processes of cumulative advantage with processes of inter-generational transmission of health risk. Previous research has primarily treated health inequality as a process that operates within, rather than across, generations. Using longitudinal data from the U.S. Panel Study of Income Dynamics covering several life stages and multiple family generations, we identify health trajectories of adult children and their parents and assess the extent of inter-generational continuity in health. Latent class analysis indicates that the health of both respondents and their fathers could be characterized by three trajectories: low risk of experiencing health problems throughout the survey period, increasing risk, and high risk. A strong association exists between respondents’ and parents’ health trajectories, an association that remained when controlling for respondents’ adult socio-demographic characteristics and resources. Results suggest the importance of the transmission of inequality across generations for understanding the cumulative relationship between resources and adult health. In ongoing research, we use data collected during childhood to investigate the effect of childhood environment on adult health trajectories and the extent to which adult resources alter the pathway between childhood environment and adult health.

Ethnic differences in adolescent mental health trajectories and the influence of racism and context: the Determinants of Adolescent Social well-being and Health (DASH) study

Thomas Astell-Burt et al, Medical Research Council, London, UK

Objective: Using longitudinal data, we investigate mental health trajectories through adolescence, and the interplay between racism and context.

Methods: Repeated measures of psychological well-being (Goodman’s Strength and Difficulties Questionnaire), racism and other potential confounding variables were obtained for 4744 adolescents aged 11-17, surveyed at two waves. Neighbourhood and school contextual measures included White-ethnic density and socio-economic position.

Results: Ethnic minority adolescents reported better mental health throughout adolescence relative to White-UK peers, particularly Nigerian/Ghanaian boys (coefficient (95% CI)): -2.27 (-2.97, -1.58) and Indian girls: -1.74 (-2.54, -0.94), adjusted for age, socio-economic position, racism and context. Mental health improved throughout adolescence for boys. The prevalence of racism increased between wave 1 (girls: 18%; boys: 19%) and wave 2 (girls: 29%; boys: 27%). The effects of racism were not ethnic specific, but associated with poorer mental health throughout adolescence among boys: 1.50 (1.21, 1.79) and girls: 1.88 (1.54, 2.22). Context was not associated with mental health either directly, or through effect-modification.

Conclusions: Poorer mental health patterns among some minority ethnic adults do not appear to emerge during adolescence. Racism was associated with poorer mental health for all ethnic

groups. Adolescence may be a critical period for preventing ethnic differences in adult mental health.

Gender differences in the effect of breast feeding on adult psychological well-being: Comparing two British cohort studies

Noriko Cable et al, University College London, UK

It is not known whether the positive effect of breast feeding on child physical health extends to adult psychological adjustment. We used the available cases from the National Child Development Study (NCDS, N=7,750, born in 1958) and the 1970 British Cohort Study (BCS70, N=6,492 born in 1970) to examine (1) how the effect of breast feeding on adult psychological well-being, as indicated by psychological health and self-efficacy, could work partly through the pathway of childhood psychological health, and (2) presence of a buffering effect of breast feeding in the face of psychosocial adversity at birth.

After accounting for the effect of psychosocial adversity at birth, breast feeding promoted psychosocial adjustment during childhood in girls in NCDS and BCS70, but not in boys. In adulthood, being breastfed at birth was associated with better psychological health and higher self efficacy in women in BCS70 only. Breast feeding did not significantly moderate the negative effects of psychosocial adversity at birth on child or adult outcomes in this study.

In sum, our findings suggest that the practice of breast feeding can be important for women's psychological well-being throughout the life course.

Symposium - Adolescent conduct and emotional problems: Secular trends and their causes
Emerging social gradients in adolescent emotional problems in the UK

Barbara Maughan et al, Institute of Psychiatry, UK

Background: Early epidemiological studies suggested that adolescent emotional difficulties had few links with family socio-economic background; more recent studies point to clear social gradients.

Method: We used data from nationally representative British cohort studies spanning a 30-year period, to examine how the association between adolescent emotional problems and family income had changed over time. The 1958 birth cohort yielded data on 10,499 16 year-olds assessed in 1974; the 1970 birth cohort yielded data on 7,293 16 year-olds in 1986; and the combined 1999 and 2004 Office for National Statistics study cohorts yielded data on 2,128 15 and 16 year-olds at the turn of the millennium.

Results: Risk for emotional problems showed few variations by family income in the first two cohorts (OR=1.11, 95% CI=0.95, 1.30, ns), but was clearly associated with income in the more recent studies (OR=1.90, 95% CI=1.39, 2.58, $p<.001$). These changes were partly attributable to related changes in the socio-demographic composition of low income families, and partly to changes in the impact of some socio-demographic risks.

Conclusions: Periods of rapid social change may be accompanied by marked shifts in the impact of socio-demographic factors on young people's well-being.

Time trends in adolescent parenting: Has a key risk factor for antisocial behaviour changed over recent decades? - *Frances Gardner et al, University of Oxford, UK*

Background: Parenting and family influences are well-known risk factors for adolescent antisocial behaviour. Social changes in recent decades (e.g. rising family breakdown, step-parenting, maternal employment) have had marked effects on the context for parenting – but little is known about whether parenting behaviours that are established risk factors for adolescent anti-social behaviour have changed over time.

Methods: We (i) reviewed existing literature on trends in parenting; and (ii) used two data sources, based on nationally representative UK cohorts, with comparable measures of parenting repeated on new cohorts of youth in different eras.

Results: The review found little good quality data on secular change in parenting. Suggestive evidence comes from time use surveys showing increases in time spent by parents with young people across many countries, and from UK cohort comparisons showing increases in parental reading with younger children. Our UK cohort analyses were consistent in showing increases in parental expectations, supervision and control, and no major changes in parental involvement or parent-adolescent conflict. Social inequalities in parenting remained unchanged or reduced over time.

Conclusions: Discussion will focus on implications of our findings for understanding social change in adolescent adjustment.

Explaining trends in youth emotional problems in England, 1986-2006

Stephan Collishaw et al, Cardiff University School of Medicine, UK

Background: Many studies indicate an increase in the prevalence of youth emotional problems over recent decades. We assessed links between these trends and changes in a range of associated risk and protective factors.

Methods: We compared two representative community surveys of adolescents undertaken in 1986 (BCS70) and 2006 (a purposive replication of the BCS70 assessments in adolescent offspring of participants in the 2002/3 Health Surveys for England), with identical youth and parent report measures of emotional problems and explanatory factors.

Results: Findings showed increased rates of adolescent emotional problems in 2006 (girls: POR = 1.68 [1.4-2.3]; boys: POR = 1.33 [1.0-1.8]). Many risk factors for depression became more common between 1986 and 2006 (parent mental distress, parental separation, peer problems, substance use, victimization, and child poverty). Step-wise multivariate models showed that each factor alone contributed only modestly to observed year of study differences in emotional problems. Together, however, they fully accounted for trends in youth emotional problems, with year of study effects reduced to non-significance (girls: POR = 1.13 [0.8-1.5]; boys: POR = 1.02 [0.7-1.4]).

Conclusion: Population trends in the prevalence of youth emotional problems are the consequence of multiple inter-linked social changes affecting young people.

The timing of maternal depressive symptoms and child cognitive development: a life-course approach. The ALSPAC study

Roberto Melotti et al, University of Bristol, UK

To investigate the timing of exposure to maternal depressive symptoms and child cognitive development.

ALSPAC, a UK longitudinal birth-cohort study, included self-reported measures of maternal depressive symptoms (EPDS) on six occasions since pregnancy and up to 33 months postbirth. IQ (WISC) was measured in children at 97 months. We grouped women across eight possible patterns of probable depression (EPDS>12) potentially occurring prebirth, postbirth or preschool. A saturated OLS regression model with full factorial design was compared with nested models to test alternative hypotheses: critical periods, sensitive periods, accumulation effects. 6,735 eligible children had mean IQ (sd) 105 (15.7). Of these 5,029 mothers completed all six mood assessments. A saturated model fitted the data better than a critical postnatal or preschool period ($p<0.0001$), however a critical antenatal period model was no worse than a saturated model ($p=0.23$). A sensitive antenatal period model with stable accumulation otherwise, although less parsimonious than the critical antenatal model, also fitted the data. After multiple imputation of missing data and adjustment for confounders children with symptomatic mothers prebirth had 1.14 points lower IQ (95%CI: 0.21-2.07) than controls. The antenatal rather than postnatal or preschool occurrence of depressive symptoms appears a sensitive one for child cognitive development.

Occupation and position in the life course

Mixed Signals: To what extent does Wage Scarring vary with the characteristics of the local labour market? - Philip Ball, University of Nottingham, UK

Continuous work-life histories are constructed using matched BHPS-LFS data, in order to test the hypothesis that unemployment spells experienced in high unemployment regions are seen by future employers as more a characteristic of the region than a negative productivity signal (van Dijk & Folmer, 1999). Furthermore, I test for regional variation in the impact of unemployment experience on future wage growth. Given the relative interconnectedness of the UK's regions, it is puzzling why regional differences in average earnings persist. Understanding the underlying mechanisms driving this phenomenon would make an important contribution to regional development policy formation. A rules-based approach was adopted to ensure consistency in dataset construction. Individuals' labour market histories are prone to overlap due to the timing of interviews in the BHPS varying over the survey period (Paull, 2002). Consistent with previous studies, empirical results highlight significant and persistent average wage penalties due to interruption that depends on previous labour market status. Strong regional differences are found in the impact of redundancy on wage growth. This is contingent on the labour market tightness and urbanity of the regional in which this unemployment was experienced. However, no clear evidence is found supporting the main hypothesis in the UK. The results suggest a signalling role of interruption types, over and above the impact of region-specific human capital explanations. This signalling role is contingent on the economic environment in which non-employment was experienced. However, the evidence in support for the signal dampening effect of this environment is mixed at best. It is likely that human capital explanations still play a substantial role, given that average unemployment durations are likely to be lower in tight labour markets with better re-employment prospects.

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Socio-economic status and mental health – the importance of achieving occupational aspirations - Cay Gjerustad, Norwegian Social Research, Norway

A number of studies have shown that socio-economic status predicts mental health: lower status is connected to increased risk for poor mental health. This paper examines whether achieving occupational aspirations is a mechanism connecting socio-economic status and mental health. The analysis draws on longitudinal survey data from 2,225 youths participating in a population-based study. Data were collected four times over a 13 year period, starting when the respondents were adolescents. Aspiration achievement was measured by contrasting the respondents' occupational aspirations as adolescents with their occupational status as young adults. The analyses revealed that aspiration achievement was significantly related to both socio-economic background and mental health. In accordance with existing research, socio-economic status significantly predicted mental health, also after several relevant variables had been

controlled for. When aspiration achievement was included in the analysis, socio-economic status was no longer significantly connected to mental health, whereas aspiration achievement was. Together, the findings support aspiration achievement as a mechanism in the relationship between socio-economic status and mental health.

Investigating the effects labour market position on minor psychiatric morbidity across the business cycle: longitudinal analysis of the British Household Panel Survey, 1991-2000

Ellen Flint, University College London, UK

Objective: Existing longitudinal evidence suggests that the link between joblessness and minor psychiatric morbidity (MPM) is likely to be causal, but that many complex processes are at play. This study seeks to contribute to the field by assessing the relationship between labour market position and MPM across the business cycle, looking at the effects of permanent sickness and other economic inactivity as well as registered unemployment.

Methods: This study is based on working-age (16-65 years), original sample members of the British Household Panel Survey. A series of nested random effects logit models are presented, showing the association between labour market position and MPM before and after adjustment for confounding and mediating factors.

Results: Prevalence of MPM is significantly greater among the jobless than the employed. In the fully adjusted model, compared to the employed, the unemployed were more likely to be MPM cases (OR=1.66, $p<0.001$), as were the permanently sick (OR=2.30, $p<0.001$) and the 'other inactive' category (OR=1.21, $p<0.026$). Stratification by sex shows that it is important to treat male and females separately with regards to labour market exposure. Adjustment for macro-economic conditions across the business cycle produced no difference in the odds ratios reported.

Conclusion: This study shows that joblessness is significantly associated with minor psychiatric morbidity even after full adjustment for a wide range of confounders.

Social Stratification and Childhood Cognitive Ability: an assessment of the influence of childhood cognitive ability and family background on occupational position across the lifespan

Roxanne Connelly, University of Stirling, UK

Numerous studies have illustrated the correlation between childhood ability test scores and both origin and destination social position. The debate concerning what these ability tests truly indicate and therefore what they say about "meritocratic" processes of social stratification is ongoing. Empirical testing of how traditional social and economic variables interact with cognitive measures, and the dynamic relations of these variables throughout the life course, is the main aim of this paper. The National Child Development Study and British Cohort Study are utilised to consider intra-generational social mobility, and also to compare these two generations.

Exploiting the longitudinal nature of these data, mixed effects models were estimated on CAMSIS scores at each adult follow-up. The research is guided by the hypothesis that the influence of childhood ability should increase across the life course, in line with theory suggesting that employers will reward demonstrated ability as the career progresses, and that choices and

actions will become increasingly determined by ability as one moves away from the influence of family and the home. No significant interaction is found between childhood ability and time, the effect of ability is therefore considered to remain constant. Confirming previous findings, the analyses indicate that education exerts the greatest influence on social position, the moderating effects of which provide the focus for further research on the role of childhood ability and social origin on outcomes throughout the life course.

Labour force status, unemployment spells and the effect on psychological well-being set points
Cara Booker et al, University of Essex, UK

Background: This study explores the effect that returning to employment or inactivity after unemployment has on psychological well-being set points. Specifically, we are interested to know whether people return to pre-unemployment levels of well-being.

Methods: Data came from the British Household Panel Survey. Psychological well-being was measured using the GHQ-12 and a question on life satisfaction; participation in the labour force was self-reported. Multilevel regression models were used to explore associations among males and females.

Results: Findings showed differences by gender and post-unemployment labour force status. Previously employed males who returned to employment following unemployment experienced a return to their GHQ set point; a similar pattern was seen for previously inactive males who gained employment following a period of unemployment. Employed males who became inactive following unemployment experienced a return to their life satisfaction set point. Previously employed females also experienced a return to their GHQ-12 and life satisfaction set points after re-employment. No other significant associations were observed for females.

Conclusions: Findings suggest that males and females return to their GHQ-12 set point only if they become re-employed after experiencing unemployment. If they become economically inactive, their well-being does not return to the level it was prior to unemployment.

Life course attributes and outcomes

How Trajectories of Reasons for Alcohol Use Relate to Trajectories of Binge Drinking: National U.S. Panel Data Spanning Late Adolescence to Early Adulthood

Megan E. Patrick, University of Michigan, USA/ John E. Schulenberg, University of Michigan, USA

Developmental changes in both alcohol use behaviors and self-reported reasons for alcohol use were investigated. Participants were surveyed every two years from ages 18 to 30 as part of the Monitoring the Future national study (analytic weighted sample size N = 9,308; 53% women, 40% college attenders). Latent growth curve models were used to examine the extent to which trajectories of binge drinking were correlated with trajectories of self-reported reasons for alcohol use across young adulthood. Results revealed developmental changes in reasons for use and correlations between the patterns of within-person change in frequency of binge drinking and within-person change in reasons for use. In particular, an increase in binge drinking between ages 18 and 22 was most positively correlated with slopes of using alcohol to get high and

because of boredom. Continued binge drinking between ages 22 and 30 was most strongly correlated with using alcohol to get away from problems. Differences by gender, race, college attendance, employment, and marital status were also examined. Binge drinking and reasons for alcohol use travelled together, illustrating the ongoing and dynamic connections between changes in heavy alcohol use and changes in reasons for use across late adolescence and early adulthood.

Maternal smoking history and social circumstances in pregnancy and smoking behaviour in the offspring in the NCDS birth cohort - Dexter Canoy, University of Manchester, UK

Early life factors, such as smoking during pregnancy, have been suggested to influence smoking behaviour in the offspring later in life. More recently, genetic variants have been linked to smoking behaviour, suggesting a predisposition to smoke cigarettes for some individuals. Although socio-economic status (SES) influences in smoking behaviour in different age groups has been well documented, the inter-relation between maternal smoking before and during pregnancy, and social circumstances across the life course, is less clear. Using logistic regression models, we examined the relation between early life maternal smoking behaviour as a predictor of teenage and adult smoking behaviour in the offspring (N=17,416) born in 1958. Both maternal smoking before (but not during) pregnancy and perinatal socio-economic status predicted the likelihood of smoking in the offspring at ages 16, 23, 42, 46 and 50 years, independently of concurrent education or SES (all $p < 0.05$). Strongest associations were found among 'heavy' smokers. Social patterning of smoking behaviour is unlikely to be explained by genetic factors, and our findings suggest the importance of environmental determinants operating across the life course. The influence of parental smoking during early childhood, variations in smoking patterns and changing social circumstances in the smoking behaviour will be further explored using mixed models.

Childhood and adulthood prospective risk markers for Irritable Bowel Syndrome in the 1958 British birth cohort

Laura Goodwin et al, Barts and The London School of Medicine & Dentistry, UK

Background and aims: Irritable bowel syndrome (IBS) is a common gastrointestinal disorder with unknown aetiology. Childhood adversity and psychopathology are associated with IBS, however, the majority of these data are retrospective. The association between childhood illness and adulthood IBS requires investigation.

Methods: Data were from the 1958 British birth cohort (N=11,419). Childhood and adulthood psychopathology was measured at 7y, 11y and 16y, and 23y and 33y, respectively. Childhood illness was reported at 7, 11 and 16y. Logistic regression analyses were conducted for self-reported IBS at 42y.

Findings: The prevalence of IBS was 8%. Childhood adversity (OR= 1.12, 95%CI 1.01-1.23) and psychopathology in adulthood, at 23y (OR= 1.93, 95%CI 1.60-2.33) and 33y (OR= 3.01 95%CI 2.32-3.91), were associated with an increased risk of IBS. Childhood illnesses, including somatic (OR= 1.24, 95%CI 1.05-1.48) and gastrointestinal symptoms (OR= 1.38, 95%CI 1.15-1.66), and headaches (OR= 1.36, 95%CI 1.10-1.68), were associated with an increased risk of IBS.

Conclusions: Childhood adversity and adult psychopathology were risk markers for IBS; the independence of these effects will be investigated. Children who report somatic symptoms may be at risk of IBS. The non-specificity of these childhood illness effects suggests that IBS is not solely predicted by early onset symptoms.

Young people, gender, and science: does an early interest lead to a job in SET? A longitudinal view from the BHPS youth data - *Jacqueline Scott et al, University of Cambridge, UK*

In recent years there has been widespread concern about the declining interest in science shown by young people. Particularly for young women, entering the labour market with no scientific skills seems to be a crucial factor associated with the persistence of a gender pay gap. Our project, funded by the Nuffield Foundation, uses data from the British Household Panel Survey to explore how young people's interest in SET relates to gender. We also use longitudinal analysis to investigate whether an early interest in science leads to SET-related jobs in adulthood. The results show that aspirations for SET careers have increased noticeably over time, although this is more pronounced for boys than for girls. Job aspirations are reasonably stable over adolescence. However interestingly, aspirational change is gender-specific, with boys more likely to aspire to a SET job as they grow older, and girls moving away from earlier SET interests. Although young people's SET aspirations increase the chances of having a SET-job in young adulthood, there are very strong gender differences, with 25 per cent of boys in a SET job compared to only 4 per cent of girls. The implications of these findings for policy are discussed.

Part-time working and pay amongst Millennium Cohort Study mothers

Jenny Neuburger, London School of Hygiene and Tropical Medicine, UK; Heather Joshi and Shirley Dex, Centre for Longitudinal Studies, Institute of Education, UK

One aspect of the pay penalty to motherhood in Britain has been the lower rates of hourly pay offered in part-time rather than full-time jobs to equivalently qualified and experienced women. This 'part-time penalty' appears no longer to be a uniform experience across the UK labour market. This paper investigates new evidence from the Millennium Cohort Study. It broadly suggests that switching from full-time work into part-time work after a first birth is still associated with a reduction in relative hourly pay, when it is accompanied by a change of employer. The new finding is that mothers who managed to take advantage of new opportunities to reduce hours in their existing jobs, without changing employer, seem to have escaped the more severe hourly pay consequences of part-time working. This is likely to be the result of increased statutory rights and actual improvements in employer practice rather than differences in the characteristics of working mothers who pursue different employment strategies. These institutional changes seem to have made it possible to cut hours without substantially lowering the hourly pay. However part-time jobs in general remain relatively disadvantaged.