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Life Courses in Cross-National Comparison: similarities and differences

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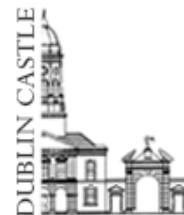# ABSTRACT BOOK

(In reading order of conference programme)
Supported by:

Day 1   Monday 19 October

Keynote
Dealing with perceived uncertainties in work and family and their psycho-social consequences: comparative studies in Germany and Poland in times of social change
Rainer Silbereisen, Center for Applied Developmental Science (CADS), Germany

People experience new demands and benefits from ongoing social and economic change of relevance for resolving major developmental tasks. Using data from countries differing in uncertainty avoidance value (Germany, Poland), we demonstrate that the outcome for well-being is a complex function of coping habits in dealing with strains, agentic personality resources, and socio-ecological constraints at various levels.

PARALLEL SESSION 1

1A   Symposium
Extended working lives? Health and retirement from a cross-national perspective
Ewan Carr, University College, London, UK, et al
Population ageing has made delayed retirement and extended working life (EWL) a policy priority in Western countries. In response to the fiscal challenges posed by rising old-age dependency ratios, and in line with prolonged life expectancy, many governments have opted to increase statutory pension ages (in the UK, to age 67 by 2028 for both men and women). Such trends raise important questions about the scope for extended working (i.e. the barriers or disincentives to continued employment at 50+) but also the subsequent impacts, in terms of health and well-being. For some, extended working may represent a positive choice, motivated by high work engagement, job satisfaction and a supportive work environment. Others are forced to keep working due to a lack of financial resources or pension ineligibility. Conversely, individuals may stop working for positive (e.g. to spend more time with family) or negative (e.g. poor health) reasons.   This symposium explores these issues from a cross-national perspective, highlighting how EWL processes are shaped by national economic, political and institutional contexts. The included papers collectively draw upon over 10 longitudinal studies spanning more than 20 countries. Cross-national comparison presents a substantial opportunity for ageing research. While it can be difficult to reliably measure key concepts (e.g. 'retirement') across diverse national settings, a cross-national approach provides a real-world laboratory in which similar challenges (i.e. population ageing and EWL) play out in contrasting societal contexts. Predicting outcomes for future cohorts of older workers is difficult, not least because individuals for whom data are available (i.e. those currently nearing retirement) have lived and worked in periods that bear little resemblance to the environments facing younger cohorts (e.g. in terms of demography, healthy life expectancy and labour market structure). Cross-national comparisons thus provide an insight into the alternative futures, and alternative policy responses, that might be possible.

Cross-national differences in age of labour market exit and disability pension: evidence from 8 prospective cohorts
Background: The challenges of an ageing population, and the available policy responses, will depend upon the political, institutional and cultural circumstances in which it occurs. This paper examines the labour market trajectories of older workers (ages 50+) based on 8 longitudinal studies from 5 countries. We compare differences by sex, education and occupation in age of labour market exit and type of exit (disability pension vs. non health-related exit). Particular attention is given to the difficulties of achieving consistent cross-national measurement, given contrasting institutional frameworks. Methods: Longitudinal data were drawn the British Household Panel Survey (N = 2,812), the English Longitudinal Study of Ageing (N = 5,729), the Finnish Public Sector Study (N = 73,670), GAZEL (N = 19,702), the Health and Retirement Study (N = 2,430), the National Survey of Health and Development, the Swedish Longitudinal Occupational Survey of Health and Whitehall II (N = 4,837). The sample included respondents who were in paid work (>5 hours/week) at age 50 (excluding self-employed). Age of labour market exit was based on weekly working hours, whereas health-related retirement was defined as exit with

disability pension or health-related benefit. Cox regression models were estimated for each study separately. Results: In all but one study, women were younger at labour market exit than men (HR ranging from 1.20 to 1.33). Having degree-level qualifications was associated with exit at older ages (HR = 1.20 to 1.30). Employment in manual or low-grade occupations was associated with younger age of market exit (HR = 1.24 to 2.31), compared to professional/managerial employees. (Results for health-related retirement forthcoming). Conclusions: Policy interventions to extend working life should address the particular barriers facing women, manual or low-grade workers or those with low-level qualifications.

The association between labour market policies and work stress among older workers in Europe
Background: Reducing levels of work stress are proposed as promising measures to extend working life of older people and to maintain disadvantaged people on the labour market. National labour market policies may enhance such efforts. In the current study, we investigate the association between specific indicators of national labour market policies and levels of stressful work. Thereby, we also explore whether distinct national labour market policies are related to smaller educational differences in work stress. Methods: Analyses are based on data from two studies of ageing with comparable information across 16 countries: The English Longitudinal Study on Ageing (ELSA), and the Survey of Health Ageing and Retirement in Europe (SHARE). We measure work stress in terms of two theoretical models (the demand-control and the effort-reward imbalance models). Policy indicators are divided in two categories: (1) 'protective' policies offering financial compensation to those excluded from the labour market (e.g. replacement rate), and (2) 'integrative' policies supporting disadvantaged individuals on the labour market (e.g. investments into active labour market ALMP). To classify education, we use the international standard classification of education (ISCED). In addition to country-specific analyses, we estimate multilevel models using work stress as dependent variable and test for interactions between education and policy indicators. Results: We find negative and significant associations between both types of policy indicators and the two measures of work stress, where countries with pronounced policies (e.g. high investments into ALMP) have lower levels of work stress. Furthermore, we find educational differences in work stress with higher work stress levels among lower educated employees. The strength of this association, however, varies across countries and is comparatively small in countries offering pronounced 'integrative' policies. Conclusion: The results point to different types of policies that may help to reduce overall work stress levels and educational differences in work stress.

Life histories of British men and women: changes across cohorts and the implications for working beyond state pension age
Individuals' decisions about working beyond State Pensions Age (SPA) are related to current circumstances, but also employment, partnership and parenthood experiences across the life course. In Britain, despite a recent upturn in labour market participation rates of older men and a steady increase in employment rates among older women since the 1970s, we know little about how earlier work and family experiences, in combination with social class and prior health, influence who works beyond SPA, or how these relationships have changed across cohorts, in line with shifting policies about later-life employment. Using three nationally representative datasets, the British Household Panel Survey, the English Longitudinal Study of Ageing, and the British Retirement Survey, we employ optimal matching analysis to classify individual labour market, partnership and parental histories (from ages 16 to 55) into clusters of similar trajectories. We then attend to their association with working up to and beyond SPA and assess the role of social class and health across cohorts spanning from the early 1920s to the early 1950s. Work, partnership and parenthood biographies are distinguished by both gender and cohort and influence the likelihood of working in later life. Men who exit the labour market early are more disadvantaged in health and economic terms relative to those with strong attachment throughout the life course. The patterns among women are more complex owing to more heterogeneous employment and family biographies. Understanding how life course experiences, social position and health shape work in later life, as well as how these relationships have changed across cohorts, is important if we are to unravel how engagement with paid work in later life may be linked to inequalities across the life course.

1B   Paper Session: Childhood Health

Does parental job loss have a causal effect on offspring health? A longitudinal fixed-effects analysis of children

Heta Moustgaard, University of Helsinki, Finland, et al

Increasing evidence suggests that parental unemployment is related to poor health outcomes in offspring. Much of the research is, however, either cross-sectional or retrospective and thus the causal relations are difficult to disentangle. Even in longitudinal studies, where exposure to parental unemployment is measured before health outcomes, exposed children and families may differ from others in various unobserved ways, and these differences may cause the health differentials. This study explores the impact of parental unemployment on offspring health when taking into account all stable differentials between families and children. It also examines possible mechanisms, such as household income loss and parental health problems that may mediate the effects. The study uses longitudinal panel data from 1995-2012 with annual measurements of parental unemployment and child health for a nationally representative sample of Finnish households with children aged 0-14 in 2000 (n=201,375). The data include comprehensive annual information on all household members on employment status and health care use obtained from routinely collected administrative registers and linked via personal identification codes available for all Finns. Individual fixed-effect models are used to control for all unobserved time-invariant differences between children and identify unemployment effects from within-individual changes only. The main outcome is annual use of the two most commonly used medications for children, namely antibiotics (as a proxy for infectious diseases), and respiratory drugs (as a proxy for asthma and allergies). The study assesses anticipatory, immediate, and long-term effects of parental job loss on offspring medication use in the years before, at, and after parental unemployment. Results from these analyses will have important implications by isolating the causal transmission mechanisms underlying the intergenerational correlation between employment and health.

Distribution of childhood health indices: associations with moves along the "property ladder"

John Moriarty, Queen's University Belfast, UK, et al

Childhood deprivation is a major risk to public health. Poor health in the early years accumulates and is expressed in adult health inequalities. The importance of social mobility - moves into and out of poverty or, indeed, change in relative affluence - for child wellbeing is less well understood. Home ownership and house value may serve as a useful measure of relative affluence and deprivation. Analysis of the Northern Ireland Longitudinal Study dataset focused on cohort members aged 18 and under at the 2001 census and their families. Using housing tenure and house value reported in 2001 and 2011, moves along the "housing ladder" over ten years were identified. Outcome measures were physical disability and mental health status as reported in 2011. Logistic regression models tested if health outcomes varied by upward and downward changes in house value. After controlling for variations in age, sex, general health and social class, mental health is worse among those who moved to a lower value house. Compared to 'no change', those moving from the upper quintile of house value into social renting accommodation were almost six times more likely to report poor mental health (OR 5.90 95% CI 4.52, 7.70). Conversely, those experiencing the greatest upward movement were half as likely to report poor mental health (OR 0.46 95% CI 0.31, 0.68). There were smaller associations between physical health and downward (OR 2.66 95% CI 2.16, 3.27), and upward (OR 0.75 95% CI 0.61, 0.92) moves. Poor mental health is more strongly associated with declines in living standards than with improvements. The gradient appears at multiple points along this proxy affluence-deprivation spectrum, not only at the extremes. Further research should explore whether circumstances surrounding moves, or change in social position explains the differential association between the health correlates of upward versus downward mobility.

Optimizing health care for disadvantaged children: does parenting style make a difference?

Lisa Serbin, Concordia University, Canada, et al

Canada's universal health insurance program is intended to provide timely access to medical care, regardless of family income (Canada Health Act, 1984). Nevertheless, recent studies show that Canadians' health continues to follow an "SES gradient" across the life course. The present study focuses on behavioral predictors of children's health within a family context: examining parenting styles, parents' SES and health histories, and neighborhood risks that predict children's early health and service usage. Method: Parents and their young children, including 250 dyads, were participants in the Concordia Intergenerational Risk Project, a long-term, inter-generational study of lower-income Montreal families begun in 1976 (Serbin et al, 1998). The current presentation focuses on relations between parenting styles (including dimensions of support, structure, and behavioral control) and young children's health and use of services between ages 1 and 6 years of age. Comprehensive lifetime health care data were drawn from government health service archives. Results: Multilevel modeling analyses showed that use of supportive parenting was associated with increased rates of non-emergency care for children and a higher ratio of outpatient to ER services, a pattern reflecting better health and service use. Supportive parenting was particularly important under conditions of socio-economic disadvantage; for poorer families, more supportive parenting was associated with higher rates of care in non-emergency facilities. Greater use of behavioral control by parents predicted lower rates of both non-emergency care and emergency room visits. Other findings related positive parenting styles to lower annual rates of ear infections, respiratory problems and injuries over a 5-year period. Discussion: Although parenting effect sizes were relatively small in the context of a comprehensive predictive health model, they may provide an important opportunity to help establish more optimal patterns of health care use. These results highlight the importance of considering parenting practices when examining variations in early childhood health and care, and the relevance of parental behavior in designing interventions and health policy.

Maternal depression trajectories and child development at age 5: The French EDEN mother-child cohort

Judith van der Waerden, INSERM, France, et al

Introduction While it is well known that maternal depression has negative consequences for the development of young children, findings differ on whether prenatal, postnatal or chronic depression exerts the greatest influence. This study aimed to examine the relationship between trajectories of maternal depressive symptoms from pregnancy onwards and children's emotional, behavioral and cognitive development at ages 5 to 6. Methods We used data from 1183 mother-child pairs participating in the EDEN mother-child birth cohort study conducted in France. Trajectories of maternal depressive symptoms, measured by the CESD and EPDS scales, were modeled using a group-based method. Children's emotional and behavioral problems at age five were assessed using the Strengths and Difficulties Questionnaire (SDQ). Their cognitive function was determined with the Wechsler Preschool and Primary Scale of Intelligence Third Edition (WPPSI-III), resulting in three composite intelligence scores: Verbal IQ (VIQ), Performance IQ (PIQ), and Full-Scale IQ (FSIQ). Results Five trajectories of maternal symptoms of depression could be distinguished: no symptoms (62.0%); persistent intermediate-level depressive symptoms (25.3%); persistent high depressive symptoms (4.6%); high symptoms in pregnancy only (3.6%); high symptoms in the child's preschool period only (4.6%). Covariate adjusted linear regression analyses showed that, compared to children of mothers who were never depressed, children whose mothers had persistent depressive symptoms – either intermediate or high – were more likely to have high levels of internalizing, externalizing and peer relation problems. Furthermore, they showed reduced VIQ, PIQ and FSIQ scores. Conclusions A chronic course of maternal depression is associated with an accumulation of child developmental problems, even when symptoms are below clinical levels. Maternal mental health is an early modifiable influence on child development, and addressing the treatment needs of mothers who are depressed during the prenatal period and in the first years after childbirth may help reduce the associated burden on the next generation.

Parental migration and left-behind children's physical growth in rural China: a life course study

Nan Zhang, University of Manchester, UK, et al

Background China's internal migration has left 61 million rural children living apart from parents. This study investigates the associations between being left behind and children's nutritional status in terms of height and weight trajectories by age. Methods Data were drawn from the China Health and Nutrition Survey (CHNS) from 1997 to 2009. Multiple cohorts of children under 6 years were examined (N=2,555). Growth curve models investigated whether height and weight trajectories differ for children who were left behind at different stages of the life course: in early childhood (from ages 0 to 5 but not afterwards), in later childhood (from ages 6 to 17 only), and in both early and later childhood, compared with their peers from intact households. Results Boys who were left behind at different life stages of childhood differed in height growth and weight growth compared with boys from intact families, although no significant associations were found for girls. As boys grew into adolescence, those left behind in early childhood tended to have slower height growth and weight gain than their peers from intact households. There was a 2.8 cm difference in the predicted heights of boys who were left behind in early childhood compared to boys from intact households, by the age of 14. Similarly, the difference in weight between the two groups of boys was 5.3 kg by the age of 14. Conclusions Being left behind during early childhood, as compared to not being left behind, could lead to slower growth rates of height and weight for boys. This study suggests that early childhood is a critical period of children's growth in later life, especially for boys who are left behind. The gender paradox in China, where sons are preferred, but being left behind appears to affect boys more than girls, needs further exploration.

1C   Paper Session: Childhood

Effects of a nutritional counselling intervention during childhood on adolescents' intelligence

Tiago Neuenfeld Munhoz, Federal University of Pelotas, Brazil, et al

Background: Appropriate nutrition during pregnancy and the first years of life is essential for children developmental along life course. Objective: To assess the long-term effects of nutrition counselling delivered in the first two years of life on intelligence quotient (IQ) at age 15-16 years. Methods: Cluster-randomized controlled trial in Pelotas (Brazil) in 1998. Nutrition counselling was delivered to mothers of children aged 0-17.9 months attending primary care by trained doctors, and was focused on promoting breastfeeding and increasing the intake of micronutrient-rich and energy-dense foods. Exposures evaluated at baseline were maternal educational attainment and child gender, age and anthropometric indicators (Weight/age Z-score, length/age Z-score, weight/Length Z-score). In 2013, Adolescents' IQ was assessed using the arithmetic, digit symbol, similarities, and picture completion subtests from the Wechsler Adult Intelligence Scale (WAIS-III). Both instruments were administered by trained psychologists. All analyses were carried out using multilevel modelling. The multilevel modelling considered the doctor and the mother/child levels. Analyses were completed on an intention-to-treat basis. Results: 343 (80.9%) of the 424 original participants were assessed (173 from intervention and 170 from control group). No long-term effects of nutrition counselling delivered in the first two years of life on IQ at 15-16 years were observed. Conclusions: Long-term effects of intervention cannot be observed in our sample regarding IQ.

The association between social and emotional skills in childhood and outcomes in mid-life using new data from the British Cohort Study

Bilal Nasim, Institute of Education, UK

Using new data from the 1970 British Cohort Study (BCS) at age 42 in combination with BCS data collected since birth, we consider the role of childhood social and emotional skills at age 10 in determining adult outcomes at age 42. We construct measures of self-esteem, self-concept, locus of control, externalising behaviour, conscientiousness, social skills and emotional health. Adult outcomes include labour market outcomes such as income, employment and access to high status jobs, as well as mental health, life satisfaction, well-being, physical health, health behaviours and relationships. We estimate linear regression and binary outcome models, adjusting for a wide range of child and family characteristics and formal educational attainment. We find that social and

emotional skills are significantly associated with all of the life domains considered. Low externalising behaviour and high levels of conscientiousness are found to be very important for almost all adult outcomes. Locus of control, self-esteem and social skills are found to be particularly important for well-being, mental health and physical health outcomes and less so for labour market outcomes. In general, cognitive ability was more strongly associated with adult labour market outcomes, and less strongly associated with non-labour market outcomes, than social and emotional skills. We found only a few differences in associations between childhood skills and adult outcomes when comparing boys and girls, and between children from low vs. higher socio-economic backgrounds. Our work supports the view that developing a balance of skills in childhood, both cognitive and social end emotional, is important for success in adult life. With this in mind, well-evidenced interventions that support parents, schools, and communities to develop children's emotional well-being, self-regulation, and young people's sense of their own efficacy in the world, alongside their cognitive development, are likely to be very beneficial in the long-term.

Growing up in Iran: the promises and challenges of design and implementation of first longitudinal study on children in Iranian society
Ebrahim Talaee, University of Bamberg, Germany
This paper aims to address the promises and challenges of foundational steps, design, implementation and dissemination of results of the First longitudinal study in a blank and uncertain context. It draws upon the theoretical foundation of researching such as research as a social activity and the empirical, practical and technical foundations required to be in place to set up and implement a longitudinal study. The data for the analysis come from "Growing up in Iran: Longitudinal Study of Iranian Children 4-12(LSIC)" – an ongoing study started in 2013 on development of nearly 800 children in 5 Iranian cities. Some of the challenges include: making your mind to be decisive, insistent, resilient and resourceful in facing great amount of uncertainties, ambiguities and unanswered questions on the part of principal investigators; finding non-governmental funds and justifying funders; making decisions between the dual such as depth vs. size, assessing hard to assess but critical areas of development (e.g. learning to learn competence, spiritual development) vs. more accessible areas of developments conventionally used in longitudinal studies; recruiting professional assessors and developing a community of researchers. However, such studies create unexpected opportunities such as: building a communicative space where researchers, university professors, practitioners and students find resourceful opportunities for developments; sensitizing policy makers, researcher community and the public; developing culturally appropriate assessment instruments for both children's developmental areas and the quality of their learning environment. Keyword: Growing up in Iran, challenges, promises, design, implementation

Father-child and mother-child early interactions in the French Elfe cohort
Elise de La Rochebrochard, INED, France
CONTEXT. Parent-child interactions impact strongly on socio-emotional and language development of the child. However, only few researches have explored early parent-child interactions by considering both the mother and the father. OBJECTIVE. To explore early mother-child and father-child interactions (measure and factors impacting on the level of interactions) DATA. The Elfe Cohort is a French nationally representative longitudinal study of children born in 2011. At maternity, more than 18,000 families were interviewed and then followed up at 2 months (and then 1 year and 2 years). Mothers and fathers were interviewed separately at 2 months with similar questions on their interactions with their child. The early parent-child interactions score was created using multiple correspondence analysis (MCA). Socio-demographic characteristics of the family, information on the pregnancy and on the birth were collected at maternity and at 2 months. RESUTS AND DISCUSSION. At 2 months, around 15% of the children had a low level of interaction with their mother or/and their father. A weak correlation was observed between the mother and the father scores. The comparison between mothers and fathers will be developed by analysing factors impacting on early parent-child interactions. In one hand, it will be explored if there is a similar social-gradient in mother-child and father-child early interactions. On the other hand, it will be explored if pregnancy and birth characteristics have a similar impact on mother-child and father-child early interactions (e.g. is there an impact of an unplanned pregnancy? of a premature birth? of breastfeeding?).

Does mixed matter? Mixed ethnicity and socio-emotional difficulties in early childhood
Afshin Zilanawala, University College London, UK
Early childhood behavior problems influence children's academic success and adult wellbeing. In the UK, ethnic differences in socioemotional difficulties have been documented, but little research examines these differences among mixed ethnic groups during the early life course. One study examines socioemotional difficulties in early childhood and reported mixed Pakistani/Bangladeshi 3 year olds have fewer difficulties than White children. A London based finds mixed Black Caribbean/White 11 year olds to have fewer emotional symptoms. We use a detailed mixed ethnic classification to investigate differences in socioemotional difficulties across early childhood. Using data from four sweeps of the Millennium Cohort Study, children's behavior was assessed using the Strengths and Difficulties Questionnaire at ages 3, 5, 7 and 11 years. Using OLS regressions, we examine the contribution of socioeconomic factors, and markers of the home environment, friendships, school and child self-assessed variables (happiness about one's look, family, friends, school, and life as a whole and self-esteem) to observed differences.   Indian mixed, Pakistani mixed, Bangladeshi mixed and Black African mixed 3 year olds had fewer total difficulties than their non-mixed counterparts. By age 11, Pakistani mixed, Bangladeshi mixed, and Black Caribbean mixed children had more total difficulties than their non-mixed ethnic counterparts. Similar patterns were observed for externalizing and internalizing scores. In regression analyses, Indian mixed children had significantly fewer total difficulties, and Pakistani not mixed, Bangladeshi mixed, and Black Caribbean mixed had significantly more total difficulties compared to White non-mixed children at age 11. Adjustment for socioeconomic, home, and school characteristics reduced the advantage for Indian mixed children to nonsignificance. Socioeconomic measures reduced the disadvantage for Pakistani not mixed to nonsignificance. A combination of socioeconomic, home, school, and self-assessed factors attenuated estimates for Bangladeshi and Black Caribbean mixed children to nonsignificance. A combination of factors helps explain more difficulties for mixed ethnicity children.

1D   Paper Session: Educational Attainment Over the Life Course

Educational trajectories of children from migrant families
Diana Yanbarisova, Higher School of Economics, Russia
In big Russian cities like Moscow and Saint-Petersburg a share of migrants (especially from former Soviet Republics) is quiet big. Some of them move to Russia with children, some – bear them already in the country. Researchers from social sciences and psychology often raise a question of adaptation of these children. How do they fit into the institutional system? What are their educational and career plans and what educational tracks do they actually choose? We suggest that longitudinal data is one of the best instruments to answer such questions, as cross-sectional studies don't give information about life trajectories of the participants across time. In this paper we look upon two categories of migrant children: first generation migrants (those who were born outside of Russian Federation) and second generation migrants (those whose parents (one or both) were born in a foreign country). We analyze data collected in Moscow in 2012-2013 (the 1st wave) and in 2014 (the 2nd wave) as a part of a big longitudinal project – the Russian Panel Study of Trajectories in Education and Careers (TrEC). The participants of the first wave of the study were around 5000 students of Moscow schools (9th graders, 15 years old in average). Two years later more than 3000 adolescents took part in the survey again. Most of them were 11-graders (last year of high school) or students of vocational education institutions.

Educational attainment over the life course in the United States: an analysis using the Longitudinal Study of American Youth/Life
Jon Miller, University of Michigan, USA, et al
For decades, the literature on educational attainment has assumed that formal education was completed in the first two decades of life and that educational attainment was largely stable thereafter. The system has been changing in the United States over recent decades and it now appears that educational attainment often changes throughout mid-life and sometimes in the senior years. One part of this pattern is the greater availability of post-secondary and post-baccalaureate education in a variety in institutions in the U.S. and some of the changes reflect the influence of a technology-driven economy in which most technologies have a shelf life of about 10 years. This

paper will use the 27-year record from the Longitudinal Study of American Youth/Life to examine U.S. patterns. A series of descriptive statistics and structural equation models (illustrated and explained for audience members not familiar with this technique) will be employed in the analysis. A written paper will be available to enable audience members to read the analysis more carefully after the session and to correspond with the authors about this work. We are exploring parallel analyses using data from the German NEPS and the 1970 British Birth Cohort. We may be able to propose a session, but if it is not possible to complete arrangements prior to the submission deadline, I will submit this paper proposal and encourage my British and German colleagues to propose similar papers which might then be grouped into a single session.

Longitudinal data about education in post-soviet Russia
Valeriya Malik, Higher School of Economics, Russia
Number of cross-national comparative studies with focus on educational systems has risen in recent decades. This growth is boosted by the availability of datasets gathered in different countries with the same or similar methodology, including longitudinal approach. Russia does not possess such a good system of longitudinal studies as developed countries; nevertheless, there are some sources of such data. This paper examines longitudinal data about educational system and educational pathways in post-soviet Russia. The main source of longitudinal data about Russia is the Russian longitudinal monitoring study (RLMS) which is a household based representative survey conducted since 1992 every year. Its main focus is on income, expenditures and health of people, but questionnaires contain a lot of information education. There are also several regional cohort surveys studies of school students. Russian Panel Studies of Trajectories in Education and Careers (TrEC) is a survey with main focus in educational pathways. It contains several panels of school and university students in different regions of Russia and its main study is a yearly follow up of TIMSS (Trends in mathematics and science studies international survey) 2011 8th grade sample. Specific feature of the project is that respondents also took part in PISA survey in 2012. There are also projects which are going to be launched in the nearest future such as an international longitudinal survey of primary school students under the guidance of OECD (Education and Social Progress), devoted to social and emotional skills formation or a survey of students' experience and trajectories in Russian research universities. The paper provides a brief outline of the above mentioned and other studies as well as information about data availability for international researchers.

The effects of migrant educational selectivity on their children's educational attainment
Nicole Martin, University of Essex, UK
I use Understanding Society, the UK Longitudinal Household Study, in combination with administrative data on pupil educational attainment in England (the National Pupil Database) and school environment to assess (i) the extent to which migrants to the UK since 1970 are educationally selected, (ii) what effect this has on the educational attainment of second generation immigrant children, and (iii) which mechanisms are behind this effect. Educational selectivity of immigrant parents is associated with more positive educational outcomes in their children. Survey questions on attitudes to education, parenting styles, social networks and friendship networks, combined with information on pupils' schools and neighbourhoods allow us to test a wide range of hypotheses about the particular mechanisms that are at work behind this effect.

The contribution of friendships to the developmental sequence leading to educational attainment in a sample of American adolescents
Marie-Hélène Véronneau, Université du Québec à Montréal, Canada, et al
BACKGROUND. Educational attainment a clear index of success in western societies, as it predicts future employment status, income, health, and community involvement. Secondary school is a crucial moment in students' life because adolescents have to deal with many transformations at the social, psychological, and physical levels, while maintaining adequate performance even if school material becomes increasingly challenging. It is not surprising that many of them drop out of school. We tested the role of friendships in the maintenance of students' academic adjustment over the course of secondary school, which in turn predicted students' educational attainment.

METHOD. Participants were 997 students (53% males, 42.4% European American, 29.2% African American) recruited from three urban public schools during their first year of secondary school (age 11) and followed for 12 years. Academic adjustment was measured at ages 11 and 14 using self-report items (importance of homework, perception of school environment) and school records of grade point average (GPA). Friends' influence (ages 11–12) was measured using best friends' GPA and problem behavior. Educational attainment was measured with self-report of highest level of schooling at 23 years old. Family structure, parental monitoring, and participants' problem behavior were included as control variables. RESULTS. Using structural equation modeling, most indices supported the hypothesized developmental sequence ($\chi 2$ = 200.92, df = 58, p < .001, RMSEA = .05, CFI = .95, WRMR = 1.07). Academic attainment at age 11 predicted friendships with well-adjusted peers at age 11–12, which in turn helped maintain academic adjustment at age 14, and ultimately led to higher educational attainment at age 23. Friendships were a marginally significant mediator in this developmental chain. CONCLUSION. Friendships should be taken into account when promoting educational attainment, because they seem to affect the maintenance of student school engagement during adolescence.

Age or stage? Influences on the transition to lower secondary education

Emer Smyth, Economic and Social Research Institute, Ireland

There is a large body of research internationally on the difficulties young people experience in making the transition to secondary education. Some commentators attribute this pattern to the mismatch between school structures and the developmental needs of adolescents. However, such studies have rarely been able to disentangle the effects of stage of schooling from those of age. Growing Up in Ireland data on 13 year olds provide an invaluable opportunity to identify the factors which facilitate the continued engagement of young people over the transition period, while distinguishing by school stage (year group). The paper uses multilevel modelling techniques to examine the influence of individual background factors, engagement at age 9, school experiences over the transition period and stage of schooling on three measures of school engagement at age 13: attitudes to school, levels of school attendance and academic self-image (using the Piers-Harris intellectual status subscale). School engagement at age 9 is found to be highly predictive of engagement four years later but important changes are evident between the two time-points. All else being equal, second year students are less positive about school, have higher levels of absence and more negative self-images than first year students. School climate, that is, the quality of interaction between teachers and students is found to be a key factor in maintaining school engagement over the transition period. The paper points to the importance of school climate in fostering engagement with school, providing an important evidence base to inform on-going reform of lower secondary education in the Irish context.

1E   Paper Session: Methodological Issues

Are there changing socio-economic inequalities in childhood cognitive test performance? Methodological considerations from the analysis of three British birth cohort studies

Roxanne Connelly, University of Edinburgh, UK, et al

There is a large international literature that identifies socio-economic inequalities in childhood cognitive test performance. In this paper we investigate changes in this relationship in Britain from the mid-twentieth century, through a comparative analysis of existing longitudinal data. We undertake analyses of three of the major British birth cohort studies, The National Child Development Study (1958), The British Cohort Study (1970) and The Millennium Cohort Study (2000/02). The design and structure of the Millennium Cohort Study is radically different to the earlier birth cohorts, and therefore comparisons with the previous two studies are methodologically challenging. The paper addresses three distinctive methodological challenges. The first is the development of measures that are comparable across the three cohorts. The second is the provision of a sensitivity analysis of different measures of parental socio-economic position. The third is the development of a strategy for analysing data from the three cohorts within a unified multivariate framework which appropriately accounts for the variation in the design and structure of the datasets. The results indicate that there is a persistent link between parental characteristics and children's performance on verbal similarities tests however the effects have decreased between cohorts. The paper also provides methodological reflections on combining data from surveys with different designs, which is an increasingly common problem in comparative social survey data analysis, but one which is frequently overlooked.

Decision tree methods for discovering (cross-national) interactions in longitudinal data with imbalanced data
Emmanuel Rousseaux, Institute for Demographic and Life Course Studies, Switzerland, et al
This communication introduces the R package TRIM (TRees for IMbalanced data) which provides researchers with a series of methods for discovering interactions. The discovery of interactions is an important data exploration feature that provides useful insights for improving the specification of regression models and the interpretation of results. In particular, knowing which covariates interact significantly with the country is a concern when studying similarities and differences across countries. Decision tree methods are efficient tools for discovering interactions. But classical decision tree methods don't perform well when the response class is infrequent. An infrequent response class appears for instance when studying long-term unemployment or critical health problems. Also, longitudinal designs are more and more used. Working with longitudinal data in person-period format is also source of strong imbalanced in status variable that indicates whether the event occurs. For decision tree methods based on a statistical criterion this situation can prevent to discover relevant underlying interactions in the data. And for entropy-based decision trees, this situation generally leads to a poor prediction performance of the rare event. In this communication we introduce a new criteria suitable for growing decision trees with an infrequent response class. The method, together with some other classical decision-tree-based methods for imbalanced data, has been implemented in R and will be released within the R package TRIM. The package TRIM has been designed to be combined with the R package Rsocialdata in such a way the user can easily prepare its data before running into analyses. After an overview of the theoretical justifications we introduce our new decision-tree-based method and the package TRIM.

Natural disasters in two emerging countries: remembering socio-historical episodes of collective vulnerability
Eduardo Guichard, University of Geneva, Switzerland, et al
As in biographies, there are moments of imbalance in the history of countries, events with unpredictable consequences that can mean the passage to a period of vulnerability for those who lived it. What is the place for memories about events such as natural disasters in the collective narratives? Moreover, when that memory comes from individuals that build their remembering in a subjective way into their life course? This communication focuses on the shape of the socio-historical memory of the subjective experience of natural disasters. For this aim we analyze the mentioning about the two main natural disasters remembered within two samples of two countries from different cultural roots; Chile and India. On one side, the strongest earthquake registered in the modern history, which happened in 1960 at the city of Valdivia, Chile. On the other side, the floods produced by the strongest rainfall registered in the last century, happened in 2005 in the state of Maharashtra in India. The data was compiled under the CEVI international research project. Samples of around 600 individuals were collected in Concepción in 2009 and Mumbai in 2014. It considers five age groups covering the whole adult life (from 20 to 86 years old), and separated by ten years between them. We focus on the place of these disasters in the whole historical memory reported within samples and between the cohorts, as well as the anchorage of these experiences in the life course of individuals of both samples. Finally, we analyze in depth the reasons that lead individuals to consider this experience important within their lives.

1F   Paper Session: Health, cognitive functioning and ageing
Why does care begin? Exploring the relationship between specific needs and the initial receipt of care in later life using the English Longitudinal Study of Ageing
Robert Sanders, Stirling University, UK
Current population projections suggest that 'by 2034, 23 per cent of the [UK] population is projected to be aged 65 and over compared to 18 per cent aged under 16' (ONS, 2010). Current debate on the current and future impact of increasing numbers of older people in society have focused on understanding how the needs of greater numbers of older people can be met by combinations of paid formal care services and unpaid informal care. In particular, with the focus of formal services on only the most dependent it becomes important to be able to understand the needs of the 'oldest old' who are likely to be amongst the most dependent in society who are most at risk of requiring long-term care. In this context, the interrelationship between informally-arranged unpaid care and other forms of 'professional' care such as state-funded and privately paid care services is central in understanding the current and future care arrangements of people in later life. The research uses data from four waves of the English Longitudinal Study of Ageing (ELSA) to investigate the effects of key factors including

gender, age, socioeconomic status, and the availability of a partner or children (the most common providers of unpaid care) on the likelihood of receiving care from informal and formal sources. In order to disentangle the way in which experiencing particular needs can affect the types of care that are received the research uses the longitudinal nature of ELSA to explore how the receipt of different types of care may be affected by experiencing new or ongoing difficulty with specific Mobility actions and Instrumental Activities of Daily Living (IADLs) and how the status of these difficulties affects the likelihood of receiving care for the first time.

Loneliness kills – the importance of family support for healthy ageing in Sweden
Nawi Ng, Umeå University, Sweden, et al
Background: Research has shown the association between loneliness and mortality among old population. This study aims to evaluate the association between living alone and mortality among adult Swedish population aged 40-60 years who did not have children. Methods: We used the Linnaeus longitudinal dataset, which linked the Swedish population, socio-economic, and death register with comprehensive health data from the Västerbotten Intervention Program (VIP) in 1990-2006. A total of 77960 adults participated in the VIP baseline during 1990-2006. The total follow-up time until death or end of study was 682,627 person-year, reflecting an average follow-up time of 8.8 years (range 0.5-16.5 years). We created an index of risk factor burden from the VIP data, using principal component analysis to summarise the data on eight risk factors, including smoking, snus, risk of alcohol consumption, physical activity, body mass index, blood cholesterol, hypertension, and diabetes. The index was later divided into quintiles, with highest quintile represented people with the highest burden of risk factors. We conducted Cox-regression to analyse the relative risk of living alone among adult aged 40, 50, and 60 years without children on subsequent mortality, controlling for sex, age, education level, employment and socio-economic status, the risk factor quintile, and living area. Results: Adults without children who lived alone had higher risk (RR=1.6, 95%CI= 1.4-1.7) to die compared to those without children but cohabitated (RR=1.1, 95%CI=0.97-1.2), or those with children who either live alone (1.06, 0.9-1.3) and cohabited (reference), after controlling for individual biological and socio-economic factors and living area. Unemployment and retirement also posed significant higher risk for mortality, even after controlling for other factors mentioned above. Conclusion: Social support plays a critical role for promoting healthy ageing, and preventing premature mortality among adult population, especially those who do not have children, in Sweden.

Investigating social and genetic influences of cognitive decline: insights from using population-based longitudinal data
Colter Mitchell, University of Michigan, USA, et al
The high estimated rate of conversion from cognitive impairment to dementia has fueled interest in the identification of social and genetic factors associated with cognitive impairment and its progression. Despite significant achievements in the field of human genetics in recent years, the size of genetic effects found to date for behavior and cognition are small and explain only a small fraction of trait variability. However, most human genetic work is conducted on cross-sectional data. Recent work suggests that the use of longitudinal data may produce significantly better phenotypes for genetic research. Further it has been hypothesized that some of the "missing heritability" may be due to gene-environment interactions that are not explicitly modeled. In this paper, we combine the rich longitudinal cognitive measures and genotype data in the Health and Retirement Study (HRS) to investigate the genetic and environmental factors associated with memory performance and prospectively measured memory decline. We extend current research by investigating gene-environment interactions that may be operating through genes that have been significantly found to be associated with episodic memory and related traits. The HRS is a key cohort in which to conduct this research since it is a US nationally-representative longitudinal panel study of adults over age 50 (surveyed every two years since 1992) and approximately 19,000 of the HRS participants have been genotyped. Using 40 genomic regions that have significant and replicated evidence of association with episodic memory or states and diseases characterized by impaired memory such as hippocampal volume and Alzheimer's disease we construct a cumulative genetic risk score (GRS) and examine its ability to predict episodic memory performance and decline while controlling for and interacting with key demographic and socioeconomic variables. We also discuss the potential for better social science and biological research by utilizing existing longitudinal data collections.

Non-employment, a risk factor for poor cognitive function and decline in later life
Alison Sizer, University College London, UK, et al
The 2011 UK census estimated there were 7,536,300 people aged 65 – 84, and projected this would rise to 10,896,600 by mid-2032, an increase of 39%. Ageing is associated with declines in cognitive function, which research has indicated is influenced by a range of factors operating across the life course, including employment characteristics. However, there have been few studies of the association between non-employment and cognitive function and decline in later life. This study investigates the association between non-employment and cognitive function at age 60-64 (60+) and cognitive decline using data from the National Survey on Health and Development (NSHD). It investigates if there is an association between duration of non-employment over the life course and cognitive function at age 60+, and cognitive decline from age 43 - 60+, and if there are gender differences in these associations. Cognitive function is measured using verbal recall and letter search test scores at age 43 and 60+. Duration of non-employment from leaving full-time education is measured in months. Multivariable linear regression models are used to test the association between non-employment and cognitive function, and conditional multivariable models of change are used to test the association between non-employment and cognitive decline. The study found for men age 60+, >6-12 months, >15-20 years and >20 years non-employment were associated with lower cognitive function, and this association was partially confounded by childhood factors, education, head of household social class and health behaviours, and partially explained by occupational complexity. For women age 60+, >5-10 years non-employment was associated with higher cognitive function at age 60+. It also found that for men >6-12 months and >20 years of non-employment was associated with faster cognitive decline, but for women there was no evidence of an association between non-employment and cognitive decline. Owing to the possibility that missing data may compromise the findings, multiple imputation analysis is being undertaken, the findings of which will be presented.

Midlife work-related stress and late life physical functioning: a 20-year prospective cohort study
Charlotta Nilsen, Karolinska Institutet and Stockholm University, Sweden, et al
Objectives: With a rapidly growing older population, a rising interest in identifying factors that influence the different patterns of disease and disability observed within older age groups has emerged. Occupational activities play an important role in health due to the considerable amount of time adults spend at work. The study aims to explore the influence of work-related stress in midlife in relation to physical functioning in old age. Methods: Data from two linked nationally representative Swedish surveys were used: The Level of Living Survey (LNU), and the Swedish Panel Study of Living Conditions of the Oldest Old (SWEOLD). Follow-up time was 20-24 years. Ordered logistic and linear regressions were used to examine work-related stress (self-reported high job demands, low job control, passive jobs, and high strain jobs) in relation to late life physical functioning (objective test of general physical functioning, lung function and self-reported mobility). Results: High job demands and high job strain among women was associated with mobility problems in old age. A passive job and low job control among men was associated with late life mobility problems, low lung function, and limited physical performance. Discussion: Midlife work-related stress was associated with physical functioning over 20 years later. However, different indicators of work-related stress affect women and men's late life physical functioning. Overall, stress at work in midlife could be considered one important predictor for late life physical functioning.

PARALLEL SESSION 2

2A   Paper Session: Employment and the life course
Intentions and Outcomes: Mobility and Immobility over the Life Course
William Clark, University of California, Los Angeles, USA, et al
Migration and residential mobility studies are dominated, as their names suggest, by studies of movers and we know a good deal about how life events generate moves. We know less about how mobility intentions are translated into actual moves and the role of unexpected events in the mobility process. Although there has been new work on the gap between stated preferences (the plan to move) and revealed preference (actual moves) we do not have a good understanding of (1) how place and place attachment affects the decision making and (2) how the move or lack of move is translated into perceived housing and place outcomes. Although a very high proportion of those who express and intention to move also move, there are many who do not move, and some

who do not intend to move, who do move. What explains these discrepancies and how much of it is related to personal behaviors, how much is related to unexpected events in the life course, and how much is related to interconnections between households and the places that they live? There is a growing concern with neighborhood affects generally, and specifically how the inter-connections between people and place influence their decision making and their outcomes. How do, duration, and the interaction between people and places play a role in mobility/immobility? In this analysis we construct a series of models of the intention to move and move behavior and outcomes in the housing market. Specifically, we model the process at two levels: (1) households who express an intention to move and who move and (2) households who express the intention not to move and who move, as a function of (i) demographic variables, (ii) levels of satisfaction and connection with the locality and (iii) destabilizing life cycle events.

Part-time and temporary work, life course situations and subsequent employment career: a register-based follow-up study among Finnish employees
Jouko Natti, University of Tampere, Finland, et al
A considerable proportion of employees work on the basis of part-time and/or temporary contracts in EU countries (EWCS 2010), in Finland every fourth employee. In earlier studies much attention has been devoted to what extent part-time and temporary employment can act as stepping stones in a labour market career by studying transitions from part-time and temporary work focusing usually in relative short-term outcomes with labour force panel data. The aim of the paper is to examine the later employment career of part-time and temporary workers during the relative long follow-up period in different life course situations. Weekly working hours are divided into two groups: part-time short (1-34 hours) and full-time (35+ hours). Temporary contract is based on respondents own classification (temporary or permanent). Life-course situations are dived into five groups: single less than 40 years, couple with child(ren), couple without children, single parent, single 40+ years. Later employment career is measured as number of months in employment, months in unemployment and months outside labour market during the follow-up period. The analysis is based on the Finnish working conditions surveys (1984, 1990, 1997, 2003 and 2008) merged with register-based follow-up data (1985–2011). The present study is restricted to 15 to 64-year-old employees (n= 19.969). The number of months are analysed with Negative binomial regression due to the skew distributions of outcome variables. The results are adjusted to background, work and health related factors. According to the results part-time workers have less employment months and more unemployment and non-labour market months compared to full-time workers. In a similar vein, temporary workers have workers have less employment months and more unemployment and non-labour market months compared to permanent workers. This is the case in most life course situations.

The influence of the first job placement on long-term professional success of higher education graduates
Kolja Briedis, German Centre for Research on Higher Education and Science Studies (DZHW), et al
The occupational establishment of high qualified persons may take time and depends on the economic situation at the start of the career. The school-to-work-transition is a critical phase and the first job placement has relevant impact on the further career (Blossfeld 1985; Blau und Duncan 1967; Müller 1972; Korpi et al 2003). Research has focused on two different assumptions: On the one hand it is said, that disadvantages at the start of the career can be counterbalanced with job mobility (compensation model). On the other hand, it is argued that a bad career start cannot be made up later in the career (fixation model). Up to now there is mainly empirical evidence for the fixation model. These findings result from studies conducted during the first decade of this century (Bukodi et al. 2008; Scherer 2004; Verhaest und van der Velden 2010). But research has focused on the medium-term consequences of the job start on the later career. Using data from a German graduate study – conducted by the German Centre for Research on Higher Education and Science Studies (DZHW) – it is now possible to analyse careers of higher education graduates in a long-term perspective (up to ten years after graduation) with panel data of two different cohorts. The results confirm the assumptions of the compensation model and of the fixation model as well. On the one hand an inadequate job start is linked with a higher likelihood of an inadequate job position ten years after graduation. But on the other hand a relevant part of the graduates is able to find a suitable job even after an inappropriate start. A persisting inadequate job situation strikes only very few higher education graduates in Germany.

Midlife physical and cognitive capability and older people's employment

Mai Stafford, Medical Research Council, UK, et al

Health, along with socioeconomic circumstances, is a key contributor to retirement behaviour. Doctor-diagnosed disease, limiting conditions and poor self-rated health have been associated with early retirement and lower likelihood of bridge employment, but findings are difficult to interpret since i) low job satisfaction may lead to exaggerated perceptions of poor health, and ii) medical practitioner's diagnosis may depend on work status. This study uses longitudinal data to examine objectively as well as subjectively-assessed health indicators in midlife as predictors of older people's employment. The MRC National Survey of Health and Development is a stratified sample of 5,362 participants recruited from all births registered in one week of March 1946 in England, Wales and Scotland. At age 53, physical performance was assessed by trained nurses and comprised grip strength, chair rising, standing balance and respiratory function tests. Cognitive performance was assessed at the same time and comprised tests of verbal memory, speed and concentration and the National Adult Reading Test. Limitations in daily activities were also reported at this age. At ages 60-64 and 68, age at retirement from the main occupation and current employment status were captured. Independent of education and head of household social class, better verbal memory and lung function were associated with higher likelihood of men and women's participation in bridge employment but not with their age at retirement. Reported problems climbing stairs was associated with lower likelihood of bridge employment among men. Problems gripping, climbing stairs or walking were associated with younger age at retirement. Bridge employment may promote health and financial wellbeing in older age but these benefits are less likely to be realised by those with poorer cognitive and physical capability in midlife. Poor physical capability also appears to be related to earlier retirement, but only when it is perceived to limit activities.

The implications of non-standard hours in the lives of American workers

Stacey Bosick, University of Colorado Denver, USA

Consistent with global trends, the United States is increasingly becoming a 24-economy. Nearly half of Americans now work evening and/or weekend hours (Pressor and Gornick 2003). Presser and colleagues (1999, 2003) document the non-standard hours worked by Americans and how these schedules compare to European employees. Pressor (1999) further highlights the factors leading to these demographic trends, as well as some of the social implications to family life and physical well-being. In this study, I further consider the implications of the timing of work hours in the lives of Americans. Drawing on data from the 2013 American Time Use Survey, I report on the relationship between non-standard and night work hours and one's involvement in other daily activities including volunteering, leisure time, and exercise. I use the Well-being Module Questionnaire to investigate the implications of working non-standard and night hours to mental and physical well-being. Longitudinal life course researchers have long realized the importance of considering the timing of life events. Many of these studies have focused on role initiation with respect to other roles including parenting, marriage, schooling and independent living. Thus, the field widely recognizes the impact that timing in one life domain has on other life domains. Particular attention has been given to the negative impact of off-time events on later life outcomes. In the present study, I focus my attention at a more micro-level, studying the timing of work within the daily lives of Americans. I argue that non-standard and night work hours can be viewed as off-time events. In much the same way that off-time life transitions in the life course serve to perpetuate inequality, I point to ways in which off-time work scheduling serves to reproduce unequal life experiences.

Are the inactive the lazy counterpart of the unemployed? An empirical test of NEET

Hans Dietrich, Institute for Employment Research (IAB), Germany

In addition to the unemployment rate the NEET rate gained both attention and relevance in the European debate. The European political discourse applies the NEET concept as a measure to identify both unemployed youth and young people who have already given up looking for a job. In times of the Great Recession it could be assumed that increasing numbers of unemployed and the prolongation of the duration of individuals' unemployment experience may foster the inactive part of the NEET population. However, that might depend both on the definition of NEET and the composition of the inactive part of the NEET group. LFS data will be applied for 31 European countries over an observation window from 2004 to 2013 to test the following hypotheses: The standard argument of NEET could be stated as follows: young unemployed, who are not

successful in finding a job might become demotivated and leave the labor market toward inactivity. Hypothesis 1: In the years of crisis the share of inactive young people should increase, as unemployment duration takes longer and opportunities are more limited, that might discourage young people and shift them into inactivity. School leavers are less attached to the labor market than people who have already work experience. Likewise, we assume that school leaver from vocational tracks are more labor market attached than graduates from general educational tracks and tend to define themselves as unemployed instead of inactive. Hypothesis 2: School graduates from general educational tracks are less labor market experienced and are more like to define themselves as inactive whilst on job search as to describe themselves as unemployed. In comparison graduates from vocational tracks are already more labor market attached and are more likely to define themselves as unemployed instead of inactive. Jobless young people who do not expect unemployment benefits or have no access to guidance and counselling from local public employment services are less likely to define themselves as unemployed. Hypothesis 3: Young people who are not entitled to receive unemployment benefits or young people who life in countries with less developed PES show a lower tendency to define themselves as unemployed Assuming that in economic prosperous periods the transition between labor market active and inactive is more fluent, we expect higher shares of inactivity in periods with economic growth, whilst the reverse is the case in times of an economic downturn. Hypothesis 4: In the years of crisis the share of inactive young people should decrease, as individual's risk of returning from inactivity to a labor market active status is lower. First empirical evidence supports country and group specific assumptions. Thus the findings support the informative relevance of the NEET concept. However, the findings recommend both a more sensitive use of the NEET concept in the scientific context and to use the NEET concept with more caution in the political sphere.

2B   Paper Session: Children's Health

Childhood maltreatment associations with cognition and mental health from child to adulthood in a prospective birth cohort

Marie-Claude Geoffroy, McGill University, Canada, et al

Life-long adverse effects of childhood maltreatment on mental health are well-established, but effects on child-to-adulthood cognitive abilities have yet to be examined in the general population. We aimed to establish whether different forms of child maltreatment (neglect, sexual, physical, psychological and witnessed abuse) are associated with poorer cognition and educational qualifications in childhood/adolescence and whether associations persist to mid-life, parallel to associations for mental health. Data are from the 1958 British birth cohort (N=8,928) including measures of maltreatment (recorded prospectively at 7 and 11y and retrospectively at 45y), cognitive abilities, qualifications and mental health (at 7, 11, 16 and 50y) from standardized tests and questionnaires. We found a strong association of child neglect with cognitive deficits from child to adulthood. To illustrate, the most neglected 6% of the population (score ≥4) had a 0.60 (95% CI: 0.68, 0.56)SD lower cognitive score at 16y and 0.28 (0.36,0.20)SD deficit at 50y relative to the non-neglected (score=0) after adjustment for confounding factors and mental health, and increased risk of poor qualifications (i.e. none or low versus degree-level). Childhood neglect and all forms of abuse were related to poorer life-time mental health but abuse was not associated with cognitive abilities child-to-adulthood, after adjustment for confounders and mental health. The study provides novel data that child neglect is associated with cognitive deficits in childhood/adolescence and decades later in adulthood, independently from key confounders including socioeconomic status and mental health. Results highlight the life-long burden of child neglect on cognitive abilities and mental health.

Childhood trauma and lifetime syncope burden

Celia O'Hare, The Irish Longitudinal Study on Ageing, Ireland, et al

Background: Syncope is a sudden, transient loss of consciousness. The most common aetiology is neurally mediated vasovagal syncope (VVS) or the 'common faint'. VVS may have a significant negative impact on quality of life, particularly when recurrent. Highly salient emotional situations often precipitate VVS events and 'Trait Faintness' has been suggested as a stress response in humans. We thus investigated the relationship between childhood trauma (CHT) and lifetime syncope burden. Methods: This study is based on data from the first wave of The Irish Longitudinal study on Ageing (TILDA), conducted 2009-2011. A history of CHT was collected using four questions relating to a history of physical or sexual abuse prior to the age of 18. Lifetime syncope burden was also

recorded: lifetime history of fainting (yes/no); frequent fainter in youth (yes/no); number of faints in the last year. Results: 18% of the sample reported at least one episode of syncope during their lifetime of whom 12.4% reported a history of CHT, rising to 17% among those with a history of recurrent syncope. In models adjusted for age and sex those who reported a history of CHT were twice as likely to report a history of recurrent syncope in youth ($p<0.001$) and three times as likely to have experienced syncope in both later life and youth ($p<0.001$). Independent associations between CHT and syncope burden remained after adjustment for confounders. Conclusion: A self-reported history of CHT is associated with a history of self-reported recurrent syncope in youth and later life. These findings emphasize the importance of adequate history taking in management of this common clinical presentation. Early attention should be given to the potential precipitating and perpetuating psychosocial factors affecting recurrent syncope.

Maternal nonstandard work and children's health across the early life course
Afshin Zilanawala, University College London, UK
A burgeoning line of research has focused on the implications of maternal employment for children's development. More specifically, this research has focused on maternal employment and children's health. Above and beyond maternal labor force participation, mothers' nonstandard work (i.e. schedules outside the traditional 9-5 weekday schedule) may have important implications for children's health. Despite potential linkages between maternal nonstandard employment and early child health, little empirical research examines this association, particularly during the early years of a child's life, and potential mediating factors that explain any significant associations we may observe. Children's health plays an important role in the intra-generational process of stratification and is a significant predictor of adult health and wellbeing. Thus, examining the determinants of children's health is important. The present paper makes several innovations to the existing research linking maternal nonstandard employment and children's health. This paper uses the first 5 waves of the Fragile Families and Child Wellbeing Study. In order to evaluate the link between maternal work schedules and children's health, I use three analytical approaches to adjust for observed and unobserved heterogeneity; regressions adjusting for a rich set of covariates, employing a lagged dependent variable model, and using fixed-effects. I examine the mechanisms mediating the relationship between nonstandard work and children's health, including maternal economic security and wellbeing. Lastly I consider multiple indicators of children's health, including overall health, asthma, and emergency room visits.   I find evidence of modest positive associations between mother's night and evening shifts and children's overall health. Of the measures of maternal economic security, material hardship partially mediated the relationship between nonstandard work schedules and children's health. There was no evidence that harsh parenting accounted for the observed associations. These results are robust to various modeling strategies.

The influence of cultural background on breastfeeding: Exploring reasons for low rates of breastfeeding in Ireland
Aisling Murray, Economic and Social Research Institute, Ireland, et al
Ireland has very low breastfeeding rates in comparison with other countries despite increases in recent years (55% in 2012, up from 45% in 2003; HRID 2013). Analysis of Irish data suggests that migrant mothers who give birth in Ireland are much more likely to breastfeed than their Irish-born peers (e.g. Williams et al, 2010), and the increase in the number of migrant mothers is likely contributing to the observed rise in national breastfeeding rates. Work by Brick and Nolan (2014) found that the difference in breastfeeding rates between migrants and Irish-born mothers was not due to differences in characteristics such as education or age, and Layte and Nolan (2014) further found that the breastfeeding rate for migrant mothers decreased the longer they had been resident in Ireland. These findings strongly suggest that attitudes play a strong role in the decision of so many Irish women to bottle-feed rather than breast-feed despite a continuing policy focus on this area. This paper uses data from the Growing Up in Ireland Infant Cohort to further explore the hypothesis that there is something in Irish cultural values or attitudes that restricts initiation of breastfeeding. We compare breastfeeding rates along three possible roots for cultural attitudes: religion, region, and country of birth. We find main effects of all three dimensions but of particular interest is an apparent interaction between country of birth and religion such that Irish-born Catholics have particularly low rates of breastfeeding. These effects are robust to controls for a wide range of child, maternal and family characteristics.

Early life socioeconomic status and health from young adulthood to old age
Kathleen Mullan Harris, University of North Carolina at Chapel Hill, USA, et al
There is substantial research documenting a social gradient in health, with individuals of lower socioeconomic status (SES) experiencing greater health risks, disease, and disability than higher SES individuals. Recent attention has focused on the early-life origins of SES disparities in health using a life course perspective to identify how early-life experiences shape later life outcomes. This research is limited by cross-sectional designs, and one measure (i.e., father's occupation) and retrospective reports of childhood SES. Moreover, there is little attention to how social conditions "get under the skin" to affect biological functioning that lead to health risks and disease. We use an innovative design to explore four life course mechanisms for how early-life SES is related to later adult health across the adult life span. Using four national, longitudinal U.S. studies covering young adulthood (Add Health), mid-adulthood (MIDUS) and older adulthood (NSHAP, HRS), we explore how early-life SES shapes adult SES and health across the adult life span. We test four life course models: 1) sensitive period model—early-life SES has persistent, irreversible effects on later life physical functioning; 2) accumulation of risks model—risks and exposures associated with economic conditions at various points in the life course accumulate and compound to affect health; 3) pathway model—early-life SES relates to later life health through its effects on later-life SES; and 4) social mobility model—health effects of early-life exposures can be modified by later-life SES. For each dataset, we construct and standardize composite measures of early-life and adult SES and harmonize physical health measurements of immune, cardiovascular, and metabolic functioning that represent health risk to disease. We find that the relative importance of early-life and adult SES varied across young-, mid-, and late-adulthood, with accumulation of risks operating in young adulthood and pathway and mobility models operating in later adulthood.

2C

Symposium: Social determinants of child development: analyses of data from the Growing up in Scotland Study
James Law, University of Newcastle, UK
This session will report four analyses from a single birth cohort Growing Up in Scotland or GUS. Commissioned in 2003 by the then Scottish Executive Education Department (SEED), GUS is a large-scale longitudinal research project aimed at tracking the lives of several cohorts of Scottish children from the early years, through childhood and beyond. One of the main focuses of GUS is the child's Cognitive, social, emotional and behavioural development. In this symposium we focus on a variety of different analyses all of which place the emphasis on the child's language skills in the context of these other aspects of development. The focus on a single cohort reduces the risk of comparability issues common in cross cohort analyses. The four sessions will focus on play and early literacy, maternal alcohol consumption, behaviour and finally the measurement of change over time. Research using data from GUS has demonstrated stark variation in language development at ages three and five amongst children from different backgrounds. For example, Bromley (2009) found that at age three, children from less advantaged families were outperformed by their more affluent counterparts and this was associated with a variety of factors such as gender, maternal age, family composition, early development and birth weight. Bradshaw (2011) found these inequalities largely persisted at age five and were closely associated with a range of participatory activities including reading with the child, painting or drawing, and singing nursery rhymes. The session will be chaired by Paul Bradshaw Senior Research Director at Growing Up in Scotland, Bromley, C. (2009) Growing Up in Scotland: The impact of children's early activities on cognitive development, Edinburgh: Scottish Government, Bradshaw, P. (2011) Growing Up in Scotland: Changes in child cognitive ability in the pre-school years Edinburgh: Scottish Government.

Changes in early language development, play and the enjoyment of reading between two GUS cohorts
It has long been recognised that the early home learning environment is an important predictor of cognitive and subsequently educational skills for the child and that this may be especially true for more disadvantaged children (Barnes et al. 2010, Melhuish 2010). Yet it is often difficult to proceed beyond associations between variables and causation can be difficult to establish. Experimental studies (randomised control studies) can be difficult to set up in the context of the timing of policy priorities. An alternative is to explore the performance of cohorts before and after the introduction of an "intervention" or policy initiative. Such opportunities are rare but in this case we are able to compare across two cohorts of GUS. |In 2009 the Scottish Government introduced two national interventions aimed at improving parents' access to information and resources on parent-child activities in the

early years: the 'Play, Talk, Read' campaign and the Scottish Book Trust's Bookbug programme. There were two GUS cohorts, one before and one after this intervention, the first born in 2005 obviously did not receive it, the second born in 2010 did. The two cohorts will be compared for a series of parental activities measured for mother and father (looking at books or read stories with the child, reciting nursery rhymes or sang songs with the child, introducing painting/drawing activities, recognising letters, words, shapes or numbers etc). The key cognitive outcome measure is language ability – as measured by the British Ability Scales (BAS) – at three years. The results of this analysis (to be completed in May 2015) will be discussed in the session. Barnes, M., Chamfreau, J. and Tomaszewski, W. (2010) Growing Up in Scotland: The circumstances of persistently poor children, Melhuish, T. (2010) Growing Up in Scotland: Impact of home learning environment on child cognitive development, Edinburgh: Scottish Government

Predicting language development in young children from alcohol consumption in pregnancy
Background: The relationship between pre-natal alcohol exposure and its effects on children who are not diagnosed with Foetal Alcohol Syndrome is open to interpretation. The aim of this study is to investigate how pre-natal alcohol exposure affects language development and to ascertain whether pre-natal alcohol exposure also affects readiness for school and hyperactivity and whether poor language development is a mediating factor in these relationships. Method: This study is a secondary analysis of Growing Up in Scotland, Birth Cohort 1 (3,456 participants). A number of regression analyses were used to predict outcomes and the relative contribution of each variable. Chi-Square Tests of Association were run to determine the relationship between the outcome variables and each predictor variable. Results: Initial Chi-Square analyses suggested that pre-natal alcohol exposure could be associated with language outcomes at age 3 and 5 and hyperactivity outcomes at age 8. However, regression analyses did not support these findings for language outcomes at age 3 and 5. Pre-natal alcohol exposure was not an accurate predictor of communication and language skills at ages 2-5 or readiness for school, but was an accurate predictor for hyperactivity scores at age 8. No conclusions can be drawn regarding the hypothesis that language development acts as a mediating factor in the relationships between pre-natal alcohol exposure and readiness for school and hyperactivity, since language development was not found to be linked with pre-natal alcohol consumption. Conclusions: Pre-natal alcohol exposure was not found to be an accurate predictor of language or readiness for school outcomes, but was associated with hyperactivity outcomes. The failure to find an effect of pre-natal alcohol consumption on language development should not be interpreted as proof that there is no relationship. A number of methodological improvements are suggested and should be considered when conducting further research into this area.

Language development and its relationship to subsequent behaviour in children
Background: Associations between children's early language abilities and their behaviour have been found in both clinical and population samples. This study looked at the effect of early language and a number of control variables on behavioural outcomes within GuS to investigate if associations are found within a population sample. Children with Autism Spectrum Disorders (ASD) often have co-occurring behaviour difficulties, differences in variables predicting these children's behaviour outcomes was investigated. Method: Logistic regression models were used to determine the effect of a number of developmental variables on children's scores on the conduct and hyperactivity sub-scales of the Strengths and Difficulties questionnaire (SDQ) at eight years old. Results: Being a boy, pre-natal smoking, maternal depression at age 2, being smacked at age 2 and poor conduct and hyperactivity scores at age 4 were all significantly and independently associated with comorbid abnormal hyperactivity and conduct scores at age 8. Poor vocabulary at age 5, being smacked at age 2 and abnormal conduct and abnormal hyperactivity at age 4 were all significantly and independently associated with only abnormal conduct scores at age 8. Being a boy, having a depressed mother at age 2 and abnormal conduct and hyperactivity at age 4 were all significantly and independently associated with only abnormal hyperactivity scores at age 8. When children with ASD were excluded from analysis having a depressed mother was no longer significantly associated with the outcome variables. Conclusions: Poor expressive vocabulary at age 5 appears to have an effect on children's conduct but not hyperactivity regardless of ASD diagnosis. Language measures at age 2 were not significantly associated with either conduct or hyperactivity. Maternal depression when the child is two appears to have more of an impact on ASD children than non-ASD children. Implications for policy will be discussed.

Does being read to in the early years increase the likelihood that children enjoy reading at age 8?
Language development in children is complicated, being fundamental to their interaction with the world it is influenced by the world around it and their interactions. This means that both direct activities planned by parents can be important developmentally but so can their vicarious experiences of their family social life. Findings from the previous section will to show differences in enjoyment of reading amongst children with different background characteristics. The first section of the report will have provided information on how frequency of reading books or being read to varies amongst children with different characteristics. This raises a more complex issue of causation. We use an outcome of enjoyment of reading at age 8, predicted by family socio-economics (from the first waves of the study) and parental reading with the child from earlier waves of the study. Because socio-economics may have both direct effects on the outcome and influence the behaviour we use a multiprocess model to account for the endogeneity. We also consider other factors which can interfere with this process such as the number of other children in the household. Our results show the effect of parental socio-economics on their parenting behaviour and the extent to which the parental association with reading enjoyment is mediated by their joint reading activity. We also test whether the effect interacts with the socioeconomics of the parents i.e. more gain is seen in children of higher SES parents. While encouraging parents to read with their children is an obvious intervention to improve their children's outcomes in the short term and this behaviour is associated with long term benefits the process is more complex. It is likely that the dialogic aspect of parental reading is more determining of the benefit realised than the simple frequency of the activity.

2D

Symposium: A comparative assessment of educational outcomes in Germany, the United Kingdom, and the United States
Jon Miller, University of Michigan, USA, et al
Educational Attainment over the Life Course in Germany: Results from the National Educational Panel Study. Research on educational attainment and educational inequality in Germany has mostly focused on the decision for different secondary school tracks as well as school leaving certificates and the subsequent transition into vocational training or university. The German secondary school system, which tracks children at a very early age, restrictive rules for university entrance, and Germany's unique vocational training system are seemingly geared towards a straightforward educational and occupational career that is predetermined at a rather early age. However, Germany has also seen considerable educational expansion and reform over the last decades. In recent years, politics has reacted to a stronger demand for post-secondary education by opening new entryways to colleges and universities for holders of certain vocational degrees. Accordingly, recent studies show that individual pathways often diverge considerably from the ideal type. Using data from the Adult Starting Cohort of the National Educational Panel Study (NEPS), we take a closer look at the educational attainment of West German residents born between 1970 and 1979. NEPS has collected retrospective data of respondents' educational and occupational careers as well as detailed information concerning lifelong learning. We will present descriptive statistics as well as event history analyses to show who reaches which level of education and which factors influence individuals' decisions to invest in further education. In order to analyze the effects of historical changes, older cohorts are contrasted.

Elite education and elite formation
This paper examines processes of social mobility and social reproduction for men and women born in Britain in 1970. We examine the roles of social origins and educational institutions in determining social class and income destinations in mid-life. What is the role of elite universities and elite fields of study in determining elite social class position and income in mid-life? Did social origins have a direct influence on social position in mid-life, net of educational and cognitive factors? How important were selective and fee-paying schools in reproducing social inequalities or generating social mobility for this generation? We examine both income and social class attainment for men and women at age 42, using the 1970 British Cohort Study (BCS70). We exploit rich data on higher education attainments to examine the roles of both elite institutions and field of study on outcomes. We find huge differentials in the returns to degrees according to both institution type and subject studied. The

greatest returns went to women with degrees in Science, Technology, Engineering and Maths (STEM) and Law, Economics and Business (LEB). The status of the higher education institution also mattered more for women than for men. Attending a private secondary school had a direct link to economic outcomes at age 42 for men but not for women.

Educational Attainment over the Life Course in the United States: an analysis using the Longitudinal Study of American Youth/Life

For decades, the literature on educational attainment has assumed that formal education was completed in the first two decades of life and that educational attainment was largely stable thereafter. The system has been changing in the United States over recent decades and it now appears that educational attainment often changes throughout mid-life and sometimes in the senior years. One part of this pattern is the greater availability of post-secondary and post-baccalaureate education in a variety in institutions in the U.S. and some of the changes reflect the influence of a technology-driven economy in which most technologies have a shelf life of about 10 years. This paper will use the 27-year record from the Longitudinal Study of American Youth/Life to examine U.S. patterns. A series of descriptive statistics and structural equation models (illustrated and explained for audience members not familiar with this technique) will be employed in the analysis. A written paper will be available to enable audience members to read the analysis more carefully after the session and to correspond with the authors about this work.

2E   Paper Session: Longitudinal Surveys

Longitudinal online surveys – who do you lose?

Deborah Loxton, University of Newcastle, Australia, et al

Objectives: To describe the extent of, and reasons for, attrition in a national cohort of young Australian women recruited via online surveys. Methods: In 2012-13, 17069 18-23 year old women were recruited to the fourth cohort of the Australian Longitudinal Study on Women's Health (ALSWH). Five broad recruitment strategies (Facebook including Facebook advertising, Other web activities, Referral, Traditional media, Fashion promotion) were used. At the baseline survey women were asked to provide data on demographic characteristics, lifestyle factors and self-rated physical and mental health. In 2014, the women were re-surveyed via online surveys. Multinomial logistic regression was used to compare baseline characteristics for responders and non-responders to the second survey. Results: The overall response rate was 67% (n=11384), although response rates were lower amongst those recruited via Facebook (65%) and Fashion promotion (66%) than among those recruited via other web activities (70%), referral (74%) and traditional media (79%). The major reason for non-response was difficulty contacting the women. Before adjusting for their characteristics, women in the traditional media group had twice the odds of being respondents (OR=2.01; 95%CI 1.70-2.37), those in the referral group had one and a half times the odds of being respondents (OR=1.51; 95%CI 1.32-1.73) and for those in the other web group the odds were 1.24 (95%CI 1.07-1.45) compared with those recruited via Facebook. Older, more educated women were more likely to respond, and those who smoked and drank at risk were less likely to respond. Adjustment for these and other factors decreased the odds but did not fully explain the higher response rates for women in the traditional media and referral groups. Conclusions: The factors affecting response rates were the same as those found in other longitudinal studies where recruitment was via traditional methods.

Ups and downs of developing a data management protocol for the 1st longitudinal study on Iranian children

Ali Asgari, University of Social Welfare and Rehabilitation Sciences, Iran, et al

The paper aims to outline the process of developing a data management protocol as part of the Iranian first longitudinal study on children, called "Growing up in Iran: Longitudinal Study of Iranian Children aged 4-12 (LSIC)". It first explores the theoretical and empirical foundations implying the necessity of developing a protocol for managing data in large-scale longitudinal studies. Then, drawing on local experiences and unique challenges of the study (as the first longitudinal study carried out in the country), the paper documents the use of data lifecycle (i.e. design and creation of data, storage, security, preservation, retrieval, sharing and reuse) and the development of a data dictionary and user guide in the course of the project. Finally, the paper concludes with

lessons learned from using SurveyToGo software package which was used for data entry (CAPI technique), as well as other instructive and constructive lessons learned during the process which would benefit future efforts for developing a protocol for management of longitudinal data. Keywords: longitudinal data, data management protocol, user guide, computer assisted personal interview (CAPI), Longitudinal Study of Iranian Children (LSIC).

Policy analysis via longitudinal databases built from administrative records
Randall Olsen, Ohio State University, USA, et al

Unlike in Europe, in the U.S. a very large portion of administrative data relating to education, training, health, social service programs and employment is held by states. Those data holdings are often likened to "silos" - widely separated resources that are kept distinct from one another. In Ohio, we are undertaking an effort to create an integrated data system that combines those separate holdings into a linked data archive that tracks millions of people over many years for the purpose of supporting research and evaluation on government programs. As a public university, Ohio State University is legally similar to a state agency, reducing many of the legal obstacles to creating such a resource. We are combining data on primary and secondary education for millions of children as well as information on jobs held and earnings for millions of adults, linking them to evaluate educational and job training programs to support the mission of state agencies. We also make these data available to researchers (as restricted data sets) who research programs support the overall mission of state agencies. With proper consent, investigators collecting survey data can draw on this resource - the Ohio Longitudinal Data Archive - to supplement their survey data with detailed administrative data that would be both costly and difficult to collect in a conventional survey. While these data holdings do not have the breadth of traditional longitudinal surveys and cover only part of the U.S., the depth of the information they hold is considerable and they cover millions of people on an ongoing basis. They provide an intriguing and relatively low cost resource for the social science research community.

Resurvey of longitudinal households after 15 years in rural Pakistan
Hari Lohano, University of West of England, UK

Empirical literature on longitudinal and life course studies is very scarce for developing countries in general and for Pakistan in particular. The country lacks longitudinal data sets to examine dynamics of income mobility, nature of poverty and intergenerational transfers and returns to learnings. This paper contributes to the literature on survey methodology design for a longitudinal study for a developing country. The longitudinal survey of this paper was conducted by the International Food Policy Research Institute (IFPRI) between July 1986 and October 1991 in four provinces of the country. Each household in the survey was visited up to 14 times. A resurvey of sub-sample of these households in one province of the country was conducted by the present author in 2004-5. Attrition rate for this resurvey was only five per cent. This paper presents findings about the protocol used to tracking the longitudinal households and designing of resurvey of the study sample after 15 years of the original survey. The paper consists of five sections. The first section provides a summary of literature on the longitudinal studies for developing countries. The second section provides key features of the baseline survey. The third section provides detail of the survey design for tracking and resurveying longitudinal households. The fourth section examines whether there are systematic pattern of attrition and biases in the resurvey. The final section presents conclusions and policy implications of the study.

Frailty and disability among older adults in the north and south of Ireland: evidence from Irish health surveys
Matthew O'Connell, Trinity College Dublin, Ireland, et al

Older adults from Northern Ireland (NI) report higher rates of limiting disability than those from the Republic of Ireland (RoI). The reason for this difference is unclear. Frailty in older adults is a vulnerable health status that may precede functional impairment. This study aimed to construct a harmonised frailty measure using health surveys from NI and the RoI and use it to explore differences in frailty and its relationship to disability across Ireland. Data are from two nationally representative surveys: The Irish Longitudinal Study on Ageing (TILDA) and the Health Survey for Northern Ireland 2010/2011 (HSNI). Respondents aged ≥60 years were included with 4,901 from TILDA and 1,359 from HSNI. A frailty measure was adapted from the FRAIL scale using five harmonised criteria: Fatigue, Resistance, Ambulation, Illnesses and Low Physical Activity. Participants with ≥3 criteria were classified as frail. The relationship between frailty and disability was investigated using Modified Poisson regression models. The prevalence of frailty was 6.7% in TILDA and 20.8% in HSNI. The prevalence was higher at older ages and amongst

females in both settings. The prevalence was also higher in lower social classes. All frailty criteria were more prevalent in HSNI than TILDA. The prevalence of limiting disability was 25.0% in TILDA and 43.3% in HSNI. The relationship between frailty and disability was similar in TILDA (Relative Risk (RR)=5.73, 95% CI=5.03-6.51 for participants with 3 frailty criteria vs 0) and HSNI (RR=5.64, 95% CI=4.48-7.10). This study provides the first comparative data on frailty across Ireland. The prevalence of frailty was considerably higher in older adults from NI than the RoI and frailty was related to disability in both settings. Further research is needed to understand these health disparities. However, this study demonstrates the potential of using harmonised datasets to understand international differences in frailty.

2F Paper Session: Family, marriage, work and health

Marriage and physical capability at mid to later life in England and the USA

Natasha Wood, University College London, UK, et al

Married people have lower rates of mortality and report better physical and mental health at older ages, compared to those who are unmarried. Given declining marriage rates and increasing prevalence of divorce in the last 40 years more people are now entering older ages unmarried, or with varied marital histories and at present it is unknown what the implication of this is for health at older ages. Physical capability is an indicator of health at older ages which is not specific to a particular disease or condition. Few studies have investigated marriage and physical capability at older ages. This study takes a life course approach to marriage by investigating marital history, through previous transitions out of marriage, as well as current marital status, and their association with physical capability among those aged 50+ in England and the USA. Data from two nationally representative longitudinal surveys of people aged 50+ was used: Wave 4 (2008) of the English Longitudinal Study of Ageing (ELSA) and Waves 8 and 9 (2006 and 2008) of the Health and Retirement Study (HRS). These sister studies share comparable measures, facilitating cross-national comparisons. Physical capability was objectively assessed by grip strength and walking speed. Previous marital transitions were collected on ELSA in a Life History Interview in 2007, whilst on the HRS up to 4 previous marriages were collected at baseline interview. Multiple linear regression was used to investigate the associations, adjusting for sex, age, education, wealth, physical activity, smoking status, body mass index, psychological morbidity and physical health. Currently married people had stronger grip strength and faster walking speeds than those who were unmarried. Prior transitions out of marriage were also associated with stronger grip strength, but only among men. This provides some support for the hypothesis that marriage is associated with physical capability in both England and the USA.

Work-family life courses, wellbeing and metabolic risk in the MRC National Survey of Health and Development (1946 British birth cohort)

Anne McMunn, University College London, UK, et al

Background: Studies have found that combining paid work with family responsibilities usually fosters health. However, most previous research in this area excludes men, relies on subjective measures of health and information on work and family activities from one or two time points in the life course. This study investigated associations between work-family life courses, subjective wellbeing, and markers of metabolic risk in a British birth cohort study. Methods: Multi-channel sequence analysis was used to define work-family life courses between 16-52 years, combining annual information on work, partnership and parenthood. Associations between work-family life courses and metabolic risk factors at ages 53 and 60-64, as well as subjective wellbeing at 60-64 years were tested using multivariate linear regression in multiply-imputed data on over 2500 men and women from the MRC National Survey of Health and Development, followed since their birth in 1946,).

Results: Compared with those who combined stable employment with early transitions to marriage and parenthood, long-term homemakers had lower levels of life satisfaction and more symptoms of psychological distress in later life. Those who combined strong ties to paid work with later family formation had smaller waist circumferences and lower blood pressure. Childless people had lower levels of life satisfaction, but smaller waist circumference and higher HDL cholesterol. Reported associations were independent of childhood health and socioeconomic position, adult socioeconomic positon, health behaviours and BMI. Conclusions: In this cohort, work-family life courses characterised by stable employment histories combined with later transitions to

marriage and parenthood were linked to a low-risk metabolic profile. Women who spent long periods of time out of the labour market to care for families experienced lower levels of subjective wellbeing in later life, but not adverse metabolic profiles, while those who did not have children experienced lower levels of subjective wellbeing, but healthier metabolic profiles.

More work flexibility, better family health? A quasi-experimental study based on the Flexible Working Act in the UK

Lidia Panico, Institut National d'Etudes Démographiques (INED), France, et al

There is limited understanding of the impact of policies that enable parents to combine work and family responsibilities on child and parental outcomes. Exploiting the introduction of the UK Flexible Working Act, introduced in 2003, granted, initially, parents with children under the age of 6 the right to request flexible work arrangements. This has been since extended first to all parents with a minor child, and more recently to all employees. We exploit the initial introduction of the Act in 2003 to we examine whether granting working parents the right to request flexible work arrangements influences the health and well-being of parents and children.   Based on longitudinal data from the Millennium Cohort Study (MCS), we use a difference-in-differences approach that compares changes in outcomes before and after the policy between parents affected and those unaffected by the policy. We initially focus on maternal outcomes such as mental wellbeing, self-rated health, and the report of longstanding illnesses. Future work will link to parenting behaviours and ultimately child outcomes. We find that, for parents whose employer did not offer flexible work arrangements prior to the policy in 2003, the policy increased the use of flexible work arrangements among the MCS working parents, particularly for part-time work. An increase in the right to request flexible work led to a reduction in the probability of mothers reporting longstanding illness, this was mostly driven by the increase in part time work and increased mother's life satisfaction. Further analyses will examine impacts on children and partners. Our findings have important implications for work-family policy and family well-being.

The association between work-life balance, cortisol patterns and depressive symptoms in the Whitehall II study

Tahera Razavi, University College London, UK, et al

Work-family conflict occurs when the demands of an employee's role conflict with the demands of a family role, such as being a parent, spouse or carer. Work-family conflict has been associated with adverse health-related outcomes such as depression and hypertension. Cortisol is a biomarker indicator of stress and has been linked to health problems such as cardiovascular disease and may play a role in these associations. Previous studies have indicated an association between cortisol and work related factors. However, the association between cortisol and work-family conflict has not been examined. The present study will use data from the Whitehall II study to explore the association between work-family conflict and diurnal cortisol patterns and depression in cross sectional and longitudinal analyses. Work-family conflict is assessed in Whitehall II using a series of 8 questions, 4 of which measure work to family interference (WFI) and 4 which measure family to work interference (FWI). Work-family conflict was measured at three time points; waves 3 (1991-1994), 5 (1997-1999) and 7 (2002-2004) while salivary cortisol and depressive symptoms using the CES-D (Center for Epidemiologic Studies Depression Scale) was assessed at wave 7. Individuals reported more WFI than FWI over the three time points (18.4% vs. 10.4% respectively, $p < 0.001$). Men reported more WFI than women (84% vs. 76%, $p <0.001$). However, FWI was not significantly different for men and women. Neither WFI nor FWI were associated with diurnal cortisol patterns in either men or women, while both WFI and FWI were associated with depressive symptoms (FWI: $\beta=2.64$ (0.17), $p<0.001$, WFI: $\beta=2.23$ (0.16), $p<0.001$). These findings could encourage employers to implement work-place policies, in order to reduce adverse health related outcomes.

Health and wealth of widows: a cross-national perspective

Apoorva Jadhav, University of Michigan, USA, et al

Research in the United States has found a strong relationship between the experience of losing one's spouse and lower economic status for women. Similarly, health-seeking behaviors and mental health have been found to be different before and after widowhood. While most evidence comes from the U.S. and other developed countries, we utilize the Health and Retirement Study (HRS) and its longitudinal sister studies in the United Kingdom (ELSA), Ireland (TILDA), Europe (SHARE), China (CHARLS), Korea (KLoSA), and India (LASI) to explore the relationships between widowhood, poverty, and health together in these different contexts over a range of time (all datasets

available between 2002 to 2012) for women above age 55 (and age 45 in China and India). Are widows indeed worse-off in terms of health and wealth compared to women who are married for the duration of the interval, and does duration of widowhood affect these outcomes? We find that widows in the U.S., U.K., and Europe are more likely to see a decline in assets and income, and were more likely to be in poverty than married women in those countries, compounded by increased duration of widowhood. Widows in those countries were also more likely to report worse self-rated health while women in China and India actually reported better health than their continuously married counterparts. Widows in the U.S. and U.K. also reported more functional limitations (ADL, IADL, mobility) than continuously married women even after controlling for age and education. Notably, widows across all countries were more likely to report depression (using the Center for Epidemiologic Studies Depression Scale) than married women, which is driven by somatic symptoms rather than mood-related depression. We comment on these different findings keeping in mind differential systems of healthcare, pensions, and intergenerational exchange in these countries.

PARALLEL SESSION 3

3A   Paper Session: Gender and work in the life course
The effects of subject area and parenthood on the gender wage gap among higher education graduates in Germany
Gesche Brandt, German Centre for Research on Higher Education and Science Studies, Germany
Compared to other EU countries, Germany is characterised by a comparatively large gender wage gap. Across qualification groups, it amounts to about 22% and it is especially pronounced among higher education graduates. The gap already exists when graduates from higher education enter the labour market and it rises further in the early working career. But what are the reasons for the lower incomes of highly educated women? And do the factors explaining this phenomenon change over the life course? This paper addresses these questions by examining the determinants of the gender wage gap during the early employment history of higher education graduates in Germany. Using human capital theory, it explains why the fields of study preferably selected by women lead to lower incomes. In a further step, it shows how family-related employment interruptions and phases of part-time-work bring about gender income differences. The gender wage gap is analysed using a decomposition method. The empirical analysis is based on the 2001 graduation cohort of the graduate panel studies conducted by the German Centre for Research on Higher Education and Science Studies (DZHW). The graduates were so far surveyed three times during the first ten years after graduation. The results confirm that subject areas explain the largest part of the gender wage gap shortly after career entry. Ten years after labour market entry, however, the gender wage gap is mainly explained by gender-specific working histories in the context of family formation. At that time, the subject areas no longer have an effect.

Segregation in vocational training: a motor of persistent gender inequality?
Corinna Kleinert, Leibniz Institute for Educational Trajectories (LIfBi), Germany
Occupational segregation is presumed to be a foundation of persistent gender inequality in the labor market. However, research has shown that relations between both are complex and prone to change. First, segregation is reproduced by gender-typical occupational choices. In Germany, the majority of school leavers attain dual vocational training. Since vocational certificates are extremely important for employment entry and later career chances, segregation within the dual system might by a motor for maintaining gender inequality in the German labor market. While research has shown that this is true for wage inequality, less is known about its effects on young people's transitions from training to work. Second, demands for occupations have changed in the course of skill-biased technological change. Whereas traditionally the dual system focused on industry and crafts, today more training contracts are found in service occupations. However, we do not know how these structural changes have affected segregation patterns in training and apprentices' employment entry. Against this background, this paper aims to answer two questions: How does gender segregation in the dual system affect young people's transitions to work? How did these effects change over time? In what respect can these changes be attributed to structural labor market changes? These questions are answered by using large-scale registry data on dual training and subsequent employment biographies in Germany from 1977 to 2008. Results show that

segregation negatively affects the likelihood of female apprentices to be hired by their training firm, and these negative effects remained constant over time. I conclude that gender segregation as well as its effects on labor market outcomes seems to be a very persistent phenomenon in Germany. Two structural peculiarities might contribute to this persistence: on the one hand the strong vocational orientation of the German training system, on the other hand its market-based selection procedure.

Gender stratification, higher education, and labour market outcomes over the life course
Lesley Andres, University of British Columbia, Canada, et al
Government investment in higher education involves the promotion of often polarized education pathways (academic or vocational) and skill acquisition (general or specific) which is still framed in a linear approach to school-to-work transitions of individuals and groups. However, these pathways unfold in complex ways in relation to gender, class, and the structural constraints and opportunities found within specific political economic contexts (Andres, 2013, 2015; Andres & Offerhaus, 2012, 2013). In Canada, women have outnumbered men in overall rates of higher education enrolment since 1988; however, participation is still overwhelmingly concentrated in "female traditional" fields. Gender stratification is found within fields of study (i.e. horizontal stratification), type and level of accreditation (i.e. vertical stratification) (Pullman & Andres, under review), and – the focus of this project – labour market outcomes. The purpose of this paper is to illuminate the complexity of gender stratification within higher education and its effects on labour market outcomes and educational engagement across the life course. We will use Paths on Life's Way data to explore pathways over a 22-year time period by employing a mixed methods approach to data analysis. Designed to assess educational and career trajectories after high school, the Paths study traces the multiple life course activities of high school graduates of the British Columbia Class of 1988 over a 22-year period (1988-2010). Additionally, 20 interview participants have been interviewed at seven points in time, creating a rich set of qualitative data to both complement and contrast with survey responses. Sequence analysis is employed to examine transitions among field of study, level of educational engagement, and later labour-market and educational outcomes. Additionally, complementary qualitative data analysis will be undertaken to examine how interview participants describe the gendered nature of education and work choices and constraints. This study will contribute to a gap in knowledge between the fields of sociology of higher education and sociology of work, while engaging with wider theoretical and empirical dimensions within political economy and social inequality.

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The determinants of gender values: an analysis of the British Household Panel Study incorporating dropout
Damon Berridge, Swansea University, UK, et al
In the analysis of attrition within large and complex longitudinal social science data, there are significant and powerful computational difficulties that are routinely encountered. This paper will present new computational solutions to these complex issues in the context of an analysis of changing attitudes to gender roles over the last twenty years. The example is taken from the British Household Panel Study (BHPS) which has collected data on attitudes to gender roles biennially since 1991. The paper will focus upon one Likert item which explores the question: 'A husband's job is to earn money; a wife's job is to look after the home and family'. These items comprise the five response categories: 'Strongly Agree', 'Agree', 'Neither Agree Nor Disagree', 'Disagree' and 'Strongly Disagree'. First, the cumulative logit or proportional odds model will be used to model the ordinal

responses to this item. Residual heterogeneity will be handled by incorporating a respondent-specific random effect into the response model. Second, a binary logistic random effects model will be used to analyse dropout. Finally, we will fit a joint response-dropout model with correlated random effects which allows us to test for the association between the response and dropout processes.

Household responses to income changes: a cross-country analysis of women's and girls' lived realities
Jean Casey, Plan UK, et al
Plan's "Real Choices, Real Lives" longitudinal, qualitative cohort study has been tracking the development of 142 girls and their families in nine countries* since 2007. This in depth study explores a set of interconnected themes: the lived reality of poverty, inter-generational dynamics, and gender analysis. These themes are grounded in Sen's capability approach. Cross-country analysis has allowed for a clearer understanding of common trends in the different country contexts. Families in all countries have consistently reported increases in their cost of living, alongside climate change related risks to their livelihoods. Over the last three years, families in all nine countries reported that the price of food and essential commodities such as oil has increased. A reduction in their resources, such as income, land and crops means that other resources, such as time invested in diversifying the family income and social networks of family and friends, become the dominant capital. The cultural and social norms that characterise gender roles mean that women, in particular, respond to the expectation that they should do more, eat less and have less in order to be able to provide for their children. The study shows that women have used a variety of coping mechanisms when dealing with economic hardship, including restricting the purchase of particular food items, buying less food, and missing meals. They also diversify family income, by adding new income streams, engage in subsistence farming to supplement food supply, and migrate to work, largely as domestic labour. This level of adaption means that women and girls become increasingly time poor, which further restricts their choice, agency and freedoms.

*Countries include Benin, Brazil, Cambodia, Dominican Republic, El Salvador, Philippines, Togo, Uganda and Vietnam.

3B   Paper Session: Long-term health effects of childhood conditions
Reproductive histories and contextual inequalities in Europe: long-term health consequences for female and male cohorts
Katharina Loter, Martin Luther University Halle-Wittenberg, Germany
Gender and cohort specific biosocial mechanisms are supposed to play a substantial role in shaping the fertility-health nexus at older ages. However, previous evidence from national studies is mixed, and little is known about the influence of reproductive histories on health when contextual variation is controlled for. Do life course influences or rather societal inequalities prevail after reaching the age of 50? What kind of similarities and differences arise for female and male cohorts? Applying the life course framework and retrospective SHARELIFE data, this study aims at answering these questions. I investigate the long-term effect of childbearing on both physical and mental later life health, accounting for cross-national heterogeneity in material deprivation and former family policies among 14 European countries. The final sample consists of 10,821 men and 13,460 women who were representative of the non-institutionalized populations over 50 years of age in 2007 and who were divided into pre-World War II and post-World War II cohorts. Bayesian multilevel logistic analyses were conducted. The results indicate that neither men's nor women's health seems to be affected by childlessness or parity at age 50+. For fathers born after 1945, parenthood before 24 years of age is linked with physical limitations; whereas for mothers born after 1945, only adolescent parenthood turns out to be an important risk factor for health impairments. Deprivation inequalities do not seem to play a significant role in explaining health of post-World War II cohorts. However, findings change fundamentally for older Europeans: Except for the impact of contact with biological children, reproductive life course influences are no longer persistent. For individuals born before 1945, it is the societal context and later life socio-economic status that matter.

Do childhood experiences impact later life mental health in 1261 Australian baby-boomers?

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Objective: To examine whether childhood experiences have an impact on current mental health for people aged 60-64 years. Participants: 684 men and 577 women participated in the 2011 Australian Life Histories and Health Survey, a retrospective investigation of health and life experiences among Australian baby-boomers (born 1947-1951). Methods: A self-complete questionnaire and life history calendar were completed by the participants, followed by a computer-assisted telephone interview recording key life events. Participants answered questions about their health and social environment as a child, employment history, number of residential moves over time, relationships, children, and their health status over their lifetime as well as their current mental wellbeing (using the CESD-8 score). Results: 57 men (9.3%) and 50 women (9.7%) scored their current mental wellbeing as poor (CESD8 ≥ 4). In terms of childhood experiences, childhood physical abuse was associated with a two-fold increase in odds for poor mental wellbeing in later life (OR=2.09; 95%CI 1.11-3.95; p=0.023), while frequent parental fighting was also associated with an 80% increase in the odds for poor mental wellbeing in later life (OR=1.80; 95%CI 1.09-3.01; p=0.022). First divorce or separation after the age of 40 was marginally associated with increased odds of poor mental health (OR=1.71; 95%CI 0.93-3.13; p=0.08). After controlling for gender, childhood health and social environment, childhood SES, as well as negative adult life events (war, assault, prison, homelessness, severe financial hardship), first divorce/separation and current health, frequent parental fighting remained significantly associated with increased odds of poor mental wellbeing in later life (OR=1.77; 95%CI 1.02-3.08; p=0.042).   Conclusion: The exposure to frequent parental fighting during childhood appears to have a long-term influence on mental wellbeing in later life, even after adjusting for later life social and health circumstances.

Inequalities in the brain: how childhood mathematical abilities moderate socioeconomic inequalities in adulthood

Gopalakrishnan Netuveli, University College London, UK, et al

Recent neurobiological studies have led to the recognition of that inferior parietal cortex is associated with the inference of social status, as well as the assessment of numerical magnitude and have shown that mental representation of the social status hierarchy have commonalities with that of the number. In this paper we examine the relationship between number skills in childhood and the effect of socio-economic inequalities in adulthood. We hypothesised that relative socio-economic inequalities in health and wellbeing is moderated by mathematical ability in childhood. We tested this using data from the sweeps at ages 11, 16 and 50 years of the 1958 British birth cohort. Numerical skills were assessed using scores for maths test at age 11 years (binned into fifths) and aptitude of mathematics at age 16 years. The variables for socio-economic position and outcomes were measured at age 50 years. We used two measures for socio-economic position - the Cambridge Social Interaction and Stratification Scale (CAMSIS) and the seven item version of NS-SEC. The CAMSIS was rescaled so that the largest score was one and the smallest was zero and the NS-SEC was converted to a ridit score. The outcome measures were SF36 General Health Score and Warwick Edinburg Mental Wellbeing Scale (WEMWS) used as continuous variables. Analyses involved linear regressions of complete cases using STATA where the coefficient for the SEP variable formed an index of relative inequality (RII). We found that the RII for WEMWS and SF36GHS were about two to three time higher in the bottom fifth of math score compared to top fifth. Similarly, we got a gradient in RIIs when the aptitude measure was used with lower RII for higher aptitude. Results were robust even after adjustment for various factors. We discuss the implication of these findings in understanding and alleviating socio-economic inequalities.

Growing up poor and its gradual effect on health in old age in Europe

Eduwin Pakpahan, European University Institute, Italy, et al

Socioeconomic status (SES) during childhood has been found to be associated with health in later life. However, the exact pathways of this association have not been fully understood. For example, people with material and social disadvantage during childhood may have a lower SES in early adulthood, which leads to a lower adult health status. Also education and health behaviour may mediate the effect of childhood SES on later health. Our objective is to disentangle the association between childhood SES and old age health taking into account relevant mediators in mid-life. We use the SHARELIFE data and focus on individuals that have been interviewed between age 50 and 65 and answered retrospective questions about their life. We compare two European regions: Central

Europe (Austria, Germany, France, Belgium, The Netherlands, and Switzerland. N=4810) and Scandinavia (Sweden and Denmark N=1713). We use various childhood indicators to capture the multidimensional childhood SES. To explore how its association with old age health is mediated by adult SES we use education, occupation, income, and housing ownership. We also take into account smoking and alcohol consumption as behaviour risks. Old age health is represented by self-reported health. We use structural equation models with measurement models that allow for stepwise inclusion of all mediators after adjustment for sex and cohort. We also take into account differences between countries within the two regional groups. Our preliminary analysis shows that in both European regions childhood SES is positively associated with old age health. This association is attenuated but not removed when mediators are taken into account. The size of the association and the relative importance of mediators differ between regions, suggesting an effect of welfare arrangements on the long-term effect of a poor childhood.

Cross-national variation in the prevalence and long-term health effects of poor childhood health and socioeconomic disadvantage among aging cohorts

Steven Haas, Pennsylvania State University, USA, et al

Cross-national investigations of health inequalities have sought to understand how the magnitude of socioeconomic gradients in health varies internationally and the role that different aspects of local institutional context play in exasperating or mitigating this variation. At the same time life-course/developmental perspectives have investigated the long-term impacts of childhood health insults and socioeconomic disadvantage and the role early life (and prenatal) exposures in the genesis of health gradients. The current paper seeks to synthesize these two complementary, though rarely integrated, lines of research. Using data from HRS, SHARE, ELSA, TILDA, MHAS, CRELES, and CHARLS we estimate cross-national variation in the prevalence and long-term health impacts of poor childhood health and socioeconomic disadvantage. Preliminary results suggest substantial heterogeneity in both the exposure to childhood insults among aging cohorts as well as the impacts these have on a variety of health outcomes later in life. This research was supported by a grant (R03AG048885) from the National Institute On Aging of the National Institutes of Health.

Childhood maltreatment and risk factors for cardiovascular disease in mid-adulthood

Leah Li, University College London, UK, et al

Background: Childhood maltreatment has been associated with several unfavourable outcomes over the long-term. An association with cardiovascular disease (CVD) risk factors in adulthood is not well established. Methods: We examined associations between childhood maltreatment (neglect or abuse) and adult CVD risk factors in a population sample of all born (n~17000) in one week, March 1958, followed to adulthood (1958 British birth cohort). Information on physical, sexual, and psychological abuse and neglect was ascertained in childhood and at 45y. Blood pressure, resting pulse rate, lipids levels, BMI and waist circumference were measured at 45y. Associations of child maltreatments with CVD risk factors were tested using linear regression models, with and without adjustment for social class at birth, BMI at 7y, adult smoking, social class and education level. Results: Approximately 12% of participants reported childhood abuse and ~20% were identified as neglected (≥2 items) at 7y and/or 11y. Physical abuse was associated with higher BMI after adjustment for covariates, by 0.67kg/m2 (95% CI: 0.18, 1.14), higher waist circumference by 1.09cm (-0.14, 2.32), and in men also with higher resting pulse rate by 1.79bpm (0.12, 3.46) and total cholesterol by 0.21 mmol/L (0.01, 0.41). Psychological abuse was associated with lower HDL in both sexes by 0.032mmol/L (0.00, 0.07), and in women also with higher waist circumference by 1.53cm (0.18, 2.88) after adjustment. No consistent associations were found for sexual abuse after adjustment. Childhood neglect was associated with higher adult BMI (by 0.83kg/m2) and waist circumference (by 1.74cm), but after adjustment associations disappeared in men and were attenuated in women (0.5kg/m2 and 1.2cm respectively). Associations of neglect with raised BP, resting pulse rate, and triglyceride level disappeared after the adjustment. Conclusions: Associations with adult CVD risk factors varied across measures of childhood maltreatment, highlighting possible long-term health consequences of specific childhood threats.

3C Paper Session: Childhood Development

Child labor as a phenomenon that triggers others: a multi-channel sequence analysis

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Child labor has been present in most of Latin American countries, including Mexico. According to the latest survey made in 2011, there were about 3 million children who work every day which represents 10% of the total. Unfortunately, the impact of this phenomenon is not reflected immediately, but in the long term. In this paper we analyze the changes in educational as well as familial trajectories of children who work in early ages during the last century. Using the life-course perspective, we use multi-channel sequence analysis (MCSA) to describe how child labor not only triggers but modifies educational and familial trajectories. The data set is the National Survey of Demographic Dynamics (EDER) 2011 which is the first project led by National Institute of Statistics and Geography (INEGI) to collect biographical information. It contains three different cohorts: 1936 - 1938; 1951 – 1953; 1966-1968. This feature enables us to have a perspective of all XXI century. Preliminary results using this sample reveal clear gender differences. On one hand, women who worked before 15 years old, seem do it only for a short time, and then focusing on childbearing mainly; on the other, men seem to have the possibility to combine both attending school and work before dropping out school and working full time. These results point out the conflict in countries where traditional roles are well established. Furthermore, such trajectories have slightly changed in spite of policies to prevent child labor, increase school attendance and delay parenthood.

Longitudinal, lifecourse, and intergenerational data on children in the U.S.: results of the 2014 Child Development Supplement to the U.S. Panel Study of Income Dynamics

Narayan Sastry, University of Michigan, USA, et al

The 2014 Child Development Supplement (CDS) to the Panel Study of Income Dynamics (PSID) is a new survey of children in PSID households. PSID is the world's longest running nationally-representative household panel survey that began in 1968. Until 1997, when the original CDS was launched, PSID collected limited information on children in sampled households. The original CDS collected information on a cohort of about 3,600 children who were aged 0–12 years in 1997. Follow-up rounds of data collection on the same children were completed in 2002/03 and 2007/08. By 2014, children from the original CDS had reached adulthood, and PSID launched a successor survey that was designed to: collect information on all children in PSID households; convert the study from a cohort model to a repeated cross-section (of PSID children); and update the measures and modules. CDS-2014 fieldwork began in October 2014 and will continue through April 2015. The target sample comprises approximately 5,700 children in 3,300 households. Information is being collected in interviews with the children's primary caregiver (typically the mother) and with older children (aged 12–17) who also are asked to complete a computerized interactive voice response interview covering sensitive topics (such as sexual behavior and substance use). The survey obtains anthropometric measurements, saliva samples, and consent for linkage with children's school and vital statistics birth records. For a subsample, the survey also conducts cognitive assessments of PCGs and children aged 3+ years and collects time diaries. We describe the research motivation for the new survey, describe the fieldwork results, and highlight the unique opportunities for longitudinal, lifecourse, and intergenerational analysis that these new data will provide.

Family and neighbourhood risk and trajectories of problem behaviour: the role of children's intelligence

Heather Joshi, University College London, UK, et al

Research suggests that greater cognitive ability can protect children at-risk for problem behavior due to exposure to family poverty, adverse life events and neighbourhood deprivation. Yet, little is known about whether intelligence can reduce at-risk children's problems over time, and whether any protective effect depends on developmental period (early childhood or middle childhood). We modelled simultaneously family poverty, adverse life events and neighbourhood deprivation effects on children's trajectories of emotional and behavioural problems at ages 3, 5 and 7, and tested for a moderator effect of intelligence on both trajectories of problems and at each age. Our sample followed 16,916 children from the UK Millennium Cohort Study. Children's general intelligence ('g') was measured with factor scores derived from principal components analysis of age-adjusted scores on multiple cognitive ability measures at age 3, 5 and 7. Family poverty, adverse life events and neighbourhood deprivation were independently associated with emotional and behavioral problems at ages 3, 5 and 7, and adverse life events and neighbourhood deprivation were also related to their trajectories. At age 5, children with above average intelligence who experienced family poverty were found to have fewer emotional

problems than children with below average intelligence. Children exposed to family adversity at any age were less likely to have emotional problems at that age if they had above average intelligence. Higher intelligence was also related to fewer behavioural problems for children experiencing adversity at age 5, but not at ages 3 and 7. As for neighbourhood deprivation, intelligence also moderated its effect on behavioural problems at ages 3 and 7 and its effect on emotional problems at age 5. Having above average intelligence was not, however, associated with reductions in children's problems over time. Intelligence may assist children in building resilience, especially emotional resilience, to both family and neighbourhood risk across childhood.

Early maternal employment history and child cognitive development: evidence from Scotland
Katherin Barg, University of Glasgow, UK, et al

Most studies on the relationship between maternal employment and child cognitive outcomes use data on children in the United States from the National Longitudinal Study of Youth (NLSY). They largely find a modest negative association between maternal employment and child cognitive scores. But maternal employment may have a cumulative impact on child development that unfolds only after prolonged duration and cannot be captured by the point-in-time measures of maternal employment commonly used in the literature. The few studies that address complete maternal employment histories have ignored time-varying confounders and, therefore, are likely to provide biased estimates. The present analysis advances this literature in four ways. 1) We assess the association between cognitive ability scores and mothers' complete employment history using a number of different measures including duration of part-time and full-time employment as well as employment sequences that also capture time order. 2) We use inverse probability of treatment weighting to correctly adjust for time-varying confounders of the relationship between dynamic maternal employment and child cognitive outcomes. 3) Our covariates cover previously neglected factors such as local context, child health, and maternal health. 4) We contribute evidence from a non-US context. For our analysis, we use data from the "Growing Up In Scotland" study that follows Scottish children born in 2004/2005 across their early lives. We find that children of (consecutively) employed mothers, compared to those whose mothers never entered the labour market, performed better on two measures of cognitive development: naming vocabulary and picture similarity recognition. However, these differences could be largely explained by background characteristics such as mother's education, household composition, health, and socio-economic context, implying that interventions on maternal employment would have little impact on cognitive ability as measured in this analysis.

Non-resident father support: do associations with maternal and young children's well-being differ for United States and United Kingdom samples?
Alison Parkes, University of Glasgow, UK

A 2013 meta-analysis shows that non-resident father support (particularly emotional/instrumental, rather than financial) is associated with greater child wellbeing among lone mother families, but effects vary considerably according to demographic and sample characteristics. Limited research suggests effects of father support on lone mothers are also not clear-cut. Between-country differences in the benefits of support have received little attention, but might reflect differences in universal healthcare and welfare provision and/or cultural differences in fathering. This study examined effects of non-resident fathers' support for lone mothers and their children in two contemporaneous cohorts, from the United States (Fragile Families Study, FFS) and the United Kingdom (Millennium Cohort Study, MCS). Lone mother samples differed in ethnic composition, employment and welfare benefits. A similar measure of non-resident father support was devised for both samples, based on regularity of financial payments, involvement with the child and quality of relationship with mother. Multivariable analyses examined associations between support and wellbeing outcomes at three time points (children aged 1, 3 and 5 years), adjusting for socio-demographic factors and (to reduce risk of bias) maternal depression. For FFS, father support was associated with better maternal general health at all time points, with less difficult child temperament (age 1), and with better child general health (age 5); while effects for MCS were smaller and non-significant. In both studies, father support had similar associations with reduced child behaviour problems at age 3, and non-significant associations at age 5. Father support was associated with improved age 3 and 5 vocabulary scores in MCS, while associations for FFS were smaller and non-significant. In conclusion, support from non-resident fathers was associated with reduced child behaviour problems in both samples, other improved health outcomes in the US sample, and cognitive development in the UK sample. Further investigation is required to explore possible mechanisms.

3D   Paper Session: Educational Inequality

From primary school to young adulthood: a cross-national analysis of cognitive competencies and related social inequalities

Johanna Dammrich, European University Institute, Italy, et al

This paper combines data of international assessment tests measuring individuals' cognitive competencies (TIMSS, PIRLS, PISA, and PIAAC) in order to examine how youths' competencies and related social inequalities evolve from primary school to young adulthood in a number of contemporary societies. We mimic a pseudo-panel design at the country level in selecting individuals of approximately the same birth cohort ('life-course approach') and analyze both mathematics and reading literacy. By acknowledging the previous literature that competencies and related social inequalities might vary across types of school tracking systems, the paper focuses on three questions. First, we examine how countries' average level of cognitive competencies (relative to the other countries) changes from primary to secondary school and from secondary school to young adulthood. Second, we study how the relation between social background and individuals' cognitive competencies develops over the three different phases of the life course. Our third question addresses whether there is a trade-off or rather complementarity between the overall countries' performance and countries' level of social inequality at the three different stages of the life course. Our results reveal that the heterogeneity in the competencies level across countries decreases from primary education to young adulthood. We found rather stable effects of social background on reading literacy, while increasing ones in mathematics in several countries, suggesting the presence of sizable cumulative inequalities. Notably, we did not detect systematic differences in competence development and related social inequalities across countries with different ages of first external formal tracking. We conclude that results are sensitive to the type of competencies analyzed (reading and mathematics). Moreover, it is crucial to extend the study to young adults because in several countries tracking occurs after the age of 15, tracking can also have longer-term effects and characteristics of higher education and labor market can also impact on competencies development and related social inequalities.

Too many children left behind: the U.S. achievement gap in comparative perspective

Jane Waldfogel, Columbia University, USA, et al

Results from international test score data indicate that the U.S. has a problem with inequality of student achievement, and more so than peer countries, including the [three – Australia, Canada, and the United Kingdom - which we focus on here. But, because these results draw on tests administered to 15 year olds (or adults), they cannot tell us about inequality in the all-important early childhood period, nor about how inequality develops between early childhood and adolescence. Do children from different backgrounds start school on relatively equal footing but then see their paths diverge as they move through school? Or are children starting school already unequal, and if so, what happens to that inequality over time? And, as children move through the school years, is inequality growing for children of all initial ability levels, or is it particularly the children who started out with the greatest challenges, or those who had the most potential, who feel the lack of socioeconomic resources most keenly? To address these questions, we make use of large-scale and very detailed surveys that follow cohorts of children over time in each of our four countries (see Note below). In particular, we make use of assessments of the children when they are age 4 or 5, at around the time of school entry, and then repeated assessments at later ages as they move through school. We can follow all our children to at least the age of 11, at the time they are finishing up primary school, and can follow our U.S. children even further, to age 14, when they are about to enter secondary school. Our focus is on the gaps in achievement between children of different family backgrounds, and how those gaps in the U.S. compare to those in our three other countries. Note: The child cohort studies we use are: US - Early Childhood Longitudinal Study, Kindergarten Cohort (ECLS-K) (born 1992-93, N=8,370); UK: Millennium Cohort Study (MCS) (2000-2002, N=11,762); Australia - Longitudinal Study of Australian Children Kindergarten Cohort (LSAC-K) (1999-2000, N=3,940); and Canada - National Longitudinal Study of Children and Youth (NLSCY) (1991-1994, N=4,346).

Elite education and elite formation

Alice Sullivan, University College London, UK, et al

This paper examines processes of social mobility and social reproduction for men and women born in Britain in 1970. We examine the roles of social origins and educational institutions in determining social class and income destinations in mid-life. What is the role of elite universities and elite fields of study in determining elite social class position and income in mid-life? Did social origins have a direct influence on social position in mid-life, net of educational and cognitive factors? How important were selective and fee-paying schools in reproducing social inequalities or generating social mobility for this generation? We examine both income and social class attainment for men and women at age 42, using the 1970 British Cohort Study (BCS70). We exploit rich data on higher education attainments to examine the roles of both elite institutions and field of study on outcomes. We find huge differentials in the returns to degrees according to both institution type and subject studied. The greatest returns went to women with degrees in Science, Technology, Engineering and Maths (STEM) and Law, Economics and Business (LEB). The status of the higher education institution also mattered more for women than for men. Attending a private secondary school had a direct link to economic outcomes at age 42 for men but not for women.

The impact of chronic poverty and minority status on special education placement in the United States

Adrienne Woods, The University of Michigan, USA, et al

Special education in the United States has long been criticized for its over-reliance on a categorical model of identification, in which children who cannot be placed into pre-existing classifications of need might fail to receive supportive educational services (e.g. Learning Disability, Emotional Impairment, Other Health Impairment, etc.) (Reynolds, Wang, & Walberg, 1987; Triano, 2000). Moreover, there is noted disproportionality within special education placement, in that certain minorities are overrepresented in some categories of need and underrepresented in others (Skiba et al., 2008). Losen and Orfield (2002) suggest that this overrepresentation, particularly of African American students, is largest in more judgmental ("soft") categories of disability, rather than in biologically-based, "hard" categories. As poverty also contributes to special education placement, some suggest that race is often used as a proxy for poverty (Skiba et al., 2005). However, this theory has yielded inconsistent results when examined categorically, and does little to explain the lack of Latino disproportionality in special education given the widespread nature of poverty for this population. We sought to investigate both the impact of race and the longitudinal, chronic impact of poverty on categorical special education placement by age 9. We utilized the Fragile Families project, a longitudinal birth-cohort study that oversampled for single mothers in large, urban areas around the U.S. Results suggest that compared to white students within this sample, African American students are overrepresented in special education, particularly in "soft" categories of disability, whereas Asian/Pacific Islander students are underrepresented. Interestingly, disproportionality in these categories remains even as race fails to be a significant predictor of special education placement when poverty status is accounted for. We address possible causes of this disproportionality in this paper, and speculate on how the longitudinal impact of poverty might interact with race to produce these results.

Civic returns to education: voter turnout in Ireland

Yuanyuan Ma, Trinity College Dublin, Ireland

Education is one of the most often cited explanations for voter turnout. However, it remains unanswered whether education has a causal effect on voter turnout, and if it does, whether education increases or decreases voter turnout. In the Irish context, the increase of the elderly proportion in the whole population and the higher voting turnout in the elderly generation makes the study on voting behaviour in elderly population extremely important. Using data from the Irish Longitudinal Study on Ageing (TILDA), which is a population-based, nationally representative, longitudinal study of 8,504 community-dwelling adults in Ireland aged 50 and older and their partners, I investigate whether education has a causal effect on individuals' political participation in their later lives and contributes to the literature with new and long-run evidence from Ireland. Baseline probit estimates indicate that an additional year of schooling is associated with a 0.6% higher probability to vote. To deal with the challenges in inferring causality between education and voter turnout, I then employ an instrumental variable strategy, where I measure the effect of schooling by an institutional education reform in Ireland. Preliminary results show little relationship between education and voter turnout in Ireland, suggesting that education may act as a proxy for other, unmeasured, characteristics that affect voter turnout.

Identity intersections and the transition to higher education in three gateway cities
Karen Robson, University of Chicago, USA, et al
In this paper, we employ longitudinal data from three ethno-racially diverse urban areas in three English-speaking immigrant-receiving countries to examine how race, class, and gender impact the transition to higher education. Using data sources from London, Chicago, and Toronto we are able to compare how transitions vary according to group memberships to these three "axes of difference." We approach our analysis and interpretation using an intersectionality framework and aim to interpret our findings by analyzing policies that have been employed to target "marginalized" or "at risk" groups in these three cities as well as the specific historical and ideological landscapes that have shaped the experiences of racialized groups in these three cities. This paper is the first major output in a larger 5-city comparative project examining the intersections of youth identity and social mobility.

3E

Symposium: The UK Longitudinal Studies: analysing life courses through linkage
Susan Carsley, National Records of Scotland, UK, et al
This symposium will demonstrate to researchers the research potential of the three UK based longitudinal studies that cover England and Wales, Scotland and Northern Ireland. Each longitudinal study holds linked data from censuses and vital event registrations for study members. The Scottish and Northern Ireland Longitudinal Studies hold linked 1991-2011 Census data, whereas the England and Wales longitudinal study holds linked data from five successive censuses (1971-2011). The Scottish and Northern Ireland longitudinal studies also link to health and education data, and health and property data respectively. Each longitudinal study is a unique and rich resource offering the potential to look at a wide range of important social and epidemiological issues. These include ageing, care-giving, employment, labour market outcomes, cohabitation, fertility, migration, ethnicity, household change, inter-generational change, health, health inequalities and mortality. This symposium will present four papers followed by a Q&A session. The first paper will give an overview of the three longitudinal studies; focusing on the data held, the research potential of these studies and also how to go about accessing these data. The following papers will present results from three individual research projects, giving a flavour of the wide range of topics covered by these studies. These papers will look at housing outcomes of young adults in England and Wales, the impact of fertility history on health outcomes in Scotland and the health and mental health of informal caregivers in Northern Ireland.

The UK Longitudinal Studies: an overview
The UK Longitudinal Studies include the England and Wales Longitudinal Study (ONS LS), the Scottish Longitudinal Study (SLS) and the Northern Ireland Longitudinal Study (NILS). All three studies are large-scale, anonymised record linkage studies designed to capture representative samples of the population. They primarily link Census data and vital event registration data (births, deaths and marriages), although the SLS also link to health and education data, and NILS to health and property data. All three LS's are similar, but with a few key differences. Firstly, the ONS LS is a 1% sample of the England & Wales population, the SLS 5.3% sample of the Scottish population and NILS with a 28% sample of the Northern Irish population. Secondly the ONS LS contains data since the 1971 census, whereas the SLS and NILS begin from the 1991 census. All three studies make available a wide range of variables meaning the potential research uses are considerable. This paper will look at the data available in each study, the types of research which can be undertaken using these data sources and some examples of past projects and their impact. It will also include an overview of how to access each of these data sources and a discussion of the possibility of analysing data across all three studies.

Family background and young adults' housing outcomes in England and Wales, 1971-2011
The housing position of Britain's young adults has changed dramatically in recent decades. Rates of homeownership have fallen sharply, while a growing proportion of young people are now dependent on privately rented accommodation. These trends have fuelled concern that access to owner-occupation is becoming more difficult and more dependent on family support and resource transfers. In the long run this could hinder social mobility and exacerbate inequality by increasing the intergenerational transmission of (dis)advantage. Although cross-sectional data provide good evidence about young adults' changing housing circumstances, few studies

have been able to examine how family background influences young people's long-term housing trajectories. Furthermore, very little is known about how and why these intergenerational effects may have changed over time. Using data from three cohorts of young adults drawn from the Office for National Statistics Longitudinal Study of England and Wales, this study begins by examining how the characteristics of the parental home are linked to young people's housing outcomes two decades later. The mediating roles of life course trajectories and contextual conditions are then assessed using logistic regression models. The results provide new evidence about how the intergenerational transmission of (dis)advantage through the housing system has changed over time.

Understanding the impact of fertility history on health outcomes in later life

The aim of this research, involving data linkage and health outcomes, is to gain a full understanding of the impact of both fertility histories and childlessness on health outcomes mid-life. The research draws on and extends work on reproductive histories and life-course outcomes. We aim to extend this area of research specifically for Scotland based on Scottish Census data (1991-2011), namely the Scottish Longitudinal Study (SLS) linked to health data from the NHS Scottish Morbidity Records (SMR). Where the Census health measures – including the new 2011 Census health condition question on mental health - are the research outcomes and the explanatory information is from Census socio-economic data captured along with the SMR02 Maternity Inpatient and Day Case dataset and the SMR04 Mental Health Inpatient and Day Case dataset. The SLS allows follow-up to mid-life for specific female SLS birth cohorts from the 1991 Census. From preliminary modelling we find high birth parity to be an important factor in relation to self-reported mental health conditions. For limiting long-term illness birth parity is initially important but not once socio-economic variables are controlled for. Preliminary modelling also highlights that relationship status – single, married or cohabiting – to be important over that of legal marital status as recorded at Census.

Are informal caregivers in Northern Ireland more likely than non-caregivers to suffer from anxiety and depression?

Informal caregiving has been found to be associated with ill mental health (Kenny, King, and Hall 2014; Schulz and Sherwood 2008). Carer strain and burden are key terms in a large literature (Etters, Goodall, and Harrison 2008; Iecovich 2008) and have been linked to anxiety and an elevated risk of suffering from depression. On the other hand, a few studies found positive relationships between caregiving and good health and found informal caregivers spending moderate amounts of time caring for a sick or disabled relative to be at a lower risk of suffering from ill mental health than non-caregivers. Caregiving responsibilities and experiences of burden and strain have been found to vary over the lifecycle, as carers at different ages face different challenges. This paper presents findings from a statistical analysis of a data linkage study of Northern Ireland Longitudinal Study (NILS) 2001 and 2011- data (Johnston, Rosato, and Catney 2010) linked with mental health drug prescription data from GP practices held by the Business Service Organisation (BSO) Northern Ireland. The research question is whether and under what circumstances informal caregivers in Northern Ireland are more likely to report having a mental health condition on the 2011-Census questionnaire and to be prescribed anxiolytics and anti-depressants.

3F   Paper Session: Delinquency and crime in the life course

When onset meets desistence: cognitive transformation and adolescent delinquency experimentation

Derek Kreager, Pennsylvania State University, USA, et al

Within life-course criminology, research on desistance processes has primarily focused on how prominent adult life transitions – such as marriage, childbirth, employment, and military service – decrease criminal involvement over time. However, often overlooked in this literature is that the aggregate age-crime curve peaks in mid-adolescence and sharply declines during late-adolescence and early adulthood. Why do so many adolescents desist from delinquency soon after they initiate such behaviors and prior to adult transitions? To address this research question, we build on interactionist theories of cognitive transformation and rational choice conceptions of perceptual updating to understand cognitive changes at the point of adolescent delinquency initiation. In essence, we focus on perceptual changes surrounding initial situations of adolescent delinquency to explain why many youth desist from delinquent behaviors. We particularly emphasize changes in perceived rewards as critical for understanding when delinquency onset is followed closely by cessation. We then quantitatively test this model using eight waves (ages 11-19) of within-person longitudinal behavioral and perceptual data for over 8,000

participants of the PROSPER study. PROSPER is a substance use prevention project that followed two successive cohorts of 6th grade students living in 28 rural communities in Iowa (n = 14) and Pennsylvania (n = 14). Results from this project will not only help to explain desistance that occurs in an important and understudied age range, but also differentiate onset from persistence and potentially help to explain desistance occurring at later ages.

The effect of crime in the community on young people becoming NEETs at 18–19, using evidence from the Longitudinal Study of Young People in England

Magdalene Karyda, University College London, UK

The increasing number of young people who are inactive and not engaged in education, employment or training (NEETs) in the UK over the last years bears severe implications both for individual young people and for the society. This study explores the processes underlying the effects of neighborhood context on the trajectories of young people who experience NEET status. It relies on quantitative data from a nationally representative study, the Longitudinal Study of Young People in England (LSYPE), linked with the seven decomposed English Indices of Deprivation. Drawing on the Life Course approach, the Ecological Systems theory, and the Neighbourhood effects theory this study puts forward an original theoretical framework, the Ecological Model of Neighbourhood Effects that proposes four pathways that mediate the direct effect of neighbourhoods on young people: a) individual characteristics and attitudes; b) parental characteristics and relationships; c) school experiences and attitudes to schooling, and; d) social epidemics. Potential causal pathways between neighbourhood context and individual outcomes are explored by employing counterfactual models, propensity score matching and sensitivity analysis. The findings suggest that when two groups of young people with identical observed characteristics at the age 13/14 experience different neighbourhood contexts, those who grow up in high Crime Score areas are more likely to become NEETs in comparison to those who grow up in low Crime Score areas. Further analysis is employed to investigate hidden biases that might result from unobserved characteristics. Sensitivity analysis indicates that the results may still be subject to selection bias. This could be an indicator of unobserved characteristics, which could have an effect on young people's outcomes, but are difficult to measure and to include in the analysis.

Can Rose's paradox be useful in crime prevention?

Mogens Nygaard Christoffersen, SFI, Denmark, et al

It is often found that a small group of individuals is responsible for a sizeable proportion of all offending activity. These results imply that the targeting of delinquency prevention on these high-risk individuals at an early stage, before they have started their criminal career, could bring large benefits to the community, as well as the individuals themselves. However, the high risk strategy is challanged by Rose's prevention Paradox. Geoffrey Rose's prevention paradox obtains when the majority of cases with an adverse outcome come from a population of low or moderate risk, and only a few from a minority 'high risk' group. Preventive treatment is then better targeted widely than on the 'high risk' minority. This study tests whether the prevention paradox applies to the initiation of criminal behaviour, as recorded in longitudinal administrative data from Denmark. Children born in 1984 are followed from birth to early adulthood. A discrete-time Cox model allows for changing covariates over time. The initiation of criminal behaviour is proxied as getting a police record over ages 15-22 on a criminal matter. This outcome was predicted, more accurately than by chance, by a combination of over twenty risk factors, reflecting the major crime reduction paradigms. However, it seems impossible to identify a minor group (<5%) in the population from whom criminals are exclusively recruited. Our example illustrates how the applicability of Rose's prevention strategy, population based, rather than targeted, depends on how narrowly' high-risk group' is defined, for a given distribution of estimated risk, and allows for the possible complementarity of population and targeted measures.

Keynote Presentation:

Intergenerational Linkages, Interdisciplinary Collaborations and Interesting Findings: Lessons Learned from 50 Years of the National Longitudinal Surveys

Elizabeth Cooksey, Ohio State University, USA

Day 2   Tuesday 20 October

PARALLEL SESSION 4

4A

Symposium: Families with Children in the Great Recession
Natasha Pilkauskas, Cornell University, USA, et al
To investigate the impact of the Great Recession on families with children, this panel includes 4 papers that utilize the Fragile Families and Child Wellbeing Study (FF), a birth cohort study of nearly 5,000 U.S. families with young children. The FF follows a nationally representative cohort of children born between 1998 and 2001 in 20 large U.S. cities, with an oversample of births to unmarried couples. Children and parents were interviewed at the birth of the child, when the child was 1, 3, 5, and again at 9 years old. The 9-year data collection coincided with the Great Recession in the U.S. (Dec. 2007- June 2009; NBER) providing data on these families prior to- and during-the Great Recession. The city unemployment rate and other measures of the recession, were appended to the data and matched to the date of the mother's interview. To study the impact of the Great Recession on US families with children, the papers in this panel address an array of wellbeing measures. The first paper studies the links between the recession, economic wellbeing and public program use. This paper estimates the impact that public program participation had on increasing household income and reducing poverty in the Great Recession. The second paper focuses on the relationship between poor labor market conditions and intimate partner violence and finds that the Great Recession was linked with higher rates of abusive behaviors. The third papers looks at the payments from non-resident fathers to households with children, and finds that all types of payments (formal, informal and in-kind) were reduced in the recession. The final paper examines children's school performance during the recession and finds that for more advantaged children the recession was linked with lower levels of cognitive outcomes and school engagement.

Economic Wellbeing Among Families with Children in the Great Recession
Using longitudinal, birth cohort data from the Fragile Families and Child Wellbeing Study (N~5000), this paper investigates the links between the city unemployment rate, economic wellbeing and public transfer program use among families with young children in the U.S. We find that household income declined, poverty increased and material hardships (inability to pay for basic needs such as food, or housing) increased for families with children during the Great Recession. However, we also find that usage of a few public safety net programs increased during the Great Recession – namely food assistance (food stamps) and unemployment insurance. Private financial transfers from friends and family also increased during the Great Recession. Together these public and private transfers helped to mitigate the economic impact on families with children. Cash and in-kind transfers reduced poverty among households with young children by about 10 percentage points and increased household income by about 10%. We also investigated differences in the association by maternal education and find that more disadvantaged households were hit harder by the Great Recession and that mothers with college education were the least likely to experience adverse economic outcomes during the Great Recession.

Intimate Partner Violence in the Great Recession
In the United States, the Great Recession was marked by severe negative shocks to labor market conditions. In this study, we combine longitudinal data from the Fragile Families and Child Wellbeing Study with Bureau of Labor Statistics data on local area unemployment rates to examine the relationship between adverse labor market conditions and mothers' experience of abusive behavior between 2001 and 2010. Unemployment and economic hardship at the household level were positively related to mothers being the victims of men's violent or controlling behavior. Area-level economic conditions were not related to men's physically violent behavior, but men's controlling behavior did increase with worsening economic conditions. Notably, the deleterious effects of the macroeconomic shock were most pronounced among whites and among mothers with at least some post-secondary education. A rapid worsening of the unemployment rate increased men's controlling behavior toward wives and cohabiting partners even after controlling for unemployment and economic distress at the household level. We interpret these findings as demonstrating that the uncertainty and anticipatory anxiety that go along with sudden macroeconomic downturns can have negative effects on relationship quality above and beyond the effects of job loss and material hardship.

The Great Recession and Children's School Performance

The Great Recession severely disrupted the American economy and family life. In addition, it serves as an exogenous shock allowing us to investigate the link between economic instability and children's behavior. A growing body of research has begun to examine how an aggregate shock such as the Great Recession affects children and families. However, ours is among the first to examine how the Great Recession directly affected children, and the first we are aware of that investigates the effect on children's school outcomes. We draw on the Fragile Families and Child Wellbeing Study, a longitudinal cohort study with families interviewed at the birth of a child and re-interviewed when children were 1, 3, 5, and 9 years old. We append consumer confidence and unemployment rate data to the mother's file by matching to the date of the mothers interview at the age 9 survey, which occurred before, during, and after the Great Recession.   In this analysis, we examine the association between the Great Recession and five measures of children's school performance and engagement, including math, reading, vocabulary, and both child and parent reports of school engagement. We begin by asking whether decreasing consumer sentiment and increasing unemployment rates were associated with worse test scores and school engagement. Next, we divide our sample to examine associations by indicators of family disadvantage (mothers' education, marital status, and race/ethnicity). Last, we test whether boys and girls were differentially affected.   The findings suggest that the Great Recession was associated with poorer cognitive wellbeing and lower levels of school engagement for children from more advantaged backgrounds, and that boys may have been particularly negatively affected.

Fathers' Financial and In-kind Contributions and Unemployment Through the Great Recession

Using previously unavailable data of fathers' residence from the Fragile Families and Child Wellbeing Study and multiple imputation techniques, we estimate the reduced-form association between aggregate unemployment and child support provision, from 1998 to 2010. Previous studies used unemployment rates at mothers' location to represent relevant labor market conditions finding no significant results. Our empirical strategy consisted of a fixed effects model with individual, city, and year controls. Results show that the association between aggregate unemployment and cash child support is negative and significant. As a robustness check we use a model that corrected for selection into non-residency and results are similar in magnitude. A 5-percentage point increase in unemployment at a father's labor market is associated with a $284 decrease in formal child support payments, a $83 decrease in informal payments, and a 2% decrease in the probability of paying in-kind support. In all cases in which the association was significant, using the unemployment rate at mothers' location provided weaker results. Thus, using a measure of unemployment at mothers' and not at fathers' labor markets provides inaccurate estimates of the effect of unemployment on compliance that reflect attenuation bias.

4B

Symposium: Life Course Influences on Later-Life Health and Well-Being: Exploring the Moderating Role of Early Life and Genetic Characteristics

Deborah Carr, Rutgers University, USA, et al

Researchers are increasingly recognizing that later-life health is a product of complex social, interpersonal, and economic experiences over the life course. Long-term longitudinal data are required to document how early- and mid-life experiences shape later-life health, and the ways that early advantages and adversities may protect against (or exacerbate) the health-depleting effects of disadvantage and stress in adulthood. The four papers in this symposium use data from the Wisconsin Longitudinal Study (WLS) to explore the complex ways that early life social and biological resources (or risk factors) moderate the effects of specific adulthood experiences on well-being, including cognitive functioning and psychological well-being. The WLS tracks a sample of more than 10,000 men and women who graduated high school in 1957 (age 18) and were followed up in 1975 (age 36), 1993 (age 54), 2004 (age 65) and 2011 (age 72); these data comprise full life histories of work, family, health, financial resources, social activities and other major domains. Herd explores the extent to which associations between adult cognitive functioning and obesity reflect early life cognitive functioning. Seltzer et al. investigate the extent to which non-normative parenting affects cognitive and mental health in later life, with attention to the moderating role of the FMR1 gene. Carr examines whether the psychological impact of parental death on adult mental health is moderated by age at parental death and aspects of the parent-child relationship including emotional closeness, and early abuse. Freese discusses how GWAS data in the WLS can enhance our understanding of biopsychosocial influences on the life course, and reveals potential gains and challenges for

longitudinal researchers integrating genetic and survey data. Presenters will discuss the extent to which their results may be unique to the United States, and will speculate about the ways that different findings might emerge in cross-national contexts, setting the stage for future comparative assessments.

The Relationship between Obesity and Cognitive Functioning across the Life Course

A growing number of studies have found a strong relationship between measures of adiposity and cognitive functioning across the life course. An especially large literature has focused on a relationship between obesity in midlife and cognitive decline and functioning in later life. There are two primary explanations for these relationships. First, there is evidence the relationship is explained by the increased propensity for hypertension, diabetes, heart disease and stroke, among those who are overweight and obese. In turn, these conditions increase the susceptibility for cognitive decline. Second, some argue that there is a more direct relationship via the influence of obesity on inflammation; chronic inflammation, independent of its impact on chronic diseases, affects neurological functioning. A central problem with this research, however, is that no existing studies have been able to account for early life cognitive functioning. A separate body of research has found that lower levels of early life cognitive functioning increase the propensity for obesity across the life course. Hence, given the strong relationship between early and later life cognitive functioning, it is not clear whether obesity causes cognitive decline in later life or whether this simply reflects the influence of lower levels of cognitive functioning in early life on obesity in midlife. Consequently, this study utilizes the Wisconsin Longitudinal Study, a nearly full life course panel, to test the causal ordering of these relationships. I find that most of the relationship between midlife overweight and obesity and later life cognitive functioning is explained by early life cognitive functioning.

Impacts of Nonnormative Parenting: Gene by Environment Interactions and Phenotypic Associations

Parenting a child with a disability is a lifelong role associated with chronic stress exposure. Past research suggested that such parents are at elevated risk of physical and mental health problems. Nevertheless, there is considerable heterogeneity in the extent of risk, and there is emerging evidence that heterogeneity may be a function of gene by environment interactions, whereby genetic factors interact with environmental stress. The present study provides a test of this hypothesis. The study uses data from the Wisconsin Longitudinal Study, taking advantage of the life history data and recently collected DNA samples. Specifically, we examine variation in the FMR1 gene, which has been implicated in brain development and function. One source of variation in this gene is the number of CGG repeats in the 5' untranslated region. The modal number of CGG repeats is 30, and an expanded number of repeats has been shown to confer an increased risk of health and mental health vulnerability, particularly in the context of elevated stress. However, this has not been studied in a population context. We genotyped ~7000 WLS participants and examined whether the number of CGG repeats in FMR1 interacts with stressful parenting to predict cognitive aging and health and mental health problems in later life. We found elevated profiles of vulnerability among parents of children with disabilities at the low and high end of the distribution of CGG repeats. However, among parents of healthy children, low and high numbers of CGG repeats were associated with resiliency in cognitive and physical functioning, suggesting differential sensitivity. Implications for precision medicine will be discussed.

Psychological adjustment to parental death in later life: do patterns vary based on life course experiences of parental-child closeness, conflict, and abuse?

The short-term psychological consequences of early-life parental death have been well-documented, yet far less is known about the ways that parental death at distinctive life course stages affects the emotional well-being of adult children. Because early-life parental death is relatively rare event, analysts typically treat it as a monolithic category, with little attention to sources of heterogeneity beyond the gender and age of parent and/or child. An implicit assumption of this work is that the parent-child relationship is uniformly protective, and its loss would have an indelible psychological imprint on survivors. However, attachment theory proposes that the psychological impact of a significant other's death would vary based on the nature of the relationship lost, including the levels of interpersonal closeness between the decedent and survivor, and the presence of abuse. Similarly, research on the psychological consequences of stressful life events proposes that a stressor may not take a psychological toll if it signifies the end of an enduring stressor, such as parental death following a spell of abuse. However, psychoanalytic theories counter that the loss of conflictual or ambivalent relationships are particularly difficult to cope with, as survivors manage conflicting emotions surrounding the loss. I use WLS data

to explore the impact of parental death on one's depression and anxiety symptoms at ages 65 and 72, an age at which one's own is cognizant of their own mortality and recollections of parental death may become particularly emotionally salient. The large WLS sample and full range of life course data allow me to stratify by one's age at parental death (under 21, 21-35, 36-55, 55+), given a large literature suggesting that deaths at earlier life course stages have more profound implications for life chances and, subsequently, emotional health. I further investigate the extent to which effects are moderated by three distinctive aspects of parent-child relations: experiences of early life physical abuse, sexual abuse, and emotional support. All analyses are adjusted for adult socioeconomic characteristics and health, as both may confound the association between parental death and emotional well-being.

Adding Genome-Wide Data to the Wisconsin Longitudinal Study: An Overview of Prospects
The Wisconsin Longitudinal Study (WLS) is in the process of joining the growing number of population-based longitudinal studies that have genomic data available. This prompts consideration of what genome-wide data in longitudinal studies have been used for so far, how well these efforts appear to be working, and what may provide the best prospects in terms of both substance and approach going forward. An important issue concerns the relationship between analyses based on an individual data set, analyses based on a specific replication dataset (as in the possible relationship between WLS and the Health and Retirement Study), and analyses that require a well-coordinated integration of many data resources (Gene-Wide Association Study [GWAS] consortia, or even consortia or consortia). GWAS data have made clear that genetic causation for many variables of interest in population samples constitute the influence of many variants of very small effect, which challenges usual social science intuitions about proper data analysis. Nevertheless, as this paper will discuss, GWAS provides many exciting opportunities, especially for analyses that use longitudinal data to integrate relationships among biological vulnerabilities, psychological traits, behaviors, life course transitions, and later-life economic attainments and health outcomes. A fully integrative life-course science may finally be at hand, but will require integration of imagination and skills beyond usual boundaries of fields in order to achieve it.

4C

Symposium: Origins and outcomes of childhood psychopathology
Jasmin Wertz, King's College London, UK, et al
According to the World Health Organization, 10-20% of children and adolescents worldwide experience mental health problems. Mental illness blights children's lives, because it puts them at risk of facing adverse educational and social outcomes, such as academic difficulties, victimisation and stigmatisation. In addition, emotional and behavioural problems in childhood have a high degree of persistence, so that many children who experience mental disorders continue to suffer into adulthood. Given this strong prognostic significance of childhood mental illness for life-course development, we are proposing a symposium of four papers that are examining the origins and outcomes of childhood psychopathology. In the first paper, Matthews et al. explore the developmental and aetiological overlap between social isolation, loneliness and depression in adolescence and young adulthood. In the second paper, Croft et al. examine the longitudinal bidirectional associations between maternal depression and children's conduct and emotional problems and hyperactivity. In the third paper, Wertz et al. investigate the aetiological influences on pervasive and situational antisocial behaviours in childhood and preadolescence. In the fourth paper, Agnew-Blais et al. study risk factors for the persistence of ADHD into early adulthood and describe individuals with late-onset ADHD. The contributions to this symposium cover some of the most prevalent childhood behavioural and emotional problems, including hyperactivity, antisocial behaviour and childhood depression. They represent a breadth of methodological approaches, such as longitudinal methods, genetically informative research strategies, and multiple-informant designs. In addition, the studies reflect a life-course perspective, by examining childhood psychopathology from toddler-age to young adulthood.

Genetic and environmental contributions to social isolation, loneliness and depression in young people
Social isolation and loneliness are related but conceptually distinct constructs, the former referring to an objective lack of social connections and the latter a subjective feeling of distress arising when social connections are perceived to be inadequate or unfulfilling. Both of these adverse experiences have potential implications for long-term trajectories of mental and physical health outcomes. There is evidence for a strong genetic contribution to both social isolation and loneliness; however, the extent to which genetic and environmental

influences are shared between these constructs, and with related mental health problems such as depression, have yet to be examined. In this talk I will present findings from a longitudinal, genetically-sensitive study investigating the associations between social isolation, loneliness and depression in adolescence and young adulthood. Data were drawn from the age-12 and age-18 phases of the Environmental Risk Longitudinal Twin Study, a birth cohort of 1,116 twin pairs born in England and Wales between 1994 and 1995. Regression analyses showed that loneliness, rather than objective isolation, was the stronger predictor of depressive symptoms. Behavioural genetic analyses yielded evidence of strong genetic and non-shared environmental contributions to isolation, loneliness and depression, and to the covariance between these phenotypes. A series of regression analyses were then used to investigate the extent to which confounding variables in childhood (personality and IQ) and intervening factors in early adulthood (substance dependence and technology use) account for the co-occurrence of these phenomena.

Childhood emotional and behavioural problems and maternal depression: Continuity, change and reciprocity across childhood

Background: There is evidence that child behaviour is both a cause and a consequence of depressed mood in parents. This study explores change over time, autoregressive continuity and reciprocity of maternal depression and child behaviour across childhood. Aim(s): This research aims to disentangle the relationship between childhood emotional and behavioural problems and maternal depression. Methods: Data on over 16,000 families from the Millennium Cohort Study was used when children were aged 3, 5, 7 and 11. Repeated measures of self-reported maternal depression (Kessler 6 scale) and parent-reported conduct problems, hyperactivity, emotional and peer problems (Strengths and Difficulties Questionnaire) were utilised. Change in behaviours over time was assessed using latent growth curves (LGCs) and autoregressive cross-lagged models were fitted to assess continuity and reciprocity in behaviours over time. Results: LGCs revealed that maternal depression increased over time while child emotional and behavioural problems declined over time. While maternal depression demonstrated linear change over time, child behaviours exhibited non-linear change over time. Autoregressive cross-lagged models revealed substantial behavioural continuity for mothers and children across time. Significant bidirectional associations were observed at each time point: maternal depression predicted later conduct problems, hyperactivity, emotional and peer problems while child behaviours predicted increased maternal depression scores at subsequent time points. No gender differences were observed. Conclusion: Maternal depression increased significantly over time while child emotional and behavioural problems declined over time. Autoregressive cross-lagged models demonstrated significant behavioural continuity across time and significant bidirectional associations at each assessment.

Aetiology of pervasive versus situational antisocial behaviours: A multi-informant longitudinal cohort study

Background: Clinicians distinguish between children presenting with antisocial behaviours that are situational versus pervasive across settings. It is unknown whether these presentations have a different aetiology. We used a multi-informant longitudinal twin design to disentangle pervasive from situational antisocial behaviours in preadolescent boys and girls, investigate their genetic and environmental aetiologies, and examine the extent to which etiological influences originate in early childhood. Method: We used data from the Environmental Risk (E-Risk) Longitudinal Twin Study, a 1994-1995 birth cohort of 2,232 twins born in England and Wales. Antisocial behaviour was assessed at ages 5 and 12 using mothers', teachers', interviewers' and twins' reports. We defined pervasive antisocial behaviours as behaviours that all informants agreed on, and situational behaviours as those that were uniquely observed by each informant. A longitudinal psychometric twin model was used to examine genetic and environmental influences on pervasive and situational antisocial behaviours. Results: Pervasive antisocial behaviours were mostly accounted for by genetic influences in boys, and by shared environment in girls. Situational antisocial behaviours were mostly accounted for by genetic and non-shared environmental influences in boys and girls. For both genders, the majority of genetic and environmental influences on pervasive antisocial behaviours had their origins in early childhood, whereas influences on situational antisocial behaviours were mostly newly emerging in preadolescence. Conclusions: Our results show that children's pervasive versus situational antisocial behaviours have different aetiologies. Variation in pervasive behaviours is mostly accounted for by familial influences that originate in early childhood whereas situational behaviours are mostly explained by newly emerging non-shared environmental and genetic influences. These findings have implications for research and clinical practice.

Childhood risk factors for age 18 attention deficit hyperactivity disorder: a nationally representative longitudinal cohort study

Attention deficit hyperactivity disorder (ADHD) is a common childhood disorder, affecting 5-9% of the school-aged population. It has been increasingly recognized that ADHD may persist past childhood into adolescence and adulthood. However, studies examining rates of persistence into adulthood find widely ranging results, from 4% to 80%, and few studies have investigated risk factors for persistence. Additionally, little is known about individuals who have ADHD in adulthood, but not in childhood. The goal of our study is to characterize risk factors for adult ADHD by: (a) understanding childhood risk factors for persistence of ADHD into adulthood, and (b) describing individuals with "late-onset" ADHD, who did not meet criteria for ADHD in childhood, but did so at age 18. We will examine this question in the Environmental Risk (E-Risk) Longitudinal Twin Study, a nationally representative birth cohort of 2,232 twins born in England and Wales in 1994–1995. ADHD diagnoses were assessed in childhood at ages 5, 7, 10, 12 and in young adulthood at age 18. Potential risk factors for adult ADHD include: aspects of the social environment, childhood cognitive functioning, parental and family characteristics, childhood behavior problems and childhood ADHD severity. Additionally, the twin design of E-Risk allows us to consider genetic influences on ADHD. Prior studies to-date have examined risk factors for adult ADHD only cross-sectionally in adulthood with retrospective recall of childhood factors, or among clinic-based populations of ADHD children followed into adulthood. The E-Risk Study offers a unique opportunity to understand adult ADHD by longitudinally investigating risk factors for the persistence of childhood ADHD into adulthood, as well as the emergence of ADHD in adolescence.

4D   Paper Session: Education and gender in the life course

Coloring the "boys will be boys" chronicle: race, gender, and behavior problems across two decades
Jayanti Owens, Brown University, USA
School suspensions have increased ten- and two-fold in the U.S. since the 1970s, with African American boys' higher baseline levels ballooning to produce the largest gender gaps in early behavioral development over the past three decades between African American (vs. White, Hispanic, or Asian) boys and girls. Despite implications for African American boys' growing educational and economic disadvantage, neither the extent nor the origins of their growing disadvantage are understood. This study leverages consistent behavioral scales from two nationally-representative datasets -- the National Longitudinal Survey of Youth 1979 Child Supplement and the Early Childhood Longitudinal Study-Birth Cohort -- to document mothers' reports of African American boys' worsening behavior problems among even the "best-behaved" African American boys -- not just among those with the highest levels of behavior problems. Neither gender differences in exposure nor response to salient, racially-patterned changes in families and health explain black boys' growing disadvantage. However, the presence of an older sister is uniquely implicated, accounting for the vast majority of the growth in the gender gap among African American children at the low tail of the examined behavior problems scales. These findings are consistent with the notion that changes in perceptions of African American boys' behaviors, rather than true changes in their early childhood behavioral development over the past three decades, may play an important role in explaining the rise in school suspensions among African American boys. Considering the link between school suspension and later life course education and delinquency outcomes, findings carry significant consequences for African American males' future rates of school drop-out, unemployment, and incarceration, which may result from heightened scrutiny and policing of even the best-behaved African American boys' behaviors beginning in early childhood.

Gender differences in early subject choice and its significance for later educational decisions and type of occupation in England
Patricia McMullin, European University Institute, Italy, et al
It is well-known that girls are making big strides in education, but women are still under-represented in STEM careers and in third-level academia (OECD, 2012). These differences are often assigned to individual aspirations and gender normative behaviour, however, student choices are also constrained by the curriculum their schools offer. When students can choose alternative subjects, boys and the socially privileged increase their concentration in advanced science courses (Ayalon, 2006). Advantages of these early choices may accumulate over time as the number and type of subject can influence the number of future educational routes students can choose from. Using data from the Longitudinal Study of Young People in England (LSYPE), this article aims to look

at how at secondary level institutional differentiation (by school type and quality) influences gendered curricular differentiation (subject choice) at age 14 as well as how this early differentiation relates to the later educational decisions and occupational outcomes of young men and women in England. Using OLS regression, we model what factors influence the share of optional science or vocational subjects taken, separately for boys and girls. Then using multinomial logistic regression we analyse whether or not there is an association between early curricular differentiation by gender and the decision to continue with A-levels, vocational courses or the labour market at age 16. Finally, we look at whether or not this early differentiation influences the occupation type of girls and boys at age 18. Initial results indicate that girls are less likely to choose a high proportion of science or vocational subjects even at age 14. High prior performance, school quality and parents with an A-level education positively influences whether boys choose science, while high prior performance is the most influential factor for girls. When we analyze the influence of choosing a science subject, boys are less likely to enter a vocational path or the labor market than an academic pathway after compulsory schooling (even after controlling for performance in the GCSE exams, schools, and individual characteristics) no similar effect was found for girls.

Good girls, bad boys? Exploring the gender gap in education in Germany
Stefanie Heyne, University of Bamberg, Germany, et al
During the last decades, gender differences in the education system have reversed: Female students achieve higher educational degrees and outperform male students on average. Media and academic research offer various explanations for boys' general underachievement in schools. Relying on theories about gender differences stemming from gender roles, this paper seeks to examine the importance of gender identity and (school-related) behaviour for educational performance. Masculinity norms oblige boys to be more deviant in the school context than girls, which can have damaging effects on their academic achievement. Showing effort or success in school is characterized as feminine and is negatively sanctioned by boys' peer group. Furthermore, it is argued that due to gender identities differences in time-use and leisure time activities can contribute to gender disparities in school performance. Using data from the project Children of Immigrants Longitudinal Survey in Four European Countries we analyse the effect of traditional gender roles and behaviour for gender disparities in achievement of 14-years old students in Germany. Our preliminary results indicate that traditional gender roles are detrimental for school success for both boys and girls. Deviant behaviour and differences in leisure time activities partly explain the relationship between traditional gender identity and school success. Additionally, the analyses show that not only the own gender identity but also masculinity norms in the classroom are important in explaining gender differences in performance.

The permeability of educational systems and gender segregation in education: case study evidence from Bulgaria and Switzerland
Christian Imdorf, University of Basel, Switzerland, et al
Permeable educational systems provide students with the opportunity to make changes in their career paths and to correct gender-typed career decisions made at a younger age. Permeability is therefore thought to reduce the likelihood that students complete gender-typed educational programmes (Imdorf et al. 2014). Yet, little is known about whether and how permeability affects gender segregation in education. In this paper we analyze the effect of permeability on gender-typed educational outcomes in the educational systems of Bulgaria and Switzerland. VET offerings are a prominent feature of the upper secondary programmes in both countries. However, the two educational systems offer significant differences in terms of their institutional permeability and in their levels of gender segregation in education. Gender segregation in higher education is higher in Switzerland compared to Bulgaria (Charles & Bradley 2009). In Switzerland, horizontal gender segregation is especially pronounced in the universities of applied sciences (UAS), supposedly due to the institutional channelling of VET graduates in UAS fields of studies (Leemann & Keck 2005). Bulgaria, on the other hand, offers a high degree of permeability granting general university access to VET graduates. This institutional openness of the Bulgarian educational system may reduce the degree of gender segregation within the higher education sector. We investigate the patterns of student enrollment in gender-typed/mixed upper secondary and tertiary programmes in order to assess whether permeability shapes the gender segregation of the educational outcome. We use data from the Swiss youth panel survey TREE (Transitions from Education to Employment) and a Bulgarian retroactive school

leaver survey to investigate a) the extent of vertical educational permeability from VET upper secondary levels to tertiary education; b) the propensity of gender-typed upper secondary and tertiary programmes; and c) the relative likelihoods of VET versus general upper secondary students to transition into gender-typed/mixed tertiary programmes.

4E

Symposium: Predicting economic and social development in midlife: Are there any long lasting effects of early youth experiences?

Wolfgang Lauterbach, University of Potsdam, Germany, et al

Moving through lifetime indicates that persons will be members of different life domains: The economic and the social domain are the most important. Thus individuals will be members of institutions from early childhood to old age and move through life within these domains. Some of the individuals will become successful on their way through the life, others fail and some are more or less successful in only one domain and not in the other. In economic oriented life course research the focus is most often on income development and how it is related to educational and labor market factors in midlife. In socially oriented life course research most studies focuses on the development of family and partner oriented living arrangements, and how these different living forms are connected to education or the birth of children. In this symposium we will look at both, the economic and the social domain of the life. We would like to highlight one very often formulated, but even seldom tested question in life course research: Is the life course an endogenous causal relationship? We would like to ask, whether factors of the youth and young adulthood influence income development or living arrangements in midlife up to the age of 45-50 years. We will invest in the question, whether e.g. personal factors like self-esteem, aggressivness have long lasting influence on the income development in middle years. Within the social domain we would like to know whether attitudes have an influence on the form of living arrangements during the life course. We use structural equation models and test these questions with two datasets from Switzerland and for Germany.

Does personality matter? Does income increase in middle adulthood depended on personality factors in youth?

Economic research has shown that individual income development from young to middle adulthood depends to a great extent on human capital investments in youth and young adulthood, the entry position in the first job after leaving the educational system and on the duration of the interruption of the professional career. The last result holds especially for women. But, regarding persons with comparable qualifications it is much more unclear which further factors influence income development. F. i. it is not known, whether personality factors influence income development. Psychological research shows, that general self-esteem and occupational self- esteem or aggressiveness influence the labor market position to special ages in which persons are. But do these personal factors also influence the income development from 25 to 45 years? We will test these factors holding the educational level or the first labor market position constant. Theoretically it is assumed, that besides the educational and labor market factors the income development, whether persons have an income increase or experience lateral mobility. We will test these hypotheses by using a longitudinal panel data set. The LifE data. We have seven waves from the age of 12 years onward to the age of 45 years. Therefore, we have the income development from the age of 25 to the age of 45 years.

Living arrangements in middle adulthood: Do attitudes and personality influence the living form?

During the 1980th and 1990th family sociology showed for Germany and even for other countries that a pluralization of living arrangements occurred. In individual life especially between the age of 20 to 35/40 research found that individuals marry late and pass through a number of living forms in young adulthood. Responsible for this development was in general the increasing educational level, especially of women, the liberalization of values connected to the family and the introduction of flexible working arrangements during the entry process in the labor market. According to these findings, we will test the hypotheses, whether attitudes in youth concerning the later life family arrangements or the personality have any influence on the living arrangements in middle adulthood. It will be tested, whether the weakening of institutionalized norms, strengthened individual aspects of partner biographies. To test our assumptions by using the LifE Dataset. We analyze the biography of living

arrangements from the age of 16 years onward to the age of 45 years. We use event history analysis to estimate time constant and time dependent factors of the youth and the individual young adulthood which influence the living arrangements biography.

Predictability of career patterns: influences of social background, personality and life circumstances

Nowadays occupational careers appear to be more unstable with several changes. It seems that a lifelong vocation is rather an exception. Contrary to these observations there are several theories, which describe career development from a psychological point of view (e.g. Super, 1990; Holland, 1997). Over the course of their labour market experiences, people will sort themselves into jobs that are compatible with their interests, values, and abilities. Super proposed a life-span-theory and identified career patterns determined by socioeconomic factors, mental and physical abilities, personal characteristics and opportunities. Super made a categorization into four patterns for men: stable, conventional, unstable and multiple-trial. He further provided a categorization of women's career patterns by noting their salient role of homemaking.   The data base for the analyses is the Zurich Longitudinal Study „From School to Middle Adulthood", which encompasses ten surveys and covers the 15th to the 49th year of life. Analyses are based on a Swiss representative sample of 485 participants. Logistic regression analysis revealed that most of the career patterns from Super occur in our data. The results show also that the career patterns of women have partly changed; they participate more often in labour market than in the past. Our results show that influences measured in youth like personality, person-job fit and factors concerning the family have an effect on career patterns.

4F

Symposium: Celebrating the Second Volume of the Handbook of the Life Course

Jeylan Mortimer, University of Minnesota, USA, et al

Building on the success of the 2003 Handbook of the Life Course, the second volume (Shanahan, Mortimer, and Johnson, Forthcoming 2015), identifies emerging problems, research questions, methods, and analytic strategies, and considers bridges between life course science and public policy. This symposium provides a brief overview of the volume and features four of its chapters. The first two papers represent Section I, on new developments in fundamental life course concepts. In the first, Dannefer et al. argue that sociology has adopted explanations featuring individual attributes (e.g., biological embedding) and lost perspective on the fundamental importance of people's position in society and the "malleability" of social institutions and the person through life. They challenge life course scholars to move beyond individualistic paradigms. In the second paper, Hagestad and Dykstra examine the implications of changing demographics and policy for the gendered life course. They explore the consequences of age segregation for intergenerational relationships, shifting roles and responsibilities within intergenerational networks, and the increasing absence of such networks among childless men.   Section II highlights recent institutional trends in the family, school and workplace as well as less well-studied contexts--- the military, criminal justice system, and disaster. Representing this section, Blossfeld, et al. examine the expansion of education in contemporary societies. Their analysis illuminates trajectories of educational careers across nations and over time, the intergenerational transmission of education, and the multifaceted linkages among cross-national cultures, educational structures, social class mobility, and gender. The remaining three sections of the volume present new directions in understanding health and development through the life course; methodological innovations, including three-generational and spatial research designs; and public policy. The final paper, by Hermanowicz, builds on his long-term qualitative study of scientific careers. Longitudinal qualitative research offers enormous potential for understanding trajectories, transitions, and the interpretation of life-long experiences.

Opening the Social: Sociological Imagination in Life Course Studies

The life course perspective originated with the recognition that an adequate understanding of "lives through time" requires attention to the importance of social context. Since those origins, extensive evidence of ways in which context shapes and organizes life course outcomes has been presented. Yet the problem of formulating an adequate theoretical understanding of context's role in life course processes and outcomes persists, and remains unresolved. This paper suggests that life course scholarship, even while paying attention to context, has frequently relied on theoretical assumptions based in functionalism that restrict exploration of the full explanatory power of social forces. Contextual factors are "contained" through what we term a functional-

developmental nexus. We illustrate this tension by examining three domains of life course inquiry: 1) a consideration of the place of agency in life course studies, 2) research on the early life influences on the life course and 3) the study of gene-environment interactions over the life course.

Structuration of the life course: some neglected aspects
American life course research has typically focused on micro/meso level contexts, and how these shape men's and women's lives. There has been less attention to societal laws and policies in analyses of gendered life courses. In contrast, Europeans have typically neglected gender and interdependence among lives, concentrating on analyses of how the state shapes trajectories. We argue that the consideration of demographic context and the role of laws and policies can help bridge the continental divide in life course approaches. In focusing on these two macro-level structural factors, it is unavoidable to acknowledge that families are critical mediators between society and individuals. We show that demographic shifts are creating new late life potential and new opportunities for intergenerational connections. Demographic change also increases differences between men's and women's networks and lives. We discuss so-called intergenerational policy regimes and show how they strengthen autonomy versus interdependence in families. Our review of legal changes reveals gender convergence in life structuring. Yet, we also observe strong contrasts between how men and women actually live their lives. Most likely, new understanding of this complex picture can be found in the intersection of macro-and micro perspectives. It is more important than ever that we bridge a "continental divide" between research communities, across countries and methodological camps.

Changes in educational inequality in cross-national perspective
In the process of educational expansion and reforms, the old sharp divisions between academic and vocational/technical tracks in the secondary school systems of modern societies have greatly diminished and the proportion of young people who have completed at least upper secondary education has impressively risen. Also, the enrollment in higher education has quickly grown in all modern countries and turned their tertiary educational systems into institutions of mass education. Using truly comparative data from the PIAAC study, we analyze how the educational attainment of men and women from families with different educational backgrounds has changed over time in 22 modern societies. The results show that there are great cross-national differences in the development of inequality of educational opportunity.   With respect to tertiary educational expansion (i.e., college graduation), in some countries inequality of educational attainment has risen, supporting cultural reproduction theory. For example, in the U.S., women in the most highly educated families are clear "winners," and children of the least educated parents have not benefited at all. In contrast, South Korea represents a group of countries in which growth in higher educational attainment has drawn in children from all educational origins, reducing inequality, consistent with modernization theory. We relate these differences to the rapidity of educational expansion, ideological shifts, and the individualization of risk. We call for future research to enable a fuller understanding of the manner in which parental education conveys advantages to children (e.g., through cognitive competencies, non-cognitive traits, parental information and decision-making, and teachers' evaluations). Detailed prospective and cross-national longitudinal data are needed to examine the long-term relationships between parents and children and how they influence educational careers through the life course.

Longitudinal Qualitative Research
An emerging body of work has begun to reveal the empirical and theoretical successes of longitudinal qualitative research. The techniques open a window through which to see how others experience and make meaning of lives over time. Longitudinal qualitative research is amenable to studying a broad spectrum of settings and situations that characterize contemporary social life. Careful design enables such techniques to capture the conditions and processes of inter-cohort and intra-cohort variation. What is more, the methods are vital to identifying and characterizing trajectories, turning points, and interpretive stances that cover both short and long periods of time. Longitudinal qualitative methods thus push a frontier of knowledge about socially-rooted differences in development and aging. While robust in its descriptive and explanatory power, longitudinal qualitative research remains underdeveloped as a methodological tradition, and is therefore in need of codification. Using examples from the author's own work on careers as well as other studies ranging across

families, illness, education, and crime, the present work discusses the parameters that guide the use of qualitative methods in longitudinal research. Three sets of issues are discussed: issues of design (including the origination of research, number and frequency of study episodes, and protocol format); issues of execution (including subject attrition and retention, respondent reaction, and research ethics); and issues of analysis (including iterative and summative modes of data interrogation).

PARALLEL SESSION 5

5A   Paper Session: Family structure and work
Parental separation and changes in income: a longitudinal perspective
Lidia Panico, Institut National d'Etudes Demographiques (INED), France, et al
Separation is often accompanied by drops in income, especially for women. New literature suggests that these drops are larger for previously married than previously cohabiting women. This is at odds with the general assumption that marriage is protective for women and children. This literature so far has based itself on general population samples, including all adults. This is problematic because analyses are therefore based on very heterogeneous groups (of different ages, at different stages in their life course) and therefore potentially describe heterogeneous processes. In this paper we propose to study parents with young children by using a cohort of children born at the same time, and testing whether the change in parental income before and after separation differs by the parents' previous marital status. This allows us to reduce the heterogeneity of the studied population, and also put the focus on the child, which has often been ignored in this literature. We use the Millennium Cohort Study, a representative birth cohort of British children, to ask: Are there differences in changes in income between previously married and previously cohabiting parents? Can we explain these differentials according to a number of background characteristics or post separation mechanisms? Early results suggest that previously married parents initially experience similar short-term drops in income as cohabiting parent's post-separation, and for both groups a recovery observed about 4 year's post-separation. However, married parents appear to recover more slowly, and 6 year's post-separation we see no difference in equivalised household income between the two groups. Baseline characteristics do not appear to explain the different trajectories of these two groups, however, post-separation strategies such as maternal re-partnering appear to be more important. This is on-going work, and future work will include a number of sensitivity analyses, and also will look at other measures of living conditions.

Paying the price for your partner's career? How parents' relative division of paid work is reflected in their relative labour market outcomes
Laura Langner, University of Oxford, UK
Sociologists and economists concerned with couples' division of labour propose that the way in which couples invest in each partner's market human capital in terms of working hours is related to their relative wage outcomes (e.g. Becker 1991). However, a longitudinal test – using multiple time-points to test for this relationship across the life course, has not been carried out. Instead, past studies either did not make full use of the longitudinal dimension – by focussing on single or few transitions – or did ignore the couple-level over-time dependencies. Hence, it remains unclear how couples' relative working hours are related to couples' relative earnings over time. To close this knowledge gap, the paper uses the German Socio-Economic Panel Study. Growth-curves, which follow parents along their child's age, are employed to capture the longitudinal dimension. Parents are the focus of the analysis as parenthood is seen as the main initiator of work hour investment shifts. A dyadic index (his working hours/joint working hours) captures within-couple (within-dyad) dependencies. Preliminary findings suggest that there is indeed a close link between the type of within-couple work hour distribution and how wage outcomes are distributed within the couple across the life course.

Occupational status changes around separation for British men and women
Maike van Damme, LISER / KULeuven, Luxembourg, et al
We examine changes in occupational status around divorce for men and women. We hypothesize to find a divorce penalty for men and a divorce premium for women. Possible explanations of gender differences are sought in a change in gender roles after divorce, which are reflected in the diminished relevance of gender role specialization in paid and unpaid work, gender differences in the loss of social capital, and gender dissimilarities

in emotional stress experienced after divorce. Fixed effects regressions using the British Household Panel Survey show a disproportionately large increase in ISEI score in the years around separation for working women, while for working men the increase is less steep. To be more specific: before union dissolution the occupational status trajectory of men and women is similar (controlling for time-constant gender differences), but from two years before separation, women increase their ISEI score more than men on average, thereby increasing the gap between men and women's ISEI. At the time of separation, the gender gap in ISEI score is 1,17. Although this gap decreases in a few years after separation, separated women remain to have a larger ISEI score than separated men. This is an interesting result, considering that on many other economic outcomes, women usually do worse than men after union dissolution. To what extent can we explain this gap by the three mechanisms outlined above? We find that only changes in the relevance of specialization apply: Men start to invest more time in housework and women more time in paid work after a separation and this translates into a lower increase in occupational status for men around separation and a stronger increase for women. We don't have evidence that any of the other two mechanisms apply.

Cohort trends in the role of the partner's labour market position for female employment dynamics in Germany
Leen Vandecasteele, University of Tuebingen, Germany, et al
The paper investigates cohort trends in how the educational and occupational status of both spouses in a partnership shapes employment dynamics over women's life courses. The way in which female employment outcomes are influenced by a partner's resources has repercussions for inequality over the life course. If women with high status partners are employed less than women with low status partners, then this attenuates the employment inequality between couples over the life course. Contrary, if women with high status partners are more employed, dual earner households are higher status households and single earner households are low status households, which leads to cumulative advantage and disadvantage between households if this patterns repeats over the lifecourse. Theories and previous research suggest opposing mechanisms. The income effect, economic theory and gendered division of labour assume that partners with a higher status provide a disincentive for women's employment, while social capital theory predicts a positive effect of a high status partner who can share labour market skills and motivation. In this paper we analyze the German Socio-Economic Panel and apply event history analyses of transitions out of the labour force and back into part-time and full-time employment for four cohorts of German women born between 1955 and 1979. We show that over cohorts a woman's own education and occupational status has become a stronger predictor of her employment transitions, while the effect of her partner's position has become weaker. In the earliest cohort, having a high status partner was related to women's labour market exit but this effect neutralized over the cohorts and even reversed in the most recent cohort. The negative relationship between a partner's high education level and a woman's labour market return to full-time employment also became weaker over the cohorts. We illustrate the repercussions for different types of partnership constellation and conclude that these trends have led to an increased divergence in in female employment participation between high-status and low-status homogamous partnerships.

5B

Symposium: Using clinical and pre-clinical measures of physiological health to examine the social to biological transition over the life course
David Blane, University College London, UK, et al
This symposium is organised by the newly established Interdisciplinary Health Research working group of the SLLS. Questions around how the social and psychosocial environments lead to physical and biological alterations over time can now be investigated on a wider scale, and in a variety of contexts and disciplines. The aim of this symposium is to examine the use of biomarkers in constructing meaningful measures of health that may be used to study the social-to-biological pathways across the lifecourse. The four papers presented use biomarker data to study physiological health taking both a pre-clinical measure of physiological health, allostatic load, and a clinical measure, the metabolic syndrome. The symposium will discuss conceptual issues around socially and biologically plausible hypotheses, the empirical and methodological issues around the use of these measures of physiological health, and the results of analyses investigating the social-to-biological transition. The symposium will end with a structured discussion and highlight the future horizons for enquiry into the development of health measures using both social and biological data.

A lifecourse approach of metabolic syndrome risk: **evidence from the 1958 British Birth cohort**

Background: Lifecourse studies suggest that the metabolic syndrome (MS) may be rooted in the early life environment. Objective: This study aims to examine the pathways linking early nutritional and psychosocial exposures, and the occurrence of MS in midlife. Methods: Data are from the National Child Development Study, a British birth cohort including participants born during one week in 1958 and followed-up across the lifecourse. MS was defined based on the NCEPATP III classification. Pre-pregnancy maternal body mass index (BMI) was used as a proxy of the early nutritional environment. Adverse childhood experiences (ACE), measured using prospective data, were used as a proxy for psychosocial stresst. Information on socioeconomic characteristics, pregnancy and birth conditions were extracted as potential confounders. Information on adult (23-33 years old) health behaviours, BMI, socioeconomic environment, and psychological state were considered as mediating variables. Multivariate models were performed by including variables sequentially taking a lifecourse approach. Results: Among men 37.5% had MS vs 19.8% in women. Among all participants, those with an obese/ overweight mother presented a higher risk of MS than those whose mother had a normal pre-pregnancy BMI. Men exposed to two ACE or more, and women exposed to one ACE, were more at risk of MS compared to unexposed individuals. After including confounders and mediators, mother's pre-pregnancy BMI was still associated with MS in midlife but the association was weakened after including participant's adult BMI. Poor socioeconomic conditions during childhood and emergency caesarean deliveries were independently associated with MS in men and women, in the full model, but ACE was not. Discussion: The early nutritional environment seems to influence the risk of subsequent MS in midlife. One of the main mechanisms may involve a mother-to-child BMI transmission likely to involve environmental and non-genetic factors, however these mechanisms deserve more attention. Our results confirm the influence of socioeconomic conditions on subsequent MS.

Socioeconomic inequalities in cumulative physiological burden (allostatic load): What is the importance of context? Evidence from Scottish Health Survey (2008-2011)

Background: Lower socioeconomic position (SEP) is consistently associated with higher physiological burden, as measured by allostatic load. However, how this association differs within populations given contextual factors such as age, sex and place is less well understood. Methods: Data were from the combined 2008-2011 Scottish Health Surveys (SHeS), a repeat cross-sectional health survey of a representative sample of the Scottish population. Allostatic load was measured in 1,949 respondents (aged 16+) by summing 10 binary biomarker scores ('1'=in the highest risk quartile). Binary SEP was measured as highest educational qualification ('1'=any school-level qualification or above). All analyses involved linear regressions, carried out using Stata version 11, based on a basic model of SEP and allostatic load, with additions for age, sex and place (based on health authority and an urban/rural indicator). Results: Higher SEP was associated with lower allostatic load, equivalent to a 23 year disparity in physiological burden between those with no qualifications and those with any school-level qualifications (B=-1.08; 95% CI=-1.33, -0.83; p<0.001). Adjusting for sex and place (location and urban/rural) had no attenuation effect on this association. Adjusting for age reduced the disparity to an equivalent physiological difference of 8 years, although higher SEP remained significantly associated with allostatic load (B=-0.38; 95% CI=-0.63, -0.12; p=0.004). Closer examination of the SEP-allostatic load association revealed that the disparity was narrow (and non-significant) until 55-65 years of age, before narrowing again at older ages. Conclusions: Although there is consistent social patterning of allostatic load, this association widens with age, only becoming significant in late midlife. This matches widening inequalities with age seen in morbidity and mortality. This evidence casts doubt on the ability to see notable physiological changes early in adulthood before ages when chronic diseases begin to emerge.

Parental socio-economic position and offspring's allostatic load in mid-life: a life course approach using the 1958 British Birth Cohort

Background. Parental socio-economic position (SEP), measured during early childhood, has been found to be associated with poorer health during adulthood, including chronic diseases. Objective. The aim of this study is to investigate how far material, psychosocial and behavioural factors over the life course may explain the relationship between parental SEP and overall physiological wear-and-tear in mid-life, as measured by allostatic load. Methods. Data are from the National Child Development Study, a British birth cohort including participants born during one week in 1958 and followed-up seven times between ages 7-50. Allostatic load was operationalized using biomedical data on the cohort member's at age 44 using 14 parameters representing four

biological systems. Parental SEP was measured using information on father's social class and mother's education level at birth. Information on childhood material factors, family structure and parenting was collected between 7-16 years. At age 23, adult health behaviours, material factors, education level, occupation and BMI were collected and psychological factors were included at age 33. Path analyses were conducted separately for men and women using linear regression to evaluate the potential material, psychosocial and socioeconomic pathways across the life course linking parental SEP and AL. Results. Preliminary analyses show the importance of parental SEP on later allostatic load. Factors that may mediate elevated AL are currently being studied (e.g. parenting and material deprivation in childhood, health behaviours and psychological factors in early adulthood). We expect to observe significant sex/gender differences in the relative importance of material psychosocial and behavioural pathways between parental SEP and allostatic load.

Allostatic load as a predictor for mortality risk: evidence from administratively-linked mortality records of the Scottish Health Survey (2003)

Background: Allostatic load, a multiple biomarker score of pre-clinical physiological burden, has been shown to predict the risk of major health outcomes including heart disease and all-cause mortality in samples of older populations. However, its effectiveness as a risk predictor in a wider population setting is not known. Methods: Data were from the 2003 Scottish Health Surveys (SHeS), a repeat cross-sectional health survey of a representative sample of the Scottish population. Allostatic load was measured in 2,707 respondents (aged 16+) by summing 8 standardised biomarker scores (z-scores). This data was linked to administratively collected mortality records (ICD-10 scores) up to December 2013. All analyses involved logistic regressions, carried out using Stata version 11, based on a basic model of allostatic load and mortality, with additions for age, sex and area-based socioeconomic deprivation. Results: Preliminary analysis showed that a one standard deviation increase in allostatic load was associated with 20% increased odds of death (all-cause) (Odds Ratio=1.20; 95% CI=1.16, 1.28). However, controlling for age, sex and socioeconomic deprivation attenuated this association (OR=1.01; 95% CI=0.96, 1.06), with age the strongest attenuating factor. Further analysis to be discussed will explore the relationship with leading cause-specific mortalities (coronary and cerebrovascular disease, cancer and Chronic Obtrusive Pulmonary Disease) and will utilise survival analysis. Conclusions: Although higher allostatic load scores have been shown to be associated with increased risk of death in a large general population sample, after adjusting for age, sex and socioeconomic deprivation, the association was removed. This preliminary evidence suggests that allostatic load may be an inefficient pre-clinical risk score for mortality prior to old age. Further analysis is needed to explore this issue with more sensitive methods and looking at cause-specific mortality.

5C

Symposium: Activity Spaces and Adolescent Wellbeing: Preliminary Findings from the Adolescent Health and Development in Context (AHDC) Study

Christopher Browning, Ohio State University, USA, et al

Adolescence is a critical stage in the life course during which long-term trajectories of health and development are set in motion. Recent decades have seen a dramatic increase in research examining neighborhood and social network effects on adolescent development, with increasing evidence that these social contexts contribute to youth well-being. Although promising, contextual research on adolescent development has incompletely considered the role of actual spatial and social exposures in both theory and measurement. We argue that the concept of activity space – capturing actual routine spatial and social exposures – constitutes an important contribution to research on adolescent development. This session describes recent empirical work from the Adolescent Health and Development in Context (AHDC) study addressing the impact of spatial and network exposures on adolescent physiological stress outcomes. The first paper describes the innovative design of the AHDC. In addition to an intensive social survey, the AHDC gathers Smartphone GPS and Ecological Momentary Assessment (EMA) data to capture relevant exposures more precisely. The second paper considers gender differences in the role of activity space adversity and resilience (e.g., exposure to high levels of poverty, violence, social and physical disorder, and collective efficacy) in influencing chronic physiological stress. This paper is among the first to consider the effects of a wide range of theoretically relevant features of the social

environment on a measure of cumulative or chronic stress as measured by hair cortisol. Finally, the third paper examines the influence of social network structure and daily network interactions on a short-term measure of physiological stress – nightly salivary cortisol. The paper considers multiple hypotheses regarding the features of network structures that may amplify stress (potentially both small networks and large and dense networks). The design and preliminary findings of the AHDC highlight important new directions for research on adolescent development.

The Design of the Adolescent Health and Development in Context (AHDC) Study: Integrating Survey, Smartphone, and Biomeasure Data Collection

Research examining contextual influences on child health and development has entered a new era of possibility. The availability of mobile technology for GPS tracking and real-time assessment has opened the door to collection of far more precise data on everyday activities and sociospatial contexts. This presentation describes the Adolescent Health and Development in Context (AHDC) study - a large scale, longitudinal study of 11-17 year olds in Franklin County, Ohio focused on the consequences of routine activity space exposures for youth wellbeing. In addition to the major research questions and theoretical approach motivating the study, we review key features of the study design: (1) Smartphone-based GPS tracking over the course of a week; (2) Ecological Momentary Assessments of location, activities, network partner presence, risk behaviors, and immediate social environments several times a day during the week; and (3) follow-up interview-based collection of detailed space-time budget data on up to five of the seven days. Preliminary results highlight the relevance of activity space exposures for understanding adolescent health and call into question the conventional approach to "neighborhood effects" in contextual research on adolescence.

Sex/Gender Differences in the Contribution of Exposure to Sociospatial Adversity and Resiliency to Chronic Physiologic Stress

Existing research investigating sex differences in sociospatial exposures and the extent to which they may explain differences in physiologic stress responses between male and female adolescents have been limited, and the findings have been equivocal. The use of standard residential neighborhood approaches to measure sociospatial exposures may account for the lack of explanatory power as males and females tend to be equally prevalent within census tracts. Moreover, most studies have limited their measurement of stress to short-term HPA activity, which is more likely to capture acute rather than chronic stress. This paper addresses these limitations through investigation of sex/gender differences in the contribution of sociospatial exposures to adversity/resiliency and chronic stress among urban adolescents using an activity space approach to better capture variability in sociospatial exposures by sex/gender and hair cortisol, a novel, yet valid measure of chronic stress. We examine data from the Adolescent Health and Development in Context (AHDC) study using a sample of 800 adolescents aged 11-17 residing in an urbanized area of Franklin County, OH in 2014-15. Activity space exposures are collected via surveys and a week-long EMA and GPS data collection period. Hair is collected at the end of the week and assayed for mean cortisol levels via ELISA. Preliminary findings (N=64) indicate that for female youth, activity space exposures to block groups with higher household incomes, college graduates, and professional occupations was associated with lower hair cortisol values. In contrast, exposure to block groups with increasing concentrated disadvantage, high school dropouts, residential instability and income inequality was associated with higher hair cortisol levels. No significant associations were found for males (N=66). Although these findings suggest that sociospatial exposures may have a greater effect on chronic stress for females than males, significant associations for males may be found in the analyses with the full sample.

Adolescent friendship networks and day-to-day variability in physiologic stress: a short-term longitudinal analysis

Social relationships have been found to have a significant impact on physiologic stress processes, particularly in the regulation of the hypothalamic pituitary adrenal (HPA) axis and the release of the stress hormone – cortisol. To date, research examining relationship influences on cortisol activity has emphasized the negative effects of social isolation or the salubrious effects of social support. Few studies have examined the effects of network structure other than social isolation on physiologic stress. The current study will examine the relationships between adolescents' friendship networks and daily interactions and their nightly salivary cortisol levels with data collected over a week. A benefit of the study design is the ability to examine friendship network structure

(network size and cohesion) effects on average differences in cortisol levels between adolescents, and also how daily variability in network interactions relates to nightly cortisol levels (within-individual variability). We hypothesize that both very small networks (social isolation) and large networks will be associated with elevated levels of nightly cortisol by comparison with adolescents who exhibit networks of moderate size. We also examine the extent to which network cohesion interacts with size to amplify stress associated with network interactions. Finally, we consider whether features of peer network structure shape the effects of daily social network interactions on stress (e.g., the stress consequences of network conflict on a given day are amplified when peer networks are small or large and cohesive). We employ data from the Adolescent Health and Development in Context (AHDC) study on the peer networks and daily social interactions of a large sample (N=600 adolescents with data on roughly 2,500 days) of adolescents ages 11-17 residing in an urbanized area of Franklin County, OH in 2014-15. Analyses will be based on multilevel models (days nested within individuals) of log nightly cortisol.

5D   Paper Session: Academic achievement and cognitive ability

Family structure history and verbal achievement in the United States and United Kingdom
Shannon Cavanagh, University of Texas, USA, et al

We describe the association between family structure histories and verbal achievement for children at school entry in the United States and the United Kingdom. In both countries, children raised outside of stable, married-parent families are disadvantaged, but disparities are smaller in the United Kingdom among children who experienced changes in family structure. We ask whether these cross-national differences are attributable to contingent protection, or the notion that the positive association of marriage with child outcomes is determined, in part, by the presence and nature of state policies designed to support families. We evaluate our hypothesis with longitudinal data from nationally-representative samples of children born in 2000-01. In both contexts, the benefit of family support programs, whether privately or publicly financed, is explained by maternal background characteristics. We conclude that broad-based public programs do not necessarily alleviate pre-existing inequalities that select parents into unstable or non-marital family forms.

Relative contributions of early-life cognitive ability and self-regulation in mediating social inequalities in academic ability: effect decomposition in contemporary UK and Australian cohorts
Anna Pearce, University College London, UK, et al

Inequalities in academic achievement emerge early in life and are observed across the globe. Cognitive ability and "non-cognitive" attributes (such as self-regulation) are the focus of many early years' interventions; however little research compares the contributions of cognitive and self-regulation abilities as separate pathways to inequalities in academic achievement. We aimed to examine this in two nationally representative cohorts in the UK and Australia. Data from the Millennium Cohort Study (MCS, n=11168) and the Longitudinal Study of Australian Children (LSAC, n=3028) were analysed, from infancy to mid childhood. A suite of potential outcome based techniques for effect decomposition in the presence of exposure-induced mediator-outcome confounding were applied. The direct effect of low maternal educational attainment on two measures of child academic ability (maths and literacy scores), and indirect effects of education through cognitive ability and self-regulation (both jointly and separately), were represented by risk ratios (RRs) and 95% confidence intervals (CIs). In both cohorts, children with less educated mothers were 50-70% more likely to be in the lowest quintile of maths and literacy scores. Around three-quarters of the total effect of maternal education was direct, and the majority of the indirect effect was through cognitive ability and not self-regulation. For example, in LSAC, the direct effect of low maternal education on low maths scores was RR=1.49 (95% CI: 1.20-1.81); the joint indirect effect through cognitive ability and self-regulation (1.16 [1.08-1.28]) decomposed into 1.14 (1.06-1.24) for cognitive ability and 1.02 (1.00-1.06) for self-regulation. Inequalities in the cognitive and self-regulation abilities of young children contribute little to the socio-economic gap in academic achievement in Australia and the UK. Interventions which support current and future parents within their family, social, and economic environments are likely to be more fruitful than interventions which focus solely on the characteristics of the child.

Unequal from the start? Social inequality and cognitive outcomes in early childhood in Ireland

Helen Russell, Economic and Social Research Institute, Ireland, et al

To the extent that inequality accumulates across the life course, for example in cognitive achievement, experiences in the early years may have a particularly important role in understanding inequality (Smeeding et al., 2011). This paper examines social class inequality in cognitive outcomes in Ireland at age 3 and how this changes between 3 and 5 years, a crucial early period in child development. Is there a gap in cognitive outcomes at 3 years? Does the gap narrow or widen between 3 and 5, and what factors influence this? Using data from the Growing Up in Ireland survey we estimate models of cognitive outcomes at 3 – naming vocabulary and picture similarities (from the British Ability Scales)– to investigate the mechanisms underlying class inequality. According to the family investment model, higher income families have more financial resources to invest in their children, so we control for financial resources, but also parental education and the home learning environment (Conger and Donellan, 2007). According to the family stress model, social class effects may be mediated through financial stress, which influences parents' psychological wellbeing and consequently parenting style (Conger and Donellan, 2007). Health (including birthweight) and health behaviours such as diet, influences cognitive development and is also affected by family's resources (Layte and McCrory, 2015). From a policy perspective, early education and childcare is viewed as a possible lever for reducing class inequalities – is there evidence that participation in different forms of non-parental care (home-based care, centre-based care) influences class differences in cognitive outcomes? We estimate models of the change in cognitive outcomes between 3 and 5 years (Johnson, 2005) focusing on the social class differences and the extent to which these alter over time. The mediating role of financial resources, home learning environment, health and childcare arrangements on cognitive outcomes will be examined.

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Education and the life course: exploring patterns of subject specific performance in school attainment in Scotland

Chris Playford, University of Edinburgh, UK, et al

The Scottish school education system roughly mirrors the system in the rest of the UK but the qualifications that young people study for are markedly different. Although the Scottish school qualifications system has recently undergone radical change, Standard Grades have been the main qualifications undertaken by Scottish pupils when they reach the end of compulsory schooling for a number of years, and are the main focus of this paper. These qualifications are important because they mark the first branching point of the educational life-course in Scotland. The study of socioeconomic inequalities in school level attainment is well established, however school-level educational attainment in Scotland has been under-researched due to the lack of suitable data resources. In this paper we exploit a recent linkage of administrative data from the Scottish Qualifications Authority with the Scottish Longitudinal Study. Pupils undertaking Standard Grades studied a mixture of 'core' and 'optional' subjects from a wide diet of subject choices. Each Standard Grade subject was awarded an individual grade ranging from 1 – 7. Therefore, Scottish pupils have highly individualised patterns of Standard Grade results and there is no single agreed upon overall measure of a pupil's Standard Grade attainment. In recent work examining school attainment in England and Wales we have demonstrated that there are substantively important patterns of subject level attainment which are occluded when general overall measures are constructed and analysed. In this paper we examine the relationship between parental socioeconomic circumstances and detailed subject-specific patterns of standard grade performance using latent variable techniques. The results of this research will facilitate a better understanding of standard grade attainment in Scotland. We will also make methodological considerations by comparing alternative latent variable approaches.

5E   Paper Session: Attrition, drop-out, imputation and censoring

Handling attrition efficiently in longitudinal studies

Harvey Goldstein, Bristol University, UK, et al

When attrition occurs in successive waves of longitudinal data, a major concern is the bias that will be introduced as a result of non-random dropout. To compensate for this, at any given wave a common procedure is to apply a series of weightings to those individuals who remain, based upon the known characteristics of both the 'lost' and 'retained' individuals at the outset and at any intermediate occasions. These weightings can then be combined with any initial sampling or non-response weights to produce a final set of weights for analysis. The weight at each wave associated with any one individual who remains will thus generally change over time as further individuals are lost (or re-enter). This poses no real problem for cross sectional analyses that are wave-specific, but for longitudinal analyses a specific set of weights is needed for the combination of waves being used in the analysis. For data providers this, at best, leads to providing a set of weights, one for each 'likely' longitudinal comparison. Apart from being cumbersome this is also restrictive in that, as the number of waves increases the number of possible combinations increases factorially and soon becomes unmanageable and can lead to inconsistencies. As well as being cumbersome such weighting methods are inefficient since they imply that for analyses at wave n only those individuals responding at that wave will enter the analysis. The paper will discuss alternative 'missing data imputation' procedures for dealing with attrition that are practical, fully efficient and implicitly deal with potential biases. An example is given using the Longitudinal Study of Australian Youth and shows the large gains in efficiency that can be achieved.

Multiple imputation and lifecourse data

Brendan Halpin, University of Limerick, Ireland

Multiple imputation is a tried and tested method for coping with missing data, but it is difficult to apply to long categorical time-series or sequence data, such as life course history data. Missingness is usually non-monotonic, and auto-correlated (i.e., consisting of gaps of varying length rather than isolated missing variables). With high numbers of variables, the standard approach of multiple imputation by chained equations (MICE) is unwieldy, difficult to program and unstable, and it is difficult to impute such that longitudinal characteristics of the data (transition rates, number and duration of spells) are properly captured. This paper evaluates a method (described in Halpin 2012 and 2013, http://www.ul.ie/sociology/pubs/wp2012-01.pdf and http://www.ul.ie/sociology/pubs/wp2013-01.pdf) that re-structures the data such that missingness can be treated as monotonic, and gaps can be filled from their edges, retaining the longitudinal logic while fitting relatively stable, flexible and efficient imputations. Imputations are based primarily on observed data in the time-series or sequence, but also potentially on parallel time-series and on fixed individual characteristics. Evaluation is done by imposing realistic patterns of missingness (with both random and semi-structured patterns) on fully observed lifecourse data, with imputations under MICE and the gap-filling algorithm compared. Under most circumstances the gap-filling algorithm produces more stable, accurate imputations than the MICE approach, though where the missingness process is more complex imputations can deviate from the observed data. Suggestions are made for capturing such potential complexities in the process generating the missingness.

Non-ignorable drop-out in longitudinal studies of ageing: method and application to a cross-country study of self-reported health

Xavier de Luna, Umeå University, Sweden, et al

When estimating regression models with missing outcomes, it is common to use a missing at random assumption (the missing mechanism is independent from the outcome given the observed variables). This assumption is seldom credible in longitudinal studies of ageing with health outcomes and missingness due to drop-out. A missing at random (also called ignorable) drop-out assumption cannot in general be tested empirically. An alternative presented here is to compute identification sets (instead of point identification) for the parameters of interest under non-ignorable drop-out. The non-ignorability of the drop-out is quantified with a parameter. We apply the simple methods proposed to a cross-country study of self-reported health based on the SHARE longitudinal study of ageing. For several, countries we investigate predictors of self-reported health, and using our methods we check whether the results obtained are sensitive to the assumption of ignorable drop-out.

Accounting for censoring of repeated measures of young children's language in: evaluation of a tiered intervention regime and individual differences in development

Kate Hope, Newcastle University, UK, et al

Language development in young children is strongly related to socio-economics of their family. In a deprived area this means many children will have poor early language development which will create an achievement gap unless addressed coherently. On a standardised scale low extreme scores are unusually prevalent even though the population has typical levels of specialised problems. A partnership of 5 schools in North East England supporting a tiered scheme of language interventions over 2 years is evaluated. At three levels: (universal) all teachers using language in the classroom; (targeted) teaching assistants working with small groups; (specialist) referrals and interventions continued as usual. Training was introduced locally in a phased model across the schools and children's language was measured each term. We analyse scores on the British Picture Vocabulary Scale for all (N=369) children (aged 3-6 years); observations falling below the threshold for standardisation are censored as standard scores but available as raw scores. The efficacy of the scheme was evaluated using a longitudinal mixed model with a time-varying covariate for the intervention regime. One month of additional progress for each term in the intervention regime was observed with a correlation of more than 0.5 between the random slope and intercept. A model for censored longitudinal observations was used to analyse the standard scores confirming that children in the control regime made zero progress. Censored data can be analysed in the context of longitudinal mixed models, representing important individual differences which would otherwise be excluded from analysis. Censored standardised scores gave a better fit with the linear growth model than the raw score analysis due to curvature in the standardisation which raw score analysis lacked the power to represent. Correlation between random effects facilitates consideration of the efficacy of the catching up effect intended by the tiered regime.

5F

Symposium: Celebrating 50 years of the National Longitudinal Surveys with interdisciplinary research across the generations

Elizabeth Cooksey, Ohio State University, USA, et al

Summer 2015 marks the beginning of a year long celebration of the 50th Anniversary of the National Longitudinal Studies in the USA. The program was started with Young Men's survey, (discontinued in 1981), which included men ages 14-24 when first interviewed in 1966, and the Older Men's survey (discontinued in 1990), that included men ages 45-59 when first interviewed in 1966. In 1967, the Mature Women's survey was initiated to interview women ages 30-44. This study was discontinued in 2003, although mortality data have recently been matched to the dataset and are used in the Pavalko, Caputo and Hardy paper outlined below. In 1968 a cohort of Young Women ages 14-24 was added to the NLS portfolio to match information being collected on their male counterparts. This survey was also discontinued in 2003. Perhaps the best known of the NLS surveys, however, are the two National Longitudinal Surveys of Youth: the NLSY79 and the NLSY97. NLSY79 respondents were born in the years 1957-1964 and were ages 14-22 when first interviewed in 1979. They are still being interviewed with round 26 data collection currently being fielded. NLSY97 respondents were born in 1980-84 and were 12-17 when first interviewed. They are also still being interviewed. And finally there are the NLSY79 Child and Young Adult surveys where respondents constitute all children born to the NLSY79 women. These children/Young Adults are currently between ages 4 and 44! Collectively, these data have been used for several thousand journal articles, book chapters, books, PhD dissertations and MA theses. They have been used by researchers around the world and across many disciplines. The research papers we propose for this symposium are new analyses and help to showcase a depth and breadth of ideas (as much as is possible in only 3 papers!) They use data from the Mature Women's Cohort, the NLSY79, the NLSY79 Child and Young Adult and the NLSY97. They touch on issues of employment, education, health, parenting, marriage and fertility. They compare cohorts from different generations, study linkages across the life course, and analyse intergenerational linkages. Finally, these papers are being undertaken by researchers from Sociology, Economics, Nursing and Public Health.

Long-term Effects of Employment and Employment Discrimination on Women's Health and Mortality
The short-term health effects of discrimination have been well documented, but we know much less about whether these health effects persist even after the risk of further discriminatory experiences is eliminated. In this paper we use long-term longitudinal data from the National Longitudinal Survey of Mature Women and newly matched mortality records to examine whether the health effects of work discrimination persist into later life, when most women are no longer working, and whether they extend to mortality. We find that 8 percent of women report experiencing work discrimination over a 5 year period when they are between the ages of 47-66 and that the most commonly reported form of discrimination is age discrimination. After controlling for prior health, we find that women who reported experiencing workplace discrimination over this time also reported more depressive symptoms and more functional limitations at the end of the period than did women who were employed during the same period but did not report experiencing work discrimination. Women who were not employed during that same period also had more emotional and physical health problems than those who worked but did not experience discrimination. These health differences continue as women age and move into retirement even though the risk of work discrimination is eliminated, but they do not extend to all-cause mortality. Our findings suggest that the health effects of work discrimination are both broad and persistent as they impact both physical and emotional health and remain significant as women move into their retirement years. They also point to the long-term health benefits women gain from non-discriminatory employment experiences.

Connecting Parenting Styles to Child and Adolescent Health Outcomes: Evidence from the 1979 National Longitudinal Survey of Youth and its linked Child and Young Adult Surveys
A growing body of research suggests that parenting styles differentially affect a wide range of child outcomes, including cognitive, behavioral and physical health. For example, it is clear that on the extreme negative end of the parenting continuum mistreatment has been linked directly to poor child outcomes. Most of this research is done using either cross-sectional data or limited longitudinal data. However, based upon life course development theory, it seems likely that the timing of interactions, the persistence of type across time, and the "dose" of the parenting type will matter to outcomes. Furthermore, as the evidence accumulates linking parenting to child developmental outcomes, understanding what drives a person's ability to parent in positive (or negative) ways becomes a critical question. The intergenerational structure of the NLSY79 and its linked NLSY79 Child and Young Adult surveys provides a unique window into studying these relationships. These data include longitudinal measures across the lives of multiple generations enabling us to investigate both the antecedents to parenting as well as its consequences on outcomes. We address four questions in our research: 1) Is there persistence in the parenting styles observed throughout childhood, measured during three periods, early life (1 to 5 years), mid-childhood (6 to 9 years), and early adolescence (10 to 14 years). 2) Are child outcomes (health, BMI, behaviors) influenced by the pattern of parenting over childhood? 3) Is there a critical period in which parenting exerts an influence on child outcomes? 4) What life factors predict parenting style?

Education and changes in women's marriage and fertility decisions: a comparison of two cohorts
The relationship between educational attainment and marriage for women has long been established. In previous generations, college-educated women were less likely to marry than their less-educated counterparts. This gap has closed, and at the same time women are marrying at older ages. Additionally, women are now more likely than men to both enter and complete college. This change in the pattern of educational attainment between men and women may have implications for marriage and fertility patterns. Looking at across successive cohorts, Rindfuss and colleagues (1996) found that from the late 1960s to the late 1980s the percentage of births occurring after age 30 has risen substantially for women with college degrees, but remained stable for women without a bachelor's degree. We use data from the NLSY79 and the NLSY97 to examine whether further shifts in marriage and fertility continue in more recent cohorts. The NLSY79 women were born between 1957 and 1964 and the middle of this cohort graduated from high school in 1980. Of high school graduates, roughly half went on to college within two years of completing high school. About 21% of female high school graduates earned a bachelor's degree within 6 years. The high school graduation rate for the NLSY97 women who were born between 1980 and 1984 are about 50 percent higher with 78% going to college and 31% completing a bachelor's degree. With such a large increase post-secondary education, clearly, the composition of the college attendees and completers has changed between the two cohorts. Almost 80 percent of the NLSY79 women had married

and almost 75 percent had had a child by age 30. These patterns differ drastically with education attainment. About 75% of high school graduates had married and 87% had a child by age 30. In contrast, among women with a bachelor's degree or more, about 67% had married, but less than 30% had had a child by age 30. We will compare these patterns to those in the younger cohort. Then we will estimate the probability of marrying or having a child by age 28/30* as a function of four factors: expectations and aspirations, skills, family background, and labor market experience—both for all women and by educational attainment—and attempt to decompose changes in marital and fertility decisions into the four factors listed above. *NLSY97 women will be 28-32 years in the data to be released early summer 2015.

Keynote Presentation:
National crises and personal troubles: The Great Recession in Ireland and family processes
Richard Layte, Economic and Social Research Institute (ESRI), Ireland

PARALLEL SESSION 6

6A   Paper Session: Long-term trends and economic crisis
Trends in economic stress and the great recession: a comparative European analysis of income class and life-course effects
Brian Nolan, University of Oxford, UK, et al
In this paper we extend our previous work on comparative European analysis of the distribution of economic stress. Employing the 2004-2012 waves of EU-SILC our primary focus is on the changing distribution of economic stress and the manner in which it interacts with life-course stages. The extent to which class effects can accurately be described as reflecting processes of individualization, polarization or 'middle class squeeze' has become a subject of considerable debate. The available evidence for the manner in which welfare state interventions have served as automatic stabilizers in mediating and moderating the effects of the Great Recession points to the potential value of a comparative European analysis of trends in the interaction of class and life-course effects. Here, we consider not only such effects but also the implications of such developments for the distribution of economic stress across welfare regimes. In addition to providing an account of such between regime differences, we will also consider the implications of the impact of the Great Recession for variability in the distribution of economic stress within welfare regimes by contrasting the situation of those countries most severely affected with the remaining regime members.

Staying, moving, and vocational training: explaining differences in wage mobility over the career for low-end service workers in the U.S. and Germany
Michael Schultz, University of North Carolina at Chapel Hill, USA
The transition to the service economy in the advanced capitalist countries is creating a new economy divided between "good jobs" and "bad jobs" (Kalleberg 2011:1). The cross-national comparative literature on welfare states and varieties of capitalism describes how differences in country-level institutions explain levels of inequality (Huber and Stephens 2014), poverty (Brady 2009), the amount of low-pay work (Salverda and Mayhew 2009), and scar effects from unemployment (Gangl 2006). Despite these differences, cross-national studies of the careers of low-wage workers are scarce. I use a life course perspective to analyze the wage mobility low-wage workers experience over their careers in the U.S. and Germany. I compare the wage trajectories of workers in 10 service occupations including food workers, childcare workers, and security guards and doorkeepers. All 10 occupations I study are large, growing, low-wage, and low-skill in the U.S. My primary research questions are: (1) Is the wage mobility of low-end service workers over their careers different in the U.S. and Germany? (2) Do institutional differences in vocational training systems, unions, and collective bargaining agreements explain country differences in the wage mobility of low-end service workers? I use the U.S.'s Panel Study of Income Dynamics and Germany's Socio-Economic Panel from 1984-2007 to answer these questions. My primary model uses growth curve analysis to compare the wage mobility of workers from the year they enter a low-end service occupation through the remainder of their observed careers. I expect workers with vocational training to

experience a better job match, lengthening occupation tenure, and resulting in higher wages over the career. 70% German workers in these occupations receive vocational training, while only 20% do in the U.S. I hypothesize that this difference in levels of vocational training between countries explains the higher wage mobility of German low-end service workers over their careers.

Decline of "The American Dream?" Outlook toward the future across three generations
Jeylan Mortimer, University of Minnesota, USA, et al

Inspired by the "American Dream," generations of parents have encouraged their offspring to get ahead by working hard, achieving in school, and holding high aspirations for the future. Women's continuing advances in education and the labor force, and other feminist movement gains, have provided an increasingly positive climate for girls' thinking about their futures. However, a deteriorating economic climate, particularly since the "Great Recession," may have diminished the outlooks of many contemporary youth as they envision their futures. We examine shifts in future orientations across three generations of Midwest American families. Our unique data archive from the Youth Development Study includes 266 Generation 1 (G1)-Generation 2 (G2) parent-child dyads and 422 Generation 3 (G3) children. We assess within-family change over the past two decades in parental expectations about their children's educational attainments and adolescents' own future outlooks, with special attention to shifts in girls' future orientations. Using confirmatory factor analysis, paired sample t-tests, and within-family regression models, we examine adolescents' aspirations for socioeconomic attainment, their perceptions of their parent's expectations for them, the obstacles they perceive to their career progress, and more general optimism about the future. With controls for age, socioeconomic status, parental unemployment history, and parental work attitudes, we found that parents' (comparing G1 and G2) educational aspirations for their children, and adolescent children's (comparing G2 and G3) own socioeconomic aspirations, have increased. Upward shifts across generations were especially pronounced among adolescent girls. Compared to their mothers (G2), observed at about the same age, teenage girls (G3) also had more positive life course expectations in general, and anticipated less work-family conflict. We conclude that the "American Dream" is still alive---especially among adolescent girls, whose educational and occupational opportunities have expanded across generations, and whose optimistic outlooks are supported by the long-term successes of the women's movement.

Poverty dynamics among families with young children in Scotland
Morag Treanor, University of Edinburgh, UK

This paper analyses poverty dynamics in families with young children in Scotland using the longitudinal birth cohort study, Growing up in Scotland. It explores poverty exits and entrances and analyses family characteristics that drive poverty dynamics. The data used are particularly exciting, as the Growing up in Scotland study has two policy-related advantages over a number of other birth cohort studies: (1) the data are collected annually which allows for poverty persistence and poverty dynamics to be accurately explored; and (2) a second birth cohort, born in 2010, has been added to the existing cohort born in 2004, which allows for comparisons between families with children born under different government administrations, New Labour and the Conservative-led Coalition government. This paper analyses poverty exits and entrances of families with young children born under each of these administrations.

Restoring opportunity for disconnected youth in the face of income and education inequality
Youngjo Im, University of Chicago, USA

This study seeks to contribute to an understanding of how youth development programs and policies can be improved to better support youth ages 16 to 24 who are disconnected, that is, who are neither enrolled in school nor participating in the U.S. labor market. To achieve this goal, the study analyzes 14,327 young people nationwide who participated in the Job Corps program, the nation's largest, most comprehensive education and job training program for disadvantaged youth, primarily in a residential setting. Grounded in a theory of positive youth development, this study examines whether the impact of Job Corps on educational attainment, employment, earnings, and criminal behavior depends on the developmental assets of the program participants.

The study also examines whether a zero-tolerance policy introduced during the sample intake changed the demographic composition of the participants, thus modifying the effects of Job Corps programs on youth outcomes. The results of the study will illuminate the channels through which social programs that can foster both positive individual outcomes and the social good.

6B

Symposium: The social-to-biological transition: testing plausible hypotheses
Michelle Kelly-Irving, INSERM, France, et al
This symposium is organised by the newly established Interdisciplinary Health Research working group of the SLLS. Its aim is to establish and discuss the major current theoretical, empirical and methodological issues regarding health research. Life course research on health and disease has reached a new stage in exploring the social-to-biological transition. Large longitudinal datasets containing socio-demographic and socio-economic characteristics, self-reported health assessments, psychological and biological data are coming into maturation and being made available to researchers. Some examples of these datasets are used during this symposium: the Tracking Adolescents' Individual Lives Survey (TRAILS) the English Longitudinal Study of Ageing (ELSA), Whitehall II and the National Child Development Study (NCDS). An interdisciplinary field of life course research has emerged from collaborations between disciplines using these types of complex datasets. Consequently, questions around how the social and psychosocial environments lead to physical and biological alterations over time can now be investigated on a wider scale, and in a variety of contexts and disciplines. The four papers presented in this symposium each use a different set of data combining social and biological variables over the life course. Each one aims to examine socially and biologically plausible hypotheses. The symposium will end with a structured discussion on the questions raised, the hypotheses being investigated and the future horizons for enquiry into the social-to-biological transition.

The longitudinal relation between adverse events and body mass index from early adolescence to young adulthood
Background: Overweight and obese children have an increased risk of overweight and obesity in adulthood and this is associated with increased morbidity and mortality later in life. Psychosocial stressors have been related to obesity in childhood. Adverse events, such as disease or death of a family member and parental divorce, are among the most important psychosocial stressors in childhood. No studies as yet have examined whether the accumulation of these events is related to adolescent's change in body mass index (BMI). The current study explores whether adverse life events are related to BMI across multiple time points from early adolescence to young adulthood and whether this relationship is influenced by the type, timing and number of adverse life events. Methods: The current study is part of TRAILS (TRacking Adolescents' Individual Lives Survey), a prospective cohort study following Dutch adolescents into young adulthood. The current study makes use of data from wave 1 (10-12 years), 3 (14-18 years) and 5 (20-23 years). Structural equation modeling (SEM) is used to test whether adverse life events and BMI are related from early adolescence to young adulthood, adjusting for age, gender, socio-economic status (SES), ethnicity, pubertal stage and baseline BMI. At the first wave, 2188 parents reported on the occurrence and timing of adverse events in the lives of their children. At the third and fifth wave, 1513 and 1467 children, respectively, reported the adverse events they had experienced in the past 5 years using a semi-structured interview (Event History Calendar). Adverse event scores for all waves were determined. Height and weight were objectively measured at all three waves. For children <18 years of age, BMI z-scores were determined based on the LMS reference curves of the International Obesity Task Force (IOTF). The results of this study will be presented at the conference.

Work-family life courses and markers of stress and inflammation in mid-life
Background: Evidence from longitudinal studies has shown that stressful work and family situations are linked to chronic inflammation and altered cortisol profiles, both of which are risk factors for later disease. Conversely stable partnerships and work are known to be beneficial for health. However, few studies have previously investigated whether combined histories of work, partnerships and parenthood are related to later health, and in particular to markers of stress. This study investigated associations between work-family life courses (work, partnerships and parenthood) and biomarkers of inflammation and stress in mid-life amongst British men and women. Gender differences in these associations were also explored. Methods: Multi-channel sequence analysis

was used to define work-family life courses between 16-42 years, combining annual information on work, partnership and parenthood. Associations between work-family life courses and inflammation (C-reactive protein (CRP), fibrinogen and von Willebrand factor (vWF)) and cortisol at age 44/45 years were tested using multivariate linear regression using multiply-imputed data on almost 6500 participants from the National Child Development Study 1958 British birth cohort. Results: Compared to those who combined strong ties to paid work with later transitions to stable family lives ('Later stable' group), 'Teen parents' had higher CRP and fibrinogen levels, and 'Homemakers' had raised fibrinogen levels, independent of childhood health and socioeconomic position, adult socioeconomic positon, health behaviours and BMI. Those who combined later transitions to stable family ties with a career break for childrearing had higher post-waking cortisol than the 'Later stable' group. This was found to be mediated by health behaviours, particularly higher physical activity in this group. No statistically significant gender interactions in associations between work-family types and inflammatory or cortisol outcomes were found. Conclusions: Work-family life courses characterised by early parenthood or weak work ties were linked to a raised risk profile in relation to stress-related biomarkers.

Long term short sleep duration, insomnia symptoms and salivary cortisol

Sleep is an important state, the pattern of which may be altered by an individual's environment. The short term impact of restricted sleep duration or poor sleep quality has been found to have a negative impact on health. Chronic stress, measured by cortisol has been suggested as a possible pathway between sleep and health. Although a cross-sectional association between diurnal cortisol and both sleep duration and disturbance has been described, the impact on cortisol patterns of experiencing short sleep duration or insomnia symptoms in the long term has not been examined. This was an analysis of longitudinal data from N=3,314 participants of the Whitehall II study. Self-reported short sleep duration and insomnia symptoms were measured at phases 5 (1997-1999), 7 (2003-2004) and 9 (2007-2009). Salivary cortisol was measured at phase 9. Six saliva samples were taken on waking, waking + 0.5, 2.5, 8, and 12 h and bedtime for the assessment of the cortisol awakening response and the slope in cortisol secretion across the day, calculated using multi-level models (MLM). Recurrent short sleep was associated with flatter slopes in diurnal cortisol patterns. An association with diurnal slope of cortisol was not, however, observed for those who reported persistently high levels of insomnia symptoms. Recurrent short sleep duration and sustained sleep disturbance were both independently associated with an increased cortisol awakening response; although this pattern was only significantly higher for those reported two occurrences of short sleep. These patterns were independent of the other sleep exposure examined and a range of covariates. This is the first study to describe the association of long term sleep problems and cortisol patterns throughout the day. Long term sleep problems are associated with adverse salivary cortisol patterns throughout the day. However, the association is different for sleep disturbance and sleep duration.

The educational gradient in biomarkers for cardiovascular diseases, in self-reported doctor diagnoses and in mortality (2004-2013), in the English Longitudinal Study of Ageing (ELSA)

Higher educated persons have lower cardiovascular (CVD) morbidity and mortality. We compare the magnitude of the educational gradient between three disease-specific measures of health: biomarkers, self-reported doctor diagnoses and cause-specific mortality. Biomarkers are assumed to be early and more objective indicators of diseases compared to doctor diagnoses which may be class biased. We compare these two measures to mortality in order to assess their validity in different stages of the disease process. We also check how much of the mortality gradient is mediated by biomarkers and doctor diagnoses. We study 5979 men and women aged 50+ from wave 2 of the English Longitudinal Study of Ageing (2004/05). We use CVD biomarkers (systolic/diastolic blood pressure, HDL, LDL, Triglycerides, BMI, Waist circumference, CRP and HbA1c) and self-reported doctor diagnoses (angina pectoris, heart attack, stroke, congestive heart failure and abnormal heart rhythm). About 250 deaths from CVD are recorded until 2013. For biomarkers and doctor diagnoses we estimate relative risks using log-binomial regression to compare educational groups. For mortality we estimate a survival model assuming a Gompertz distribution for the hazard function. Our results will allow assessing two hypotheses about biomarkers: if their main feature is being early indicators, they should exhibit a lower educational gradient than doctor diagnoses and mortality, because education matters in each step from increased biomarkers via doctor diagnoses to death. If their main feature is being more objective, they should exhibit a higher educational gradient than

doctor diagnoses, because the latter are biased downward. Preliminary results show that the gradient in CVD-mortality is statistically significant and larger than the gradient in doctor diagnoses. This difference is smaller among women. Our mediation analysis will also help assessing the two hypotheses because it reveals how much education matters for later stages of the disease process.

6C   Paper Session: Adolescence

Marijuana use trajectories from adolescence to young adulthood: social and occupational outcomes

Brian Kelly, Purdue University, USA, et al

Marijuana use is common as adolescent's transition into young adulthood; a majority of young Americans report lifetime use of marijuana by age 25. Yet, patterns of use vary considerably among youth as they make these life course transitions. We aim to identify types of marijuana use trajectories as well as assess the relationship of such trajectories to social and occupational outcomes at age 26. We utilize the National Longitudinal Survey of Youth 1997, an annual nationally representative survey of adolescents aged 12-16 during 1997 (n=8,984). We use data assessing each individual through age 26. Latent trajectory analyses identified 5 primary types of marijuana use across this period: non-users, occasional dabblers, consistent users, persistent heavy users, and early heavy users who quit. Multivariate logistic regression analyses examined social and occupational outcomes by age 26, controlling for covariates. Relative to nonusers, dabblers reported no differences in educational or occupational outcomes, but were less likely to live with parents or be married by age 26, and more likely to have been arrested within the past year. Consistent users were not different on unemployment or wages, but less likely to achieve a bachelor's degree, live with parents, or be married, and more likely to report arrest and poor health. Persistent heavy users reported lower wages, were less likely to attain a bachelor's, live with parents, or be married, and more likely to be arrested or report poor health. Early heavy quitters were more likely to be unemployed, less likely to attain a bachelor's or marry early, and more likely to report arrest and poor health. Different patterns of marijuana use over the transition to young adulthood have varying impacts on markers of adult social and economic well-being. Dabblers look relatively similar to non-users, but other trajectories suggest possible life course incongruities.

Welfare states, adolescent family relationships, SEP and risk behaviour: a comparison between Denmark and the UK

Michael Green, University of Glasgow, UK, et al

Family interactions during adolescence can influence risk behavior development and be associated with socioeconomic position (SEP). Giddens posited that ideal, 'democratic' family relationships would combine high levels of independence and equality for adolescents with high levels of emotional closeness between adolescents and parents. This can be difficult as independence often comes at a cost of emotional closeness. Welfare states, such as Denmark, which offer strong support for young people, may mean independence and equality are more achievable than in less extensive welfare states, as adolescents' economic futures are less dependent on their parents. Socioeconomic patterning of independence, equality and closeness was examined with latent class analysis in contexts with different welfare regimes. Data were from the survey of Children and Young People in Denmark (age 15; 2008; n=855; strong welfare support) and the 1970 British Birth Cohort Study (age 16; 1986; n=6,618; weaker welfare support and high national unemployment). SEP was measured using family income and parental education. Models with four latent classes were compared. Both samples had two groups approaching the democratic ideal, emphasising either emotional closeness (family-oriented; Denmark 49%; UK 25%) or independence (individual-oriented; Denmark 33%; UK 22%). Both also had a group with low levels of independence and equality and mid-to-high levels of emotional closeness (hierarchical family-oriented; Denmark 12%; UK 41%). A fourth group had low levels of equality and closeness with either high independence (Denmark, 6%) or low independence (UK 11.4%). Families from a more advantaged SEP tended to be democratic individual-oriented in Denmark, but hierarchical family-oriented in the UK. The more generous welfare context was associated with more democratic families and differential socioeconomic patterning. Further analyses will be presented examining associations between SEP, family relationships and risk behaviour development (e.g. smoking, drinking) from adolescence to early adulthood (age 19 for Denmark; 26 for UK).

Adolescent self-image and trajectories of self-esteem from adolescence to mid-adulthood: a 26-year follow-up

Olli Kiviruusu, National Institute for Health and Welfare, Finland, et al

This study investigated trajectories of self-esteem development from adolescence to mid-adulthood and the way different aspects of adolescent self-image were associated with these trajectories. Participants of a Finnish cohort study in 1983 at age 16 (N=2194) were followed up at ages 22 (N=1656), 32 (N=1471) and 42 (N=1334) using postal questionnaires. The 21-item measure of self-image at 16 years consisted of seven factors that were interpreted as: intelligence, attractiveness, leadership, matter-of-factness, presence of mind, relaxedness, and energy. Self-esteem was measured at each time point and using longitudinal latent class analysis participants were grouped to those having 1) high/increasing, 2) below average, and 3) low/decreasing self-esteem trajectory from adolescence to adulthood. Factors of adolescent self-image as predictors of the self-esteem trajectory groups were assessed in one multinomial logistic regression model with the high/increasing trajectory group as the reference. Among females, relaxedness (p<.001), intelligence (p<.001) and attractiveness (p<.001) were the most prominent aspects of self-image that reduced the risk of having the below average or the low/decreasing self-esteem trajectory, while leadership (p=.043) reduced the risk only regarding the below average trajectory. Also among males the self-image factors of relaxedness (p<.001), attractiveness (p=.001) and intelligence (p=.003) were inversely associated with the below average self-esteem trajectory group, as were the self-image aspects of matter-of-factness (p=.016) and energy (p=.026). Energy was the only aspect of adolescent self-image among males that reduced the risk (p=.004) of the low/decreasing self-esteem trajectory. Among both females and males, relaxedness, attractiveness and intelligence were the three aspects of adolescent self-image that most strongly were associated with good self-esteem development from adolescence to mid-adulthood. Lack of energy was the one aspect of adolescent self-image among males that seems to be a potentially important risk factor for poor self-esteem development later in life.

The 'bank of mom and dad': patterns of financial support to young adults in tough economic times

Monica Kirkpatrick Johnson, Washington State University, USA

With delays in the transition to adulthood (i.e., lengthier educational pursuits, older ages of family formation), parents are providing significant material support to their young adult children. This study examines patterns in financial support from parents and other relatives to young adults (ages 18-29) in the US, including an assessment of whether support patterns changed during the Global Financial Crisis. Data is analyzed from the Transition to Adulthood supplement from the Panel Study of Income Dynamics (with administrations in 2005, 2007, 2009, 2011, and 2013). Familial financial support was widespread across this period, with about two-thirds of young people receiving some amount of support. Strong age differences were evident, but only minor fluctuations occurred with the recession. The most frequent forms of support were to cover bills and expenses, followed by help with college tuition, vehicles, and rent. Given low state support to institutions of higher education in the US, it is not surprising that the value of the support received was highest for the tuition category. In addition to their greater likelihood of receiving financial support at younger ages, young adults were also more likely to receive financial support when they grew up with more highly educated parents with higher incomes, and when they lived with both their parents. Black young adults were disproportionately less likely to receive financial support from parents even controlling other family characteristics. Reflecting the changing needs and opportunities associated with adult role transitions, and perhaps shared social meanings of adult roles as well, young adults were less likely to receive assistance once they left education and once they married. The effects of employment and parenthood differed significantly by gender though. For young women, parenthood increased the likelihood of receiving assistance and full-time employment reduced it; opposite patterns were evident for young men.

Tolerance in adolescence: predicting inter-individual and intra-individual differences in a six-year longitudinal study

Annekatrin Steinhoff, University of Zurich, Switzerland, et al

Practicing tolerance of dissenting others is one of the most fundamental principles of democracy. It is therefore of major importance for democratic societies to understand the micro-social and the psychological foundations of tolerance in subjects. Previous research has pointed out that interpersonal trust and democratic value orientations are striking correlates of tolerance. This paper takes this perspective a step further by investigating longitudinally the interrelations between tolerance, interpersonal trust, and social justice values. Further, we

identify the social contexts in which differential trajectories of tolerance development can be observed. The analyses are based on longitudinal data for N = 1.258 Swiss adolescents surveyed at the ages of 15, 18 and 21 (Swiss Survey of Children and Youth: COCON). The level of tolerance at the different ages is assessed by the level of agreement with the statement that "one has to accept others as they are". The predictors of tolerance, i.e. trust, social justice values, and the variables which describe social contexts, are based on multi-item scales. We combine a variable-centered with a person-centered approach. First, several path models are compared to show that individual levels of tolerance become increasingly stable during the course of adolescence. Moreover, interpersonal trust and social justice values affect the age-specific levels of tolerance. While the effect of interpersonal trust is unidirectional, the relation between social justice values and tolerance is reciprocal. In a second step, we use latent class growth analyses to identify differential trajectories of tolerance development on the person-level. Trajectory group membership is not only related to social justice values and trust, but also to the quality of the parent-child relationship and of friendships. The results suggest that tolerance is rooted in both affective and cognitive dimensions of individual development, which are typically entangled with experiences in close interpersonal relationships.

6D

Symposium: Education and the Life Course in the New Economy: Results from the High School and Beyond Midlife Follow-Up
Chandra Muller, University of Texas at Austin, USA, et al
This symposium describes early findings for a midlife follow up of the High School & Beyond (HS&B) sophomore cohort. HS&B is a nationally representative study of high school sophomores in 1980, and is an important component of the National Center for Education Statistics Secondary Longitudinal Studies program. HS&B contains large enough samples of African Americans and Latinos to provide information about how the U.S. education system prepares diverse students to fully participate in a complex and rapidly changing workforce. HS&B sample members occupy an important historical position at the end of the Baby Boom. They are in the first post-Civil Rights cohort; they transitioned to college during the expansion of affirmative action admissions policies; they are the first recent cohort in which women's educational attainments exceeded those of men and in which it was normative for women to experience uninterrupted labor force participation. The HS&B cohort is more racially and ethnically diverse than earlier contemporary U.S. cohorts, and the immigrants are of color, in contrast to previous waves of immigrants, in part because it was the first to come of age after the Immigration and Nationality Act of 1965. In midlife, and after the majority had completed their formal schooling, HS&B sample members faced challenges from the transformation of our society characterized by a higher demand for workers with analytic skills who could flexibly adapt to innovation. What skills make individuals able to adapt and succeed? And what did their schools do to prepare them? This symposium presents early findings from the HS&B fifth follow-up describing (1) the role of skills in midlife work and health outcomes; (2) who obtained more education in midlife and the returns on that education; (3) educational and skills determinants of early mortality; and (4) contemporary approaches to following up a diverse cohort.

Health and Work at Midlife in the New Economy: The Central Role of Cognitive Skills Development and Education during Adolescence
Growing evidence suggests that analytic and interpersonal skills are the foundation of the increasing stratification in our new economy. These skills are demanded for a range of activities in the new economy, most notably to secure and maintain good jobs, but also for health and well-being. While we have growing knowledge about the range of analytic and STEM-related tasks inherent in occupations, we have scant empirical evidence about how the skills workers need in order to perform these tasks are developed in schools. In particular, we know very little about how schools equip students to continue to learn and flexibly adapt to changing workplace expectations even after they leave school. This study capitalizes on rich, newly available data from the 2014 follow-up of the High School and Beyond (HS&B) sophomore cohort (as most sample members turned 49-50 years old) to provide detailed information about the connection between the education students received (or failed to receive) in school and their workforce participation and health as they approach their later working years. The HS&B cohort is especially informative because survey participants had already completed their early adult schooling when the

occupations experienced the rapid transformation due to technological changes. We can thus observe variation in who was able to adapt to the transformation of the economy and the types of school experiences that enabled them to do so. Findings suggest that beyond educational attainment and socio-demographic background, cognitive skills have far reaching implications for the health and workforce outcomes of the HS&B cohort.

Coming in to Focus: Education and Stratification at Midlife

Although many panel studies of educational and occupational attainment assume an orderly life course progression, we know that the process of educational attainment continues to evolve well after early adulthood. Among those who were expected to complete high school in 1982, roughly one in five continued their formal education into the 1990s and beyond. Do credentials earned later in life exacerbate or attenuate the stratification process with respect to educational attainment? How if at all do credentials earned later in life contribute to labor market outcomes? Preliminary results based on data from the recently completed fifth follow-up of the sophomore cohort of High School and Beyond suggest a complicated story. On the one hand, we see strong evidence of cumulative advantage in the process of educational attainment later in life, with parental education and high school academic achievement continuing to predict educational continuation decisions over a decade after the end of high school, particularly for baccalaureate graduate/professional degree completion. In fact, the relationship among these assets achieved or acquired earlier in life and educational continuation only increases over time. On the other hand we find that African Americans are significantly more likely than observationally comparable whites to earn a baccalaureate or professional degree more than ten years after high school. This conditional advantage may accrue primarily to women. Later baccalaureate and professional degrees, but not associate's degrees, are associated with increased earnings at midlife. The returns to these later credentials may be more modest than returns to those completed earlier in the life course but also will continue to accrue past the period during which we can currently observe our sample members. On balance, preliminary results from our analyses suggest that typical models of educational continuation decisions, based largely on younger cohorts, appreciably understate the degree of social stratification in the educational attainment process. While secondary school achievement accounts for some of the advantage enjoyed by children of college graduates, the majority of the association (around 80%) operates through channels other than prior achievement.

What Aspect of "Education" Matters for Early Mortality? Evidence from the High School and Beyond Cohort

What aspect of "education" matters for mortality? Research on educational gradients in mortality virtually always operationalizes education in terms of years of schooling or highest degree completed. However, theories about how or why education affects mortality imply that "education" may be a proxy for cognitive skills, non-cognitive skills, access to specific kinds of knowledge, or exposure to social networks. Using exceptionally rich data from the high school sophomore cohort of 1980---which was observed in the High School and Beyond study, and which was followed-up again in 2014---we model early mortality (through about age 50) as a function of these several aspects of "education." Although cognitive skills, non-cognitive skills, exposure to math and science knowledge, and attributes of social networks are all associated with early life mortality, none are independently associated with mortality net of indicators of highest degree completed. That is, these several aspects of education matter for mortality, but their effects operate entirely through traditional measures of educational attainment. Results are largely consistent for men and women and for non-Hispanic whites, blacks, and Hispanics.

Using Adaptive Design Methods to Locate and Survey a Longitudinal Sample After Decades

Increasingly, survey research projects are utilizing adaptive design methods to minimize nonresponse bias and maximize limited budgets. However, most research focuses on adjusting contacting outreach and incentive offers based on real-time results during data collection. There is less information about how to use adaptive design strategies to optimize locating activities when trying to find longitudinal sample members before data collection outreach begins; this guidance is needed. Even with the best historical records, locating individuals can be an enormous challenge. The longer the interval between survey cycles, the more difficult and costly locating activities become, and the more likely the locating results will inadvertently exacerbate nonresponse bias. Bias due to uneven locating results is particularly concerning when some sample domains are easier to find than others. This paper discusses adaptive design methods used to prioritize the High School and Beyond (HS&B)

sample for locating prior to data collection outreach to mitigate nonresponse bias. The HS&B is a national longitudinal study originally conducted as a part of the U.S. Department of Education's National Center for Education Statistics longitudinal studies program. In 1980, the study sampled and surveyed sophomore and senior students from a nationally-representative sample of 1,015 public and private high schools and conducted follow-up surveys in 1982, 1984, 1986, and 1992 as students progressed from high school into the early stages of their adult life. HS&B sample members are now well into midlife and continuing the study offers the opportunity to learn more about how high school and early adult experiences affect people's lives in their 50s and beyond. We describe the methods deployed in a contemporary HS&B follow-up project initiated in 2013 and completed in 2015. The overriding goals established for these efforts were, first, to minimize nonresponse bias and, second, to maximize survey participation.

6E   Paper Session: Life course approach and life course models

"Capabilities" in the Life-Course
Tanja Schmidt, INES-Berlin, Germany

Life course models: from deconstruction to diversity
Kathrin Komp, Helsinki University, Finland
Models are of central importance for the social sciences, because they facilitate the understanding of social realities and they simplify discussions. Life course models can help us to better understand the progression of lives, life situations, and social change during the process of population ageing. Currently, the tripartite life course model is predominantly used. This model splits life into the life phases of youth, middle age, and old age. These life phases are equivalents to the years before, during, and after workforce participation. However, the tripartite model is criticized on many grounds, for example because it neglects the structuring effects of informal care-giving, heterogeneity in old age, and gradual transitions in and out of work. Consequently, researchers deconstructed the tripartite model and they made several suggestions on how this model could best be updated. This presentation furthers the discussion on life-course models by suggesting the use of several instead of just one model depicting life-courses in modern Western societies. Moreover, it makes suggestions on which combination of models would be both, parsimonious and accurate. The analyses examine cross-sectional and longitudinal data from across Europe, using the "Survey of Health, Ageing and Retirement in Europe" and the "European Social Survey". Findings enhance discussions in ageing and life-course research. Additionally, they help us to better capture social inequalities and social change.

The role of lifecourse decisions in the intergenerational transmission of class and income
Sander Wagner, ENSAE/CREST, France, et al
The lifecourse transitions of young adults are very much dependent on the economic and social background in which these individuals grew up before they entered adulthood. Further, the timing and structuring of these decisions itself then plays a key role in shaping the economic destinies of those who lived through them. The lifecourse path of young adults is thus one of the key elements through which intergenerational mobility is transmitted. Using the Gender and Generations Survey we analyse retrospective questionnaires on the family background as well as on key transitions to adulthood for individuals from France, Australia, Germany, Italy and Norway in order to study the link between the intergenerational transmission of income and socioeconomic class. We thus look at the effect that parental class, education and family structure have on the timing of lifecourse decisions of young adults in these countries. Further we look at how the structuring and timing of the lifecourse events of these young adults is then related to their socio-economic outcomes as measured by socio-economic class and income. Finally, we combine these two approaches via path analysis to look at the extent to which the intergenerational transmission of class and income can be explained via the structuring of lifecourse decisions of young adults. The fact that we are able to analyze the effect of background on lifecourse structuring and economic outcomes for different cohorts as well as different countries, allows us to draw some inferences on how these relationships might have changed over time and about their dependence on institutional and cultural contexts.

A life-course approach to grip strength using Understanding Society: the United Kingdom Household Longitudinal Study
Caroline Carney, University of Essex, UK
Grip strength is a predictor of disability, morbidity and mortality in later life. Understanding how and when socio-economic position (SEP) affects grip strength could provide insight into the development of later life health inequalities and identify when interventions would be most pertinent. This research tests whether any social pathways through the life-course; including critical periods, social mobility and accumulation; are associated with grip strength. Using data collected in waves one and two of Understanding Society (n=12,510) and retrospective SEP measures, indicators representing childhood, early adulthood and adulthood SEP were created. Linear regressions were adjusted for height, age and weight. They were stratified by sex and age of peak grip strength. It was theorised that the effect of SEP may differ depending on whether grip strength was in growth or decline. Models representing each life-course trajectory, as well as a null model, had their fit compared to a saturated model using likelihood ratio tests. The null model did not perform significantly differently to the saturated model for men aged 23 to 36 and women aged 23 to 33 i.e. before peak grip strength. This indicates that SEP does not affect achieved grip strength before it has peaked. For men and women after peak grip strength, the null model was significantly different to the saturated model indicating that SEP explained more grip strength variation than the null model. The accumulation model (more time spent in low SEP) had the closest fit to the saturated model for men and women after grip strength had peaked. SEP was not found to be significantly associated with grip strength before grip strength peaked. Low SEP accumulated across the life-course was associated with lower grip strength for men and women after their grip strength had peaked.

From childhood to motherhood: the life course of married girls in Ethiopia
Yisak Tafere, Norwegian University of Science and Technology, Norway
Drawing on data from Young Lives cohort study in Ethiopia, this paper examines the life trajectories of five married girls. The qualitative study followed the girls for seven years since they were aged 13. The data was collected in four rounds between 2007 and 2014 using different participatory methods. Individual life-course-draw-and-tell method was used to establish the life trajectories of the girls. The study finds that the girls had differential socio-cultural and poverty context that led to their early marriages. All married before the age of 18. Girls from the rural communities were expected to marry at an early age in which some amount of bride wealth was involved. Depending on the cultural norms of the respective communities, the marriages were carried out either through abductions or formal weddings. All the girls stated they had high educational and occupational aspirations and they were attending school until certain levels. However, due to poverty, they had to do paid work while attending school sporadically. Early marriage came in as a key life transition before they were able to finish their education. Now, they are all school dropout housewives caring for their first born children. The study also shows the interplay between social structures and girls' individual agency in constructing their life course. In the transition from one trajectory to the other; for example, from schooling to paid work and then to marriage, girls demonstrated their agency. They had some role in influencing their life courses. However, the power of the social structure seems to prevail over their agency. They had to end up in early marriage, by giving up their childhood aspiration of pursuing higher education.

6F Paper Session: Psychological stressors, depressive disorders and mental health
Change in family structure and depressive symptoms in adolescence
Maeve Thornton, Economic and Social Research Institute, Ireland et al
Aim: To explore the association between disruption in family structure and evidence of depressive symptoms among 13-year-olds. Family transitions such as divorce have become more normative experiences for young people (Amato 2000), and research indicates that most adolescents will experience a family structure transition before reaching adulthood (Bumpass and Lu, 2000). For those who do experience such a transition, subsequent transitions are also more likely. There is a prolific research base on family structure and youth outcomes, with the majority finding negative social and psychological consequences of not living with both biological parents. However, emerging literatures (e.g., Amato, 2005; Beck et al., 2010; Brown, 2006, 2010; Goodnight et al., 2013; McLanahan, 2013; King, 2009; Schroeder et al., 2010) have begun to investigate how these transitions, family instability, and new family forms shape youth outcomes. Because of the high degree of family instability in

contemporary society, an investigation of the impact of such transitions on youth depression, as well as the associated changes in family functioning responsible for such an effect, is deemed appropriate. Data from the first 2 waves of the child cohort of Growing Up in Ireland (ages 9 and 13) are used to explore the relationship between change and stability in family structure as well as investigating whether changes in family structure are related to depressive symptomology net of family structure itself. Regression models are presented in order to explore these relationships using controls for a series of socioeconomic and demographic factors, as well as previous internalising behaviour.

The role of sleeping disturbance for depressive disorders among older adults living in England and Japan
Noriko Cable, University College London, UK, et al
Background: Little is known about the role of sleep disturbance for the onset of and recovery from depression. We used a longitudinal sample of older adults aged 65 and over in the English Longitudinal Study of Ageing (ELSA, waves 4 and 5, N=2651) and the Japan Gerontological Evaluation Study (JAGES, 2010 and 2013 sweeps, N=7527) to examine how sleep disturbance is associated with older adults' onset and recovery from depressive disorders. Methods: Depressive disorders were assessed by using 7 items from the Center for Epidemiological Studies of Depression (scoring 4 or more) for the ELSA participants and the Geriatric Depression Scale-15 (scoring 5 or more) for the JAGES participants. We derived four categories of the depressive state (non-depressive case, recovered, onset, repeatedly depressed) by combining their responses obtained at the baseline and follow-up. A level of sleep disturbance was assessed through responding negatively to 3 questions addressing sleep problems. Age, sex, partnership status, household income, drinking, smoking and physical function were treated as confounders in this study. In JAGES only, information about taking sleeping tablets was available and included in the study model. Findings: More ELSA participants were non-depressive cases (90%) and reported no sleep disturbance (44%) compared with the JAGES participants (66%, 29%, respectively). Findings from multinomial logistic regression analysis showed that reporting sleep disturbance was significantly associated with being repeatedly depressed in both ELSA and JAGES samples with reference to the non-depressed adults. However, sleep disturbance was also significantly associated with recovery from depressive states in ELSA (RRR=4.05, 95%CI=1.71-9.58) and JAGES (RRR=2.71, 95%CI=1.95-3.76) as well as onset of depressive states (RRR=5.10, 95%CI=2.18-11.91, RRR=2.41, 95%CI=1.78-3.25, respectively). Conclusion: Findings suggest the complex nature of the association between sleep disturbance and depression in the older adults, with sleep disturbance being associated with the onset as well as recovery of depressive states.

Preceding and concurrent influences on course of psychiatric illness during treatment
Stasja Draisma, VU Medical Center, Netherlands
Currently in the Netherlands effects of treatment for psychiatric illnesses are assessed routinely with questionnaires at several time points. Changes in symptoms are assessed with symptom checklists such as the BSI (Brief Symptom Questionnaire). To establish change, minimally a pre-test and post-test during treatment are required, yet more than half of the patients participate in up to ten assessments, allowing longitudinal analysis. In a sample of 7000 patients, we investigate whether different trajectories of patients can be distinguished along the treatment course. The patients are treated for mood and anxiety disorders at a (large) mental health hospital in the Amsterdam region. Effects of several variables on treatment development - BSI outcomes- are given. Independent variables can be distinguished like: 1) Background variables: ethnicity, age, education. 2) Illness variables: diagnosis, start-score, earlier history of mental illness, treatment history. 3) Treatment variables: clinician, treatment type, treatment duration Some of these variables precede treatment, (education, illness- and treatment history) and can be seen as lifecourse variables. Others are specific for the treatment course. The following research questions are addressed: 1. What kinds and sizes of change in BSI outcome scores are obtained during treatment? 2. What kind of variables, preceding or concurrent, best explain differences in change? Survival analysis is applied and 'clinical significant change' (CSC) and reliable change are used as dependent variables during the series of assessments. Longitudinal trajectories are described.

Multiple psychosocial stressors in the home environment, childhood obesity and social emotional development over the first decade of life: findings from the Millennium Cohort Study using multiple indicator-multiple cause (MIMIC) models

Hanna Creese, University College London, UK, et al

Recent cross-sectional research in the U.S. has found an association between psychosocial stressors in the home environment and childhood obesity. However, there is a lack of longitudinal work in this area. Childhood obesity and social-emotional difficulties require joint analysis as they both occur in children of households experiencing high levels of psychosocial stress and may share common pathways. This paper aims to determine whether there is an association between multiple psychosocial stressors (such as parental depression, financial strain, family conflict, poor housing conditions, family structure, parental physical health and serious life events) in the home environment, childhood obesity and social emotional development across waves of the Millennium Cohort Study (at ages nine months, three, five, seven and eleven years) and whether the observed relationships vary by gender using multiple indicator-multiple cause (MIMIC) models. For example, at age 11 stressors such as maternal depression are associated with higher mean SDQ (Strengths and Difficulties Questionnaire) scores (Coef. 6.3, 95% C.I. 5.4-7.2) and higher BMI (Body Mass Index) (Coef. 1.1, 95% C.I. 0.7-1.4). Children's adiposity status is associated with mean SDQ scores, with children classed as overweight having 0.5 higher (95% C.I. 0.1-0.9) and children classed as obese having 2.3 higher (95% C.I. 1.7-2.8) average SDQ scores compared to children not overweight. Our analysis will determine which are the most significant stressors at each age and examine whether social-emotional difficulties and childhood obesity simply co-occur or have shared associations with common psychosocial stressors. By understanding the stressors across childhood that lead to obesity and social-emotional difficulties, research could better inform initiatives to safeguard children against obesity and common childhood mental health problems.

Time trends in psychological distress among young people and their link with increasing individualisation

Andy Ross, University College London, UK, et al

Prior research suggests the prevalence of psychosocial disorders among Western young people has increased since the middle of 20th Century. However, the evidence is not definitive with some sources claiming that a plateau has been reached or that rates may now be in decline. Furthermore, it has been suggested that the mental health of young people may have polarised over the period although very few studies have examined this empirically. A range of hypotheses have been offered to account for the increase in psychosocial disorders, including increased divorce rates, an increased emphasis on academic success, and the lengthening of the adolescent period. The present study is part of a wider programme of work examining links between time trends in psychological distress and increasing individualization. Individualisation describes a shift away from tradition as the primary source for defining individual lives and identities, to one where the individual plays a far more central and active role in determining their own 'successful', or 'failed', lives. What Ulrich Beck terms as 'precarious freedoms'. This study will add to the evidence base by assessing time trends in psychological distress among young people aged 16-24 using data from the British Household Panel Survey (1991 – 2008). Both means and variances were assessed as were increases in the prevalence of scores within the tails of the distributions (polarisation). Results show an increase in psychological distress among young women only and evidence of the polarisation of mental health experiences among both sexes. The findings are discussed within the framework of individualisation theory.

Associations between poor mental health and cause-specific mortality risk: a cohort study of 1.3 million people

David Wright, Queen's University Belfast, UK, et al

Background Poor mental health has been associated with increased risk of mortality from several major causes but most studies are of insufficient size to investigate whether associations hold for less common cause of death. We used a large scale population based longitudinal study of mortality to quantify associations between mental health status and eleven different causes of death (conditions of the circulatory, digestive, nervous, genito-urinary and respiratory systems, mental/behavioural conditions, cancer, infectious diseases, external causes, suicide and all other causes). Methods We assembled death records from the Northern Ireland Mortality Study for a prospective cohort of over 1.3 million people enumerated at the 2011 Census and followed up over a 3 month period. Presence of a chronic mental health condition was determined from Census returns, along with

indicators of educational attainment, marital status, social class, religion, housing tenure/value and urban/rural residence. We used Cox proportional hazards models to estimate associations between mental health status and both all-cause and cause-specific mortality, adjusting for age and socio-demographic characteristics and stratifying by sex. Results We found positive associations between poor mental health and all-cause mortality risk (HR: 1.43, 95% CI [1.38, 1.48]) and with nine of the eleven causes studied. The greatest increase in risk was for deaths by suicide (HR: 4.16 [3.23, 5.36]), followed by behavioural/mental conditions and external causes (HRs 2.07 and 2.05 respectively). Risk of death caused by cancer (HR: 1.05 [0.98, 1.14]) or all other causes was not elevated among those reporting mental health conditions. Conclusions Poor mental health is associated with substantially increased risk of mortality across a wide range of causes but there is considerable variation in effect sizes. Ongoing work aims to investigate the effects of co-morbidities and to determine which of the associations are most likely to be causal.

PARALLEL SESSION 7

7A   Paper session: Retirement

Retirement fantasies: discourses on retirement and extended working lives
Anna Sofia Lundgren, Umeå University, Sweden, et al
Discourses about retirement are often organised around what has been called a challenged/opportunity dualism. Such dualisms have recently been called into question by researchers pointing at the way retirement is embedded in individual lives, and that people tend to use different discourses actively, filling them with different meaning, in order to make sense of their experiences (Birkett 2013). Without possibilities to lean against established discourses people seem to lack unequivocal ways to summarise, situate and resolve their experiences (Vickerstaff & Cox 2005). This suggests that retirement identities may become blurred and make for uncertainty or increased possibilities to choose between different post-work identities. It also suggests that the same goes for the discourses evoked when deciding about retirement age. In this paper, we account for ways that different—and partly antagonistic—discourses were put to work when people aged 60-70 reflected on their retirement plans and decisions. The paper builds on 20 semi-structured interviews with men and women in Sweden. We use the psychoanalytic concept of fantasy (Glynos 2008) as an analytical lens and argue that it is well suited for accounting for the way people become invested in different discourses evoked when describing their retirement plans and decisions. Two discourses were central in the interviews and conditioned the plans and decisions; a discourse on 'active ageing' and a discourse on 'solidarity'. Both discourses could be used actively in favour of, but also to critique the notion of extended working lives, and they comprehended life experiences and retirement identities somewhat differently. A deepened analysis of the fantasies that bind people to different worldviews shed light on what is at stake when they negotiate the question of extended working lives by problematising the connections between discourse, identities and (working) life experiences that are used to legitimise retirement plans and decisions.

Reasons for the transition to retirement and its association with sleep problems in an ageing European population
Vera van de Straat, Ghent University, Belgium, et al
Objectives: Since society considers people to reach old age through the transition from being a working individual to being retired, this is probably the most important change in the life course of an ageing individual. Besides, retirement involves a radical change in the daily schedule of people who have worked their entire lives, which is likely to have an impact on how they get through the night. In this study we will therefore shed light on how retirement relates to the experience of sleep problems in an ageing European population, with a specific focus on individual reasons for retirement. Methods: The first (2004/2005), second (2006/2007) and fourth (2011/2012) wave of SHARE are used to perform longitudinal mixed effects logistic regression analyses with three levels - country, individual and period-, the dependent variable being whether or not one has been bothered by sleeping problems for at least six months. Data consists of 58,613 individuals aged 50 and older from 19 European countries. Results: Preliminary results show that, controlled for gender, age, educational attainment, marital status, household net worth and current health status, individuals who are forced into retirement by their

employer or because of health reasons are more likely to report sleep problems than individuals who are not retired. However, individuals who became eligible for pension or those who retired because they wanted to enjoy life and spend more time with their family are less likely to report sleep problems than those who are not retired. Conclusions: Our study suggests that whether retirement is associated with sleep problems depends on the reason why people retire. Although retirement is a crucial transition in the life of an ageing individual, it seems that it is the ability to control the moment of this transition that is particularly important for sleep problems.

Economic hardship and income before retirement in relation to anxiety and depression in older adulthood
Alexander Darin-Mattsson, Karolinska Institutet, Sweden, et al
Anxiety and depression is represented by a u-shaped relationship from young to older adulthood. With more people reaching old age, anxiety and depression are increasing in old ages. Economic hardship is a predictor for anxiety and depression in the general population. Pensions usually evens out income inequalities in old age, but, one's income and position in the income distribution during midlife and late working life might have effects on anxiety and depression in old age. We examined income during midlife and late working life in relation to anxiety and depression in older adulthood 69+. By combining two Swedish nationally representative surveys (the Swedish Level of Living Survey and the Swedish Panel Study of Living Conditions of the Oldest Old) with Swedish tax register we followed people from midlife (46-64 years old) to older adulthood (69-88). Measures of anxiety and depression was self-reported. Only people having a gainful occupation at baseline was included. Ordered logistic regressions showed that economic hardship before retirement was related to psychological distress, especially anxiety in older adulthood. Also, higher income was associated with less psychological distress and fatigue problems adjusted for age, sex, follow-up year, hours worked the year before baseline survey year, and psychological distress at baseline. Finally, being in the highest income quintile was related to a lower risk of reporting more psychological distress, adjusted for psychological distress at baseline, education, social class, and occupational complexity simultaneously. Among those having a gainful occupation in midlife income level and position play a role for anxiety and depression in later life.

Pathways to retirement in diverse local labour market contexts
Emma Lundholm, Umeå University, Sweden, et al
Prolonged working life is a key issue in an ageing society, with increasing longevity, improved health and potential shortage of labour, postponement of retirement is identified as important factor to secure the welfare systems in many countries. Transition into retirement is traditionally viewed as a binary state with a clear break between full time employment into full time retirement. But it is increasingly acknowledged that there are also other common pathways into retirement, via states of unemployment, part time employment or work-disability. By employing a life course perspective we can understand the retirement transition as a sequence of events that is leading to exit from labour market. Important explanation for variations in retirement are found on the individual level where the retirement transition is affected by factors like health, education level, income etcetera. But also contextual variations is important and several studies have explored the role of policy and institutions to explain cross national patterns. Fewer studies have explored differences in retirement transition patterns between local labour markets within the same national context. It can be assumed that the opportunities and constraints of labour market participation and retirement is also affected by contextual factors on a regional or local level, such as size of local labour market, sectorial composition, unemployment rates and localized attitudes regarding elderly workers. Using individual data for the entire Swedish population from the Linnaeus database at Umeå University, this study aims to compare patterns of retirement transitions in all local labour markets in Sweden by following a cohort of women and men born 1943 from age 55 in 1998 until age 70 in 2013. The geographical patterns of reveals the extent to which retirement transitions differ depending on local labour market characteristics.

Memorializing the life course of the deceased: cross-cultural analysis of obituaries and death notices
Marthe Nicolet, University of Geneva, Switzerland, et al
Obituaries and death notices have recently become recognized as valuable resources for life course research. Switzerland and South Korea provide a rich environment to conduct a cross-cultural life course analysis because of their similar senior population curve and increasing life expectancy juxtaposed with their very different cultural approaches to the process of memorializing the deceased. The purpose of this research is to analyze and

compare the different cultural contexts of life courses as they appear in newspaper obituaries and death notices in Switzerland and South Korea. Obituaries and death notices were collected via random sampling from various local newspapers and message records and analyzed by content analysis. Results showed that gender, occupation, economic status, educational background, and family relationships of the deceased have a significant impact on the composition and size of their obituaries and death notices.

7B   Paper Session: Drinking and alcohol misuse

A longitudinal examination of perceived discrimination and alcohol use: moderating and mediating mechanisms

Kelley Sittner, Oklahoma State University, USA, et al

Decades of research have documented significant alcohol-related public health problems in North American Indigenous communities (May, 1996). Although there is significant variation between tribes, alcohol use disorders (Substance Abuse and Mental Health Services Administration (SAMHSA), 2007), alcohol-related automobile fatalities (West & Naumann, 2011), and alcohol-related arrests (Feldstein, Venner, & May, 2006) are higher among North American Indigenous people than they are for other members of ethnic/racial groups. Problematic drinking and alcohol use disorders are also more common among Indigenous youth than non-Indigenous adolescents (Stanley, Harness, Swaim, & Beauvais, 2014; SAMHSA, 2007). In this study, we employ a stress framework to examine the longitudinal associations among perceived discrimination, negative emotions, and problematic drinking in a sample of Indigenous youth from the northern Midwest and Canada. Our results showed that higher levels of perceived discrimination were associated with increases in both anger and depressive symptoms. Moreover, the association between perceived discrimination and problematic alcohol use was mediated by anger. These results point to the need for substance use prevention programs to incorporate coping skills for experiences with discrimination as well as the negative feelings engendered by those experiences.

Prenatal alcohol exposure and child psychosocial development: a sibling fixed-effects analysis

Kayoko Ichikawa, Harvard T.H. Chan School of Public Health, USA, et al

Aims: Whether low-to-moderate levels of alcohol drinking during pregnancy can harm children's health continues to be debated because it is difficult to rule out residual genetic and environmental confounding factors. We sought to examine the association between low-to-moderate prenatal alcohol drinking during pregnancy and children's overall psychosocial development in a cohort in Japan, employing a within-family sibling fixed effects design. Design and Setting and Participants: We used maternal and sibling data from the Japanese study of Stratification, Health, Income and neighborhood (JSHINE) 2012. Households were recruited from the Tokyo metropolitan area through clustered random sampling. Children under 18 years old who have siblings (n=2029) and their mothers were selected and analyzed using a within-family between-sibling fixed-effects design. Prenatal alcohol drinking status was measured retrospectively, classified by binominal and continuous measurements. Main outcome measures: Children's psychosocial developmental was assessed with the child behavior check list 4-18/2-3 T score, which measures 8 dimensions of children's problems (physical problems, social problems, cognitive problems, delinquency, withdrawal, anxiety, attention problems and aggression) and children's internalizing, externalizing and total problem scores. Results: Maternal drinking during pregnancy was significantly associated with the offspring's anxiety problems ($\beta=1.31$, 95%CI=0.25, 2.37), internalizing problems ($\beta=2.19$, 95%CI=0.38, 4.00) and overall problem scores ($\beta=2.48$, 95%CI=0.06, 4.90). In addition, drinking during pregnancy appeared to be more deleterious for girl's physical problems, social problems, delinquency, aggression, internalizing and externalizing problems compared to boys. Conclusion: -to-moderate prenatal alcohol exposure during pregnancy affects children's anxiety, internalizing and overall problems especially for female children after taking into account unobserved genetic and environmental confounding influences. Our study provides additional evidence for the deleterious impact of maternal drinking during pregnancy on children's psychosocial development.

Alcohol initiation across middle childhood: survival models predicting alcohol use initiation by child and parent risk factors

Jennifer Maggs, Pennsylvania State University, USA, et al

Earlier initiation of alcohol use during adolescence predicts many subsequent social, substance use, and health problems. By extension, it seems likely that initiation of alcohol use in childhood, prior to adolescence, might be particularly harmful due to children's even greater physical, cognitive, and social immaturity. However, far less research has focused on the prevalence, predictors, or consequences of alcohol use prior to adolescence. In addition, whether observed links between early initiation and later outcomes represent selection effects signifying prior vulnerabilities is a matter of controversy. In this paper, we address two key gaps in the literature on alcohol initiation across middle childhood. Specifically, we ask: (1) What is the timing of very early drinking initiation in a nationally-representative UK cohort study? (2) What childhood risk factors and parent protective factors predict initiation of alcohol use between the ages of 4 and 11 years? Children and their caregivers in the Millennium Cohort Study provided data in infancy and at ages 3, 5, 7, and 11 years (analytic n=11,352 children). We used discrete-time logit (hazard) models for event history analysis to identify associations between child and parent characteristics and the timing of alcohol initiation across middle childhood. Child and parent risk factors assessed across childhood were modeled as time-varying predictors of time-to-onset of alcohol use among children. Being male and being rated by parents at ages 3, 5, and 7 as aggressive or as hyperactive/inattentive predicted earlier alcohol initiation, and parents abstaining from alcohol use and from drug use predicted later initiation, in addition to several time-stable between-country and other demographic predictors. This paper addresses questions about selection by identifying risk factors prior to initiation. Insights into the etiology of early drinking can pinpoint individuals at greatest need for early intervention and suggest malleable targets to reduce risk.

Longitudinal associations between development of psychological symptoms and heavy drinking in a 26 year follow-up study

Noora Berg, Olli Kiviruusu, National Institute for Health and Welfare, Finland, et al

This study examined whether development of psychological symptoms differed between persons with different developmental paths of heavy drinking from adolescence to mid-adulthood. Participants of a Finnish cohort study in 1983 at age 16 (N=2194) were followed up at ages 22 (N=1656), 32 (N=1471) and 42 (N=1334) using postal questionnaires. Heavy drinking was assessed with questions of frequency of intoxication (16 and 22 years) and having six or more drinks in a row (32 and 42 years). Using latent class growth analysis the participants were grouped to developmental groups of heavy drinking: steady high, steady low, increasing, moderate with high start and moderate with low start. The psychological symptoms scale (16-42 years) covered five mental complaints (e.g. lack of energy and nervousness/anxiety). The latent growth curve of psychological symptoms was then estimated in the heavy drinking groups for comparisons. Results suggest that the general psychological symptoms trajectory grew linearly from 16 to 32 years, but declined between 32 and 42 years. The steady high and steady low drinking groups had the highest and the lowest levels of symptoms respectively. The group who frequently drank heavily in adolescence and then decreased to moderate level in adulthood had higher levels of psychological symptoms at ages 16 and 22 than those who started with low levels of drinking and increased to moderate level in adulthood. These differences in symptoms disappeared at ages 32 and 42 when also drinking trajectories became parallel between these groups. The symptoms grew more gradually among those who reduced drinking to moderate level than with other groups. Psychological symptoms increased in the transition from adolescence to adulthood in all heavy drinking groups. Decrease in heavy drinking after adolescence was associated with more gradual growth in symptoms. Frequency of heavy drinking was temporally associated with the level of psychological symptoms.

Ten-year risks of death and emergency re-admission in adolescents hospitalised with violent, drug/alcohol-related, or self-inflicted injury: a population-based analysis

Annie Herbert, University College London, UK, et al

Background: An adolescent's hospitalisation with violent, drug/alcohol-related, or self-inflicted injury has been described as a 'teachable moment', with which to reduce further harm. However, there is a lack of evidence on long-term risks of harm in this group. We determined ten-year risks of mortality and re-admission in these adolescents, and compared these risks to those in adolescents hospitalised with accident-related injury.

Methods: We used admissions data for the National Health Service in England (April 1997-March 2012), in 10-19 year olds with an emergency admission for violent, drug/alcohol-related, or self-inflicted injury (n=333 009) and with accident-related injury only (n=649 818), to quantify cumulative risks of all-cause death and emergency re-admission within ten years after discharge. Findings: Among adolescents discharged from an admission for violent, drug/alcohol-related, or self-inflicted injury, one per 137 girls and one per 64 boys died within ten years, and 54.2% girls and 40.5% boys had an emergency re-admission, rates being highest for 18-19 year olds. These risks of death were higher than in adolescents discharged after accident-related injury (girls, age-adjusted HR 1.61; 95% CI: 1.43-1.82; boys 2.13; 1.98-2.29) as were risks of re-admission (girls 1.76; 1.74-1.79; boys 1.41; 1.39-1.43). Risks of death and re-admission were increased after all combinations of violent, drug/alcohol-related, and self-inflicted injury, but particularly after any drug/alcohol-related or self-inflicted injury (i.e., with or without violent injury). In adolescents admitted with any injury (including accident-related) an underlying chronic condition increased risks of death and re-admission three-fold. Interpretation: Adolescents discharged from an admission for violent, drug/alcohol-related, or self-inflicted injuries have increased risks of subsequent harm, up to a decade later. Preventive strategies for reducing harm in young people need to target these adolescents hospitalised with injuries through violence, drugs, alcohol, or self-harm.

Studying the effectiveness of internet interventions for curbing alcohol misuse from cross-national random clinical trials by use of individual person data meta-analysis

Adriaan Hoogendoorn, VU University Medical Center, Netherlands, et al

Alcohol misuse is globally seen as a major health and socio-economic burden. Low-intensity Internet interventions have proved effective in curbing adult alcohol misuse. To study both short-term and long-term effectiveness of Internet interventions with sufficient power we conducted a "one-step" Individual Person Data meta-analysis (IPDMA) of Random Clinical Trials (RCTs) with longitudinal data from different nations. A literature search was followed by retrieving relevant publications, that were subsequently scanned to check if these studies compared one or more Internet intervention groups to a non-intervention control group or to a waitlist control group. If a study appeared suitable, the authors were invited to participate in the IPDMA-project and to provide their data. At the end of this process, a total of twenty studies from ten different countries appeared pertinent. The data of the different RCT's were combined into a single comprehensive data set. To study the effectiveness of the Internet interventions on the outcome variable "alcohol consumption", linear mixed effects models were used that take the nesting within the individual studies into account. In estimating these models, we faced several methodological challenges. The studies differed with respect to inclusion criteria, sometimes even with different criteria for men and women. The outcome variable was measured with units, reflecting the cultures of the different nations of the participating studies. The studies included – next to pre and post measurements – different numbers of follow-up measurements (none, one or two) taken at different times (at 1 month, 3 months, 6 month or at 12 months after the intervention). Also, some studies used a waiting list design that complicated the comparison of long term effects. The paper discusses the choices that were made in order to provide an overall estimate of the effectiveness of the low-intensity internet interventions from RCT's from the individual studies in different nations.

7C

Symposium: Transitions to Adulthood in Context

Ingrid Schoon, University College London, UK, et al

This symposium brings together four papers from three countries examining the transition to adulthood in times of social change. The papers contribute towards a better understanding of the diverse pathways young people take, their antecedents and subsequent outcomes. All four papers adopt a life course perspective, examining multiple influences on young people's lives, with a particular focus on the role of a changing social context and examining the role of age, period and cohort effects. The transition to adulthood is conceptualised through the timing and sequencing of education, employment and family transitions. All four papers use sequence analysis to assess the ordering and duration of multiple transition events simultaneously. The first paper by Jake Anders and Richard Dorsett compares experiences of four English age cohorts making the transition into the labour market. The second paper by Mark Lyons-Amos assesses the role of structure versus agency in shaping employment transitions between ages 16 to 21 years among three recent British age cohorts. The paper by Regina García Velázquez and Katariina Salmela-Aro examine the transition into the workforce in Finland, comparing experiences of students on the academic versus vocational track. Christian Brzinsky-Fay and colleagues compare experiences

in the German and British Panel Studies regarding the timing and sequencing of education and employment experiences between ages 16 to 24 years. They then link variations in these experiences to subsequent levels of life satisfaction, controlling for socio-demographic background factors, such as parental education and occupational status, gender and migration background. Taking a longitudinal approach, the papers find similarities and differences in experiences across time and across contexts. Similarities point to the persistent role of structural factors in shaping education and employment opportunities as well as cohort and period specific 'norms' or shared destinies. Differences in turn, are linked to variations in institutional structures, but also variations in individual aptitudes and aspirations.

How has young people's entry into the English labour market changed over time? A cross-cohort comparison using sequence analysis

In this paper we use sequence analysis to cast new light on how young people's early transitions into the labour market have changed across cohorts born in 1958, 1970, 1980, and 1990. We identify three distinct groups of transitions in all four of these cohorts. We find that an 'Entering the Labour Market' group has declined significantly in size during this period (from 91% in the earliest cohort, to 37% in the most recent), an 'Accumulating Human Capital' group has grown in its place (from 4% in the earliest, to 51% in the most recent), but also a 'Potential Cause for Concern' group has grown alongside this, climbing to 12% of the sample in the most recent cohort. Also during this period, young people who are female or who are from a non-white ethnic background have gone from being more likely to be in the 'Potential Cause for Concern' group, to being less likely. Coming from a low socio-economic status background has remained a strong predictor of having of transition of this type across all four cohorts.

Transition to Adulthood in the UK: The role of structure and agency

Against the backdrop of the current economic crisis this paper examines how the societal context affects the transition to independent adulthood, and the role of individual agency during a major economic downturn. We adopt a developmental-contextual perspective, assessing the role of three major influences on youth employment prospects: educational aspiration, social origins and age at the incidence of recession.   We draw on data collected for the British Household Panel Survey (BHPS) and Understanding Society, two nationally representative household based surveys which followed individuals in yearly waves since 1991, including a British Youth Panel of 11-15 year olds. In our analysis we focus on experiences of three younger age cohorts born between 1980-84, 1985-1989, and post 1990 to take into account age, period and cohort effects and enabling us to separate effects from the current economic downturn from previous trends. We use sequence analysis to assess the ordering and duration of education and employment transitions between the ages of 16 and 21 years, and cluster analysis to identify common labour market patterns of behaviour. We then assess the role of social origins, gender, educational aspirations and age as determinants of labour market experience.   We identify 6 major clusters of labour market behaviour; direct employment, employment after some education and further education representing more positive youth transitions with clusters. In contrast unemployment, family formation and long-term sickness represent more negative transitions. Educational aspiration is a key predictor; youths who reported that they wanted to leave education at age 16 were more likely to enter a problematic transition cluster (moreso than enter direct employment clusters). Findings are discussed in terms of life course theory and the interlinkage between development, context and agency.

A multiple sequence approach examining transitions into the workforce among Finnish youth

The transition to adulthood is characterized by several changes in terms of steps towards the working force, leaving the parental home, forming a relationship and becoming a parent. (Elder & Shananan, 2007). In this paper we assess the timing and sequencing of transition experiences of two age cohorts of students to get a better understanding of the demands on young people in education, differentiating between those on the academic track versus those attending a polytechnic. In line with life course theory we adopt a holistic approach to examine how the transition to workforce is in Finland, where the impact of the economic recession is especially noticeable for the youth. The study is based on the FinEdu project, a longitudinal follow-up of high school students from a medium-sized city in Finland starting in 2004. The study comprises two cohorts (initial N=707 born in 1988, and initial N=614 born in 1986) followed with detailed information on lifecourse transitions collected with a life calendar together with a variety of psychological and developmental variables. Optimal Matching Analysis was

implemented assessing multiple and interlinked sequencing of education, work and family transitions. In Finland 58% of university and 57% of the polytechnic students had an employment contract while studying in 2013. Attachment to the labour market typically grows according to age, rising from 42%- 64% between ages 21 to 25 and 25 or older. This information reveals the interplay of education and work trajectories, together with other particularities of a Nordic welfare country. The findings are discussed in terms of a life course approach to human development.

Diverse Pathways in the School-to-Work Transition and their Impact on Life Satisfaction
In view of an increasing diversification of patterns in school-to-work transitions, the association between diverse pathways and subsequent life satisfaction is becoming an important issue that has yet received little attention. Life satisfaction has been predominantly examined as a consequence of school dropout or unemployment or distinct events of family biographies, such as divorce. Little attention is paid on how concrete patterns or pathways of employment and marital transitions affect life satisfaction of young adults. In this paper, we classify employment and family pathways of school leavers and relating them to life satisfaction in order to assess what kind of pathways lead to an increase or decrease of life satisfaction, where special attention will be paid to gender differences. Moreover, we examine country effects, comparing experiences in Germany and the UK using evidence from the German Socio-Economic Panel and the British Household Panel. Country characteristics in terms of welfare or employment regimes reflect particular employment and family norms which are likely to influence life satisfaction depending on particular employment and family formation pathways. We apply multichannel sequence analysis to the data to identify distinct patterns of combined employment-family formation pathways. These pathways are then taken as independent variables in order to explain variations in levels of life satisfaction. We expect that a smooth transition into the labour market is associated with higher levels of life satisfaction, while a precarious and problematic transition is associated with lower levels of life satisfaction. Regarding family formation, lower life satisfaction can be anticipated for transitions that do not correspond to predominant social norms. We also expect to find gender effects of the employment-family formation pathways on life satisfaction.

7D   Paper Session: Identity, locus of control, and subject choice
The effect of private schooling in England on locus of control, self-esteem, aspirations and network access
Francis Green, University College London, UK, et al
This paper investigates the effect of private schools in England on the confidence/self-esteem, locus of control, and aspirations of pupils, compared to those at state schools. It also examines their access to valuable networks for the purposes of employment. It then considers significance of these factors for understanding the private-school earnings premium achieved in later life. It is known that there is a private-school pay premium in later life in Britain (Dolton and Vignoles 2000, Dearden et al. 2002, Naylor et al. 2002, Green et al. 2011, Broughton et al. 2014, Crawford and Vignoles 2014), which remains after conditioning on social background, and all educational achievements. This premium has been attributed to other productive attributes, a signal for other productive attributes and networks (Naylor et al. 2002). But there is little evidence for this, and none which controls well for the fact that private school pupils generally come from socially-advantaged backgrounds. We use data from the 1970 British Cohort Study (BCS70). While this study should be a prime source of longitudinal information on the role of schooling in shaping people's lives, a lack of adequate secondary school data has previously prevented researchers from examining the effects of schooling on the 1970 cohort to the same extent as has been achieved with the 1958 cohort. Due to a teachers' strike in 1986, information on secondary schooling was absent in 60% of cases. This has left gaps in the understanding of the trajectories of the generation who attended secondary school in the 1980s. The findings we report on in this paper are part of a project that has filled in the gaps in the BCS70 school information using a combination of recall data and historical administrative data.

Patterns and differences in subject choices at 14 in England
Morag Henderson, University College London, UK, et al
Does the school curriculum generate educational inequalities? This paper reports on initial findings from a major ESRC project on social mobility. We identify patterns of subject and qualification choices made at age 14. This topic is particularly important for England as the school curriculum encourages specialisation at a relatively early age compared with other European countries. This curriculum differentiation is typically framed in terms of

'choice', but in practice young people's choices are constrained by their schools. In addition, adolescents are likely to lack the information needed to foresee the long-term consequences of options taken as young as age 14. Yet most past research on 'subject choice' has focussed on the later stages of educational trajectories, particularly Higher Education. The choices made at early branching points can limit pupils' subsequent options, potentially contributing to educational inequalities. This paper identifies the patterns of General Certificate of Secondary Education (GCSE) subjects chosen by a cohort of young people born in 1989/1990. We make use of the Longitudinal Study of Young People in England (LSYPE) which is linked to the National Pupil Database. We identify clusters of subjects and qualifications. We examine the roles of social class, parental education, income, gender and ethnicity in determining these curriculum clusters. We also examine the role of the intersections of these variables, for example, the different role of gender for working and middle class youth. Using measures of prior attainment at 7 and eleven, we address the question of whether curriculum differentials simply reflect differences in prior attainment or whether they actually exacerbate inequalities.

Using data from the Millennium Cohort Study to inform Save the Children's "Read on Get on"
James Law, Newcastle University, UK, et al
In the autumn of 2014 Save the Children produced a document to inform the party manifestoes and thus policy, for the May 2015 UK General Election.
The report entitled "Read On Get On" "http://www.savethechildren.org.uk/resources/online-library/read-get" focussed on the major societal problem that 25% of children left primary school without being able to read well, a figure which was much higher in disadvantaged groups. This means that in our predominantly "white collar" world they are pretty much excluded from school activities and ineligible for most employment. The report also concluded that and that reading inequalities were higher in any EU country other than Romania.   This presentation will discuss analyses of data on language and literacy from the Millenium Cohort Study which became a key feature of the report. We showed that when you follow the children from three years to five and then eleven years the gap between the highest performers and the lowest is 26 months at five years rising to 31 months at eleven years. Children do catch up, of course, but equally the skills of some children seem to fall back and this was twice as likely for the more disadvantaged groups. Whether a parent (and especially the father) reads to their child has been consistently shown to predict more positive outcomes, something that attracted much attention in the press at the time. The ambition of Read On Get on simple enough ... to get "All children reading well at 11 years by 2025". Underpinning literacy are oral language skills. And this has led to an additional aim of "All children achieving good early language development by the age of five by 2020". But whether Read On Get On has actively contributes to the new government's policy remains to be seen.

The consequences of child poverty on early cognitive development in a dynamic perspective
Stefanie Heyne, University of Bamberg, Germany, et al
In recent years, rising child poverty is of growing concern in the public and political debate in Germany. It is argued that poverty during childhood is especially problematic since growing up poor gives children the worst starting conditions for a good development and successful live as an adult. Although some studies show a relationship between living conditions during childhood and later outcomes in life, it is not clear how this relationship works. This paper analyses the effects of childhood poverty on children's cognitive and language development and investigates under which circumstances a bad financial situation becomes problematic for the cognitive abilities of young children. Specifically, we will focus on differential effects of poverty depending on its duration as well as its intensity. We will analyze whether only long spells of poverty matter or whether a short poverty experience also affects children's cognitive abilities negatively. Furthermore, we will analyze whether there is a specific threshold (e.g. the poverty line of 60 percent of the median income) leading to negative effects or whether there is a rather linear effect of low income on child development. For our analysis, we will use data from the German project "Preschool education and educational careers among migrant children". The dataset comprises approximately 1200 German and immigrant families with children aged 3 to 4 years. These families were followed up for 4 consecutive years, which gives us the opportunity to analyze the impact of poverty on the development of children during their preschool years. The data structure allows us to use panel estimators to analyze the effect of poverty on cognitive outcomes in a dynamic perspective.

7E

Symposium: Cohort and Longitudinal Studies Enhancement Resources (CLOSER): Maximising the value and use of data linkage in cohort studies

Andy Boyd, University College London, UK, et al

Participant engagement in longitudinal and life course studies   Much of the value of longitudinal studies depends on their ability to persuade study participants to continue their participation in the study over a considerable period of time, keeping sample attrition to a minimum. After a period of considerable decline in overall survey response rates, longitudinal studies are exploring the most effective ways of engaging with their study participants.   This symposium will explore the range of different approaches taken by longitudinal studies to participant engagement, focusing both on studies which engage very actively with their participants and those which has a less active approach to participant involvement. Themes covered will include the range of different approaches to participant engagement, the ways in which communication has to change as participants get older and expectations of research change, and the challenges of actively involving participants in study decision-making.   The session will begin with an overview of how participant engagement strategies have changed over time, and will set out the approaches currently being used in a range of longitudinal studies across the world. This will be followed by three case studies from cohort studies whose participants currently range in age from early childhood to their mid-20s.   The symposium has been organised by the Cohort and Longitudinal Studies Enhancement Resources (CLOSER) network, which pools expertise and skills from nine of the UK's longitudinal studies along with the British Library and the UK Data Archive. Its aims are to stimulate interdisciplinary research, develop shared resources and infrastructures to enable research, assist with training and development and to share expertise.

Participant engagement in longitudinal and life-course studies: an international overview

How longitudinal studies engage with their participants has changed considerably over time, with recent years seeing a transformation in the ways in which studies can keep in touch with study members. This paper will set the scene for the symposium by briefly tracing how participant engagement has changed over time. It will highlight the importance of a range of factors with a bearing on how studies are able to engage with their sample members, including: study size; the expectations of study participants; public confidence in statistics and data; funding arrangements; and technology. It will then examine how participant engagement varies cross-nationally, using data gained from desk research and a survey of longitudinal and cohort studies. Issues covered will include: whether and how studies stay in touch with participants between and during waves; the use of targeting strategies, whereby different groups of participants are sent different materials; the extent to which studies give participants feedback about key findings or their own results; whether and how studies involve participants in key decisions about the study (for example, questionnaire content, ethical review); and the challenges of 'true' participatory research'.

Growing Up in New Zealand: approaches to participant engagement

Growing Up in New Zealand recruited a cohort of 6853 children via their pregnant mothers in 2009 and 2010. Since the antenatal recruitment and baseline interviews with the mothers, and independently with 4401 partners, there have been a further nine data collections during the children's preschool years requiring direct participant engagement (including both CATI data collections and CAPI face-to-face interviews). The children and families in the cohort were explicitly recruited to be broadly representative of the ethnic and socioeconomic diversity of current NZ births. Retention rates have remained very high throughout the study ensuring that the longitudinal information can be utilized to provide population relevant evidence to inform the evaluation and development of strategies to improve the wellbeing of all NZ children. Approximately 98% of the cohort have been tracked since birth and 93% of all recruited children have been retained in the cohort through until the 54 month data collection wave, which was completed in the field in March 2015. This retention has relied on the utilization of multiple engagement strategies from the recruitment period onwards. This presentation will review the implementation and evaluation of the approaches taken to recruit and retain a pre-birth cohort in the New Zealand context in the 21st century. It will also discuss the strategies being scoped for engagement with the children themselves as they become old enough to engage independently in the data collection (initially when

they are 7 years of age). The challenges of ongoing participant engagement will be provided in the context of the ever-present funding uncertainty and the subsequent issues regarding sustainability of the longitudinal resource and maintaining participant trust.

Tweets, branding and swag: engaging teenagers in research

Twenty-first century teenagers are a difficult group to engage in research. Their expectations and preferences for receiving information have been shaped by growing up in a digital age. They are developing their own identities, forming their own opinions and making some important decisions about their futures. However, at this stage in life young people will display different amounts of maturity and independence. Yet it is crucial to be able to engage this group in research. This is the challenge facing the Millennium Cohort Study (MCS), a large-scale cohort study in the UK. At the sixth sweep of MCS study members will be 14-years old. This sweep may be the last at which parents are so heavily involved. Therefore, direct engagement with the young people will be crucial for retaining them in the study. Given this context, extensive participant engagement research was carried out with young people, including some members of the study, prior to the start of fieldwork for the Age 14 Survey. Qualitative research, including focus groups and depth interviews, was conducted with young people and their parents. The aim was to understand how young people engage in research generally, their preferences for information gathering and communication, as well as their perceptions of the data collection instruments that were proposed for the sixth sweep. Findings from this research informed overall engagement strategies for the study, including the design of the study brand, development of the study website and social media strategy, approaches to communicating with 14 year olds, and swag, as well as data collection tools, protocols and survey engagement materials for the Age 14 Survey. The findings and implications of this research are highly relevant to other studies of young people and provide insight into how to maximise engagement among this age group.

Avon Longitudinal Study of Parents and Children: Participant involvement in research

The Avon Longitudinal Study of Parents and Children (ALSPAC) is a three-generation prospective study investigating influences on health and development across the life course. Over 14,500 pregnant women living in and around the Bristol area were recruited into the study in the early 1990's and detailed information has been collected and samples obtained at many different time points since then. Since 2012 the children of the children have been recruited into the study and new data and sample collection has started on this cohort. Additionally since 2014 ALSPAC has been actively recruiting grandparents and siblings of the original cohort with a view to collecting new data later this year.   ALSPAC has a long history of active engagement with study participants. The engagement methods used differ for each of the separate cohort groups. The methods used for the original cohort, now aged around 23, have changed as the participants have transitioned through childhood into young adulthood and as expectations about the involvement of participants in the research process has changed over time. This presentation will discuss the three main methods that ALSPAC has used over the last few years to engage participants in the study: 1) the setting up and maintenance of an active participant advisory group who are involved in aspects of study design 2) participant involvement in ethical processes including membership of the ALSPAC Law and Ethics Committee 3) and the use of social media as a way to enable two-way communication with participants. The presentation will end with a discussion of the benefits of active engagement and a summary of the challenges it raises.

7F

Paper Session: Obesity and overweight in the life course
Does switching to active commuting reduce obesity risk in mid-life? Evidence from UK Biobank

Ellen Flint, London School of Hygiene and Tropical Medicine, UK, et al

Background: Active commuting (walking or cycling to work) has been promoted as a way of addressing the negative population health effects of sedentary lifestyles in Western settings. This is the first study to investigate the relationship between active commuting and obesity using objectively measured anthropometric data from UK Biobank's repeat assessment subsample. Methods: UK Biobank is a national survey of individuals aged 40-69 with a baseline (2006-2010) sample size of 502,664 and a nested repeat-assessment (2013) subsample of 20,346. For the purposes of this study, this was restricted to those who reported commuting mode at both waves, yielding an analytic cohort 6776. Self-reported commuting mode was measured at both waves and operationalised as a 7 category variable, ordered to reflect typical levels of physical exertion. Outcomes were

objectively measured at both waves: BMI and percentage body fat. Results: At baseline, the most common commuting mode category was car travel (71%). Cross-sectional multivariate linear regression analysis suggests that more active modes were strongly and independently predictive of lower BMI, exhibiting a dose-response relationship across ordered commute mode categories. The majority of respondents did not switch category between baseline and follow-up (78%, n 5258). However, 812 individuals switched to a more active category (12%) and 706 switched to a less active category (10%). Preliminary findings suggest that compared to stable transitions, switching to a more active commute predicted significantly lower BMI at follow-up, and switching to a less active modes predicted higher BMI at follow-up (controlling for age, sex and baseline BMI). Final results from multivariate, sex-stratified fixed effects models will be presented. Conclusions: These preliminary findings suggest a causal relationship between active commuting and bodyweight and call for further investigation to strengthen the case for policy interventions aimed at facilitating greater use of active transportation modes to promote population health.

Trajectories of adiposity among 50 year-olds and older in England and Switzerland: a comparative perspective

Stéphane Cullati, University College London, UK, et al

Background: The prevalence of adiposity increases in the second half of the life-span. England and Switzerland are two countries with similar levels of standard of living but differences in health behaviours (diet and physical activity), disposable income, labour market participation and education systems. Objectives: (1) To describe trajectories of adiposity by age in the second half of the life-span in England and Switzerland and (2) whether trajectories are influenced by socioeconomic position.   Method: We used two longitudinal random samples of respondents aged 50 years and older, one in England (N=14155, ELSA) and one in Switzerland (N=5893, SHARE). Adiposity was measured by body mass index (BMI) using the Quatelet index (kg/m2) and by waist circumference (cm) (ELSA only). Trajectories were examined with multilevel linear mixed models. The random structure was selected with likelihood-ratio tests.   Results: In both countries, a random-intercepts correlated with random-slopes model was the best structure for describing age trajectories in BMI and waist circumference. English residents had overall higher BMI trajectories compared to Swiss residents. In both countries, BMI trajectories followed a convex-shaped curve: an increasing period until around 69 years (England: 69 years, Switzerland: 68 years) followed by a declining period. In England, gender differences were apparent in the increasing period of BMI trajectories: until 69 years, women's BMI increased more quickly compared to men. In the declining period, BMI trajectories were similar between males and females. Waist trajectories followed convex curves similar to BMI trajectories, however overall waist trajectories were considerably different between men and women, and inflection points were slightly different (81 and 80). Effect of education was different between both countries. Discussion: Residents from England have higher BMI trajectories with age compared to Swiss residents, however the shape of trajectories are similar, despite countries' differences in health behaviours and labour market participation.

Is screen-based media use linked to overweight and obesity in UK children?

Anja Heilmann, University College London, UK, et al

Background: There is good evidence that TV viewing is associated with childhood obesity. However, research on screen-based media use other than TV is limited, as are longitudinal designs and investigations into potential mechanisms. Aim: Our study aimed to examine whether TV and computer use in early childhood are associated with weight status at age 11 among UK children. Methods We analysed data from the UK Millennium Cohort Study. Outcome measures were BMI, body fat, and overweight/obesity at age 11. Main exposures were having a TV in the bedroom at age 7; and average screen time (TV and computer) at ages 5 and 7. We ran multivariable regression models adjusted for potential confounders including family SES and maternal BMI, as well as birth weight and child BMI at age 3 to reduce the possibility of reverse causation. As potential mediators we considered bed times, physical activity, and snacking habits. Results After adjusting for potential confounding and mediating factors, children who had a TV in their bedroom at age 7 were more likely to be obese at age 11 [OR for boys: 1.43 (95% CI 1.01-2.02); OR for girls: 1.85 (95% CI 1.23-2.75)], and on average had a higher BMI and body fat percentage. All associations were stronger for girls than for boys. Higher amount of screen time was related to an increased risk of being overweight and higher average BMI among girls only, these associations

were driven by TV viewing rather than playing on the computer. Associations were slightly attenuated after adjusting for bed times and physical activity. Conclusion Having a TV in the bedroom appears to be a risk factor for childhood overweight and obesity, and should be discouraged. In relation to childhood overweight and obesity, TV viewing may be more detrimental than playing computer games.

Trajectories in body size and growth from birth to 14 years: findings from the Pacific Islands Families Study
El-Shadan Tautolo, Auckland University of Technology, New Zealand, et al
The Pacific Islands Families (PIF) Study is an ongoing longitudinal study examining the developmental health and wellbeing of over 1000 Pacific children and their families. The study, which has followed the children since they were born in South Auckland in the year 2000, tracks the children and their families (mother and father) as they grow from infancy: the transition from early education to school, into adolescence, and potentially beyond. This unique study has generated vital information on Pacific child and family health and psychosocial functioning over critical developmental stages, and provides an evidence-base to allow focus on priority areas for and strengths of Pacific families. This presentation will provide a brief overview of the PIF Study, as well as outlining trajectories in body size and growth from birth until 14 years for a cohort of Pacific children. This study also examines interactions and associations between aspects of psychosocial wellbeing and body size for these Pacific children, and their parents. This is important for uncovering how aspects of health and wellbeing at an individual level can influence the overall health of the family collective, and has application to communities and the population.

Posters

Is cumulative exposure to poor neighbourhood conditions associated with biomarkers of ageing?
Anne Ellaway, University of Glasgow, UK, et al
Interest in neighbourhood-level influences on health has burgeoned with research showing that although 'who you are' explains much geographical variation in health outcomes, there is also an effect of 'where you are', perhaps associated with the stress of living in inadequate environments. Using data from the longitudinal West of Scotland Twenty-07 Study, we explore the ways in which cumulative exposure to poor socio-environmental conditions over 15 years (measured by residents' perceptions of neighbourhood relating to perceived absence of goods, incivilities and physical environmental problems) is associated with measures of 'biological wear and tear', such as allostatic load and telomere length, which have been shown to be good measures of cumulative biological stress. Our results show that there is an association between environmental disadvantage and biological strain. We also examine if associations between these socio-environmental and health measures differ by gender, age and social class.

Longitudinal influences of religious practices and beliefs on mental health: a systematic review
Aradhna Kaushal, Dorina Cadar, Mai Stafford, Marcus Richards, University College London, UK
There is evidence that religious practices and beliefs are associated with positive outcomes for mental health and wellbeing. Previous reviews have focused on clinical populations with few longitudinal studies examining these associations. The aim of this systematic review was to assess the evidence on the longitudinal influences of religious practices and beliefs on mental health and wellbeing. We included longitudinal studies, with at least one year follow up, which measured the effect of religion (attendance, practice or beliefs) on mental health and wellbeing. We limited the search to healthy adults, representative of the general population, and articles published in English between 1990 and March 2015. A search on Medline, PsychInfo and Web of Science returned 362 articles; 77 have been selected for full text screening and data extraction. Preliminary results indicate a positive association between religiosity, and mental health and wellbeing, particularly in relation to stressful events such as bereavement. All articles included in the analysis will be assed for quality using the Q-Coh (2013). A meta-analysis will be conducted depending on the quality and homogeneity of studies. This systematic review will be the first to examine the longitudinal influence of religious practices and beliefs on mental health and wellbeing.

Life course influences of religious practices and beliefs on mental health and wellbeing in early old age

Aradhna Kaushal, Dorina Cadar, Mai Stafford, Marcus Richards, University College London, UK

There is evidence that religious practices and beliefs are associated with positive outcomes for mental health and wellbeing; however, there are few longitudinal studies. The aim of this study was to investigate the life course association between religion and mental health and wellbeing. Participants were 2,641 study members from the MRC National Survey of Health and Development. Mental health and mental wellbeing were assessed using the General Health Questionnaire (GHQ-28) and the Warwick Edinburgh Mental Wellbeing Scale respectively. Regression analysis was used to test the association between religious attendance and beliefs measured in mid-life (ages 26, 36 and 43) and mental health and wellbeing at age 60-64. Regular church attendance ($\beta=1.55$, 95% CI: 0.63-2.47), religious belief ($\beta=1.07$, (95% CI: 0.27-1.87) and reporting that religion had an effect on their lives ($\beta =1.12$, (95% CI: 0.36-1.88) at age 36 were associated with higher wellbeing scores at age 60-64. No associations were found between religious attendance and beliefs and mental health. Future work will investigate the possible psycho-social factors involved in the relationship between religious practices and mental health and wellbeing across the life course.

Education-to-work trajectories in neoliberal times: A longitudinal study of employment outcomes for higher education cohorts in the Canadian context, 1978-2012

Ashley Pullman, University of British Columbia, Canada

A range of cross-disciplinary and international research suggests that the post 1970s period is marked by important shifts in both subjective experiences and policy trends concerning postmodern and neoliberal values and employment relations. Within this period of change, how have school-to-work transitions altered? Although a number of studies across political economic contexts highlight that university and college graduates secure both higher quality and higher waged jobs compared to those with lower levels of education attainment, additional research has also noted the rise of precarious and unstandard employment. Bridging these two areas of research, the following poster will present research comparing education-to-work transitions from 1978 to 2012 in the Canadian context. Comparative latent class analysis of eight cohorts is used to examine ideal-typical trajectories two years after graduation. Attuned to how such trajectories have changed over time, the following research traces the rise of precarious and part-time employment, changes to job security and benefits, shifts in education-work mismatch, and overall work satisfaction levels. This research uses the Canadian National Graduates Survey, a stratified simple random sample of Canadian postsecondary graduates who graduated in 2009/2010, 2005, 2000, 1995, 1990, 1986, 1982, and 1976. Comparing the work trajectories of these eight cohorts allows for an examination of how school-to-work transitions have altered during this period, policy implications, and emerging trends.

Life course perception in a developing country: remembering personal changes in Mumbai (India)

Aude Martenot, University of Geneva, Switzerland

Cultural norms, specific contexts and individual situations affect the life course development and the way people reflect on it. Thus, this paper enquires what is the perception of the main turning points in one's life in a developing country like India, facing simultaneously major socio-economic changes and the persistence of urban poverty. The analyses that we draw on for this presentation are based on two surveys conducted in the slums of Bandra East in 2012 and in the formal neighbourhood of Santa Cruz in 2014, both parts of Mumbai. About 1250 men and women aged 20-84 years were interviewed, using questionnaires on the subjective perception of the life course. We compare the most significant turning points that these people considered as relevant. We look at effect of age at the time of the survey (a cohort effect), of living conditions (between the two surveys) and of gender on the memories selected by the respondents. Furthermore, we examine two other hypotheses. The first one concerns the existence of a "poverty-effect" on the perception of health, family and education/professional life trajectories. The second one tests whether early adulthood comprises of more personal changes than any other stage in the life course.

Continuity and social participation in the process of recovering from the loss of an intimate partner in the second half of life

Dario Spini, University of Lausanne, Switzerland, et al

Losing a long-term intimate partner in the second half of life, through separation or death, is amongst the biggest stressor and disruptive event in adult life. Moreover, research on identity insists on the importance of continuity as a condition for successful aging. This study assesses on the one hand the impact of these critical events on continuity and shows how active participation in social groups (outside family and friends) can be beneficial in the process of coping with these critical life events. The first wave of an on-going longitudinal study on developmental dynamics and differential effects of the loss of an intimate partner in the second half of life (Hutchinson, Perrig-Chiello et al., 2012) was used. The sample consisted of 1107 divorced individuals aged 40-69, 569 widowed individuals aged 60-89 and 1085 married individuals aged 40-89. The sample was separated in two time clusters, a short-term cluster after the occurrence of the event (0-2 years) and a long-term (2-5 years). Having as a reference group the married individuals, results show that even though the number of social groups increases in the short-term cluster, at the same time, perceived social support and self-continuity decrease. In the long-term cluster, on the other hand, results show a decrease in the number of social groups but an increase on the perceived social support and self-continuity, indicating a selection process on social interactions that affect self-continuity. Moreover, regression analyses show that social participation and social support become critical factors in the long–term, but not in the short term. These results will be discussed.

Mothers during times of family policy changes: a quasi-experimental study of the labour market supply of mothers in Australia and Germany

Irina Hondralis, University of Bamberg, Germany

Based on a sequence of policy changes in the statutory maternity leave entitlement of two different welfare states – Australia and Germany – we use a quasi-experimental design to provide empirical evidence on the relationship between mothers' labour market supply and family policy. On the first day of 2007 and 2011, a new statutory parental leave scheme was rolled out in Germany and Australia, respectively. Because there is considerable variation in the generosity of policies adopted across the two different welfare states, comparative research might provide important insights into whether and how the available family policies mitigate any adverse economic consequence of motherhood. Although living in a different policy context with different judicious support for mothers' paid work, but with a similar child-care availability, mothers show similar labour force participation in Germany and Australia. Our hypothesis is that these introductions influence leave taking durations, increase returns to the pre-birth employer and returns to full-time jobs. We expect small behavioural changes in East-Germany. Special consideration is placed on different class effects, assuming that the German reform has greater benefits for well-educated and high-income women, whereas the Australian reform provides stronger incentives for less-educated and low-income women to return to the labour market.

The joint effect of job strain and informal care giving on long-term sickness absence in male and female workers: an individual participant meta-analysis with employees from France, Finland and the UK

Jesper Mortensen, University of Copenhagen, Denmark, et al

Background: Informal caregiving may entail positive benefits such as satisfaction for the caregiver, but may also compromise the caregivers' own health. Sickness absence provides a good measure of work incapacity as a social consequence of morbidity. It is well established that job strain may lead to higher sickness absence and some studies have also shown associations between work-family conflicts and sickness absence. However, previous research has so far focused on perceived imbalances between work and family without distinguishing between different sources to this imbalance. Objective: To investigate the joint effects of informal caregiving and job strain on long-term sickness absence with special attention to gender differences. Methods: We used longitudinal data from the French GAZEL study (n=6,223), the Finnish Public Sector Study (n>20,000), and the English Whitehall II study (n>6,000). Job strain was in all three studies assessed by the well-established Job Content Questionnaire, while informal caregiving was assessed by a single question on providing care for an aged or sick relative. The primary endpoint was long-term sickness absence, which we defined as spells >14 consecutive days. Cox proportional hazards models with recurrent events were used to analyze the data in an individual participant meta-analysis. Results: Available for poster presentation.

Gratitude in midlife: links between trait and state

Lindsay Ryan, University of Michigan, USA, et al

Research examining the components of gratitude finds associations with prosocial behavior and health, which is particularly relevant for adults in midlife, a period in which many new social and health challenges typically arise. However, little research has examined gratitude in midlife, and most validated instruments to assess gratitude are based on undergraduate student samples. Current theory suggests potential individual differences in trait gratitude as well as inter- and intraindividual differences in patterns of state gratitude over time, illustrating the need for longitudinal research. The current study is a first step in filling these gaps by utilizing data from the Foley Longitudinal Study of Adulthood (N = 146). The participants are on average 56.9 years old at the first wave (SD = 1.0), 56% of the sample identify as white, and 65% are women. We examine associations of a newly devised scale to code state gratitude over 3 years and present longitudinal patterns and associations with the GQ-6 measure of trait gratitude (McCullough et al., 2002). Roughly 30% of the sample had no indicators of state gratitude whereas 30% have a single occurrence and 30% report multiple instances of gratitude. Associations of specific state patterns with trait gratitude are discussed.

Keep working to avoid dementia? Evidence from Swedish birth cohorts 1930-1932 followed-up in regard to dementia status until 2006

Michael Rönnlund, Umeå University, Sweden, et al

Versions of the cognitive reserve hypothesis, including a modifiable, or active, component, posit that mental stimulation should retard age-related cognitive decline and delay dementia onset. Transition from work to retirement possibly lead to such a reduction in levels of cognitive stimulation. Hence, "working late", which is a possibility partly determined by individual choices, may counteract this influence. In line with these lines of reasoning, a French study indicated that prolonged work-life/later retirement may postpone dementia diagnoses. Based on data for Swedish citizens (N > 200,000) from three birth cohorts (1930, 1931, and 1932) followed-up in regard to dementia status from 1990 to 2006 (2.1 % had a dementia diagnosis), registry data linked within the Linnaeus database, we investigated this further. Result from Cox proportional hazard regressions with all-cause dementia as the outcome variable and cardio-vascular health and sex as covariates stratified by job status (blue vs. white collar job) indicate little support of the notion that a long work life lowers dementia risk. Potential reasons for the discrepancy among the studies and implications of the present findings are discussed.

Different pathways out of the parental home: a gender perspective

Rossignon Florence, University of Lausanne, Switzerland

The aim of this study is to examine the factors which have an influence on the different pathways out of the parental home and to identify in what extent these effects differ between men and women. Using retrospective data from the Cohort study, a panel survey that started in autumn 2013 in Switzerland, I developed a competing risk analysis model; which allowed me to examine the effects of the various independent variables on the propensity to leave home to live alone, to enter a union or to share a residency. My study confirms the assumption according to which any examination of the process of home-leaving should not only take into consideration the individuals' characteristics, but also the constraints and opportunities that those latter may encounter in their local environment. Indeed, whereas my analyses show that the family structure has a significant influence on the pathways out of the parental home, they also indicate that the opportunities of the local area in which the individuals resided during their childhood tend to have an impact on their home-leaving process. What is more, I find evidence that men are more strongly affected by the family background characteristics than women are.

An introduction to the Scottish Longitudinal Study (SLS)

Susan Carsley, National Records of Scotland, UK; Lee Williamson, University of Edinburgh, UK

This poster will introduce the Scottish Longitudinal Study (SLS) and the datasets, the application process for researchers interested in using the SLS and outline research examples. The Longitudinal Studies Centre – Scotland (LSCS) was established in 2001 and hosts the Scottish Longitudinal Study (SLS). This study links together routinely collected administrative data for a 5.3% representative sample of the Scottish population (about 270,000 people). It currently includes a wealth of information from the censuses starting in 1991, vital events registrations (births, deaths and marriages), Scottish education data, and with appropriate permissions can be

linked to NHS health data including cancer registry and hospital admission data. The size and scope of the SLS make it an unparalleled resource in Scotland for analysing a range of socio-economic, demographic and health questions. Additionally, the longitudinal nature of the SLS is particularly valuable, allowing an exploration of causality in a way that cross-sectional data collected at a single point in time does not. In this way, the SLS can provide insights into the health and social status of the Scottish population and, crucially, how it changes over time.

The effects of loss of spouse on the number of friends among Japanese males: using trajectory analysis

Tomoo Nakata, Hokusei Gakuen University, Japan

The aim of this study is to examine how marital status affects males' social relations in their later of life. It is said that while females have large network, males have small one. However, it was revealed that the loss of the spouse brought an effect to increase social relations by the analysis. It is interesting why such a difference appears. Therefore, I inspect whether there are some kind of differences among men for searching.   This study employed the National Survey of the Japanese Elderly, from wave I (1987) to wave VI (2002). The dependent variable was social relations, which was measured by the number of close friends. And age was used as independent variables. Education, marital status, occupational status and self-rated health were involved in this analysis as covariates. The group-based trajectory analysis was applied in this study to reveal the difference by the attribute among males.   The results of the analysis are as follow: 1) the groups by the difference of years of education were built, having assumed the existence of plural groups. 2) The existence of the spouse gained the number of the friends in higher education group and reverse result in the lower education group.

Social support and change in adiposity in the Whitehall II study

Urszula Tymoszuk, University College London, UK, et al

Over 35 years of research show that social relationships influence many health outcomes; however social influence on obesity is not well-studied. The UK has experienced a rise in obesity from the 1980s as well as important changes in social relationships. The effects of functional social support – positive and negative interpersonal interactions - on obesity require further inquiry.   The Whitehall II cohort of middle-aged British adults will be used to examine whether perceptions of positive and negative aspects of support from the closest person are associated with longitudinal changes in adiposity between and within individuals. Multiply adjusted linear regression models are used to examine association between baseline supportive and unsupportive interactions and Body Mass Index (BMI) and Waist-to-Hip ratio (WHR). The second stage will investigate the association of social support levels at baseline (two measurement occasions) and subsequent trajectories of adiposity 1991-2013 (five measurement occasions).   In baseline analyses, linear regression showed a positive association between two types of supportive interactions and adiposity independently of a wide range of co-variates, (e.g. practical support lowest vs. highest group BMI 25.09kg/m2 (95% Confidence Interval [CI]: 24.94, 25.23) vs. 25.43kg/m2 (95% CI: 25.26, 25.61), p<0.003). Associations with adiposity trajectories will also be presented.

Day 3   Wednesday 21 October

8A   Paper Sessio: Work and Fertility

Determinants of mothers' employment interruptions: how occupational characteristics influence the return of German mothers to their prenatal occupation

Irina Hondralis, University of Bamberg, Germany

Trying to reconcile employment and motherhood puts many women in a position of continuous struggle over their life course. Cross-national comparisons indicate that German mothers heavily experience work-family spillovers. In fact, Germany provides a particularly interesting country case with its existing conservative family policy. Hence German mothers of infants, who want to return to the labour market, are confronted with a limited public support network and they need to individually organise care of infants and find a way to coordinate work and family responsibility. Thus, this article tests if the family-friendliness of the prenatal occupation plays a decisive role in determining how work and care can be reconciled. Precisely this article analyses how both working time and the composition of the human capital in an occupation influence the employment interruptions of mothers and the likelihood of return to their prenatal occupation. Using data from the National Educational Panel Study, this article adds a new perspective to the existing research on employment interruptions. Our findings show that typical working time arrangements differ markedly across occupations. For prenatal occupations with higher requirements for general human capital, we find that typical working time arrangements do not significantly influence employment interruptions. For women, however, whose prenatal occupation typically requires more specific human capital, certain working-time arrangements account for shorter employment interruptions. The time out of the occupation is reduced when overtime is at an average level and the working schedule is predictable. The duration of interruption is also reduced when an occupation offers the possibility to flexibly plan work hours, work shifts, or work occasionally on weekends. In line with institutional context of limited public day care in Germany, working weekends or shifts allows for the possibility to organize child-care through otherwise employed family-members. Non-standard working times are a means for achieving this.

Working time, opportunity costs and female-dominated occupations: explaining family related employment interruptions

Doerthe Gatermann, Leibniz University of Hannover, Germany, et al

After a child is born women interrupt their careers more often and for longer periods than men do. These employment interruptions have negative consequences for the career leading to lower wages and worse promotion prospects. A key factor for the extent of these consequences is the duration of the interruption. We want to analyse how occupational characteristics influence this duration as occupations act as a substantial mechanism of social stratification in Germany. Thereby we focus on the fact that men and women are segregated in different occupations which leads to different labour market opportunities and thus is systematically connected with gender inequalities. As previous studies show occupations with a high proportion of women are associated with less upward mobility, lower average wages and higher part-time ratios. Based on these findings we generate two competing hypotheses: First, lower wages in female-dominated occupations lower the opportunity costs of a career break and should therefore lead to longer employment breaks. Second, high part-time ratios in occupations with a high proportion of women should lead to shorter interruptions due to better reconciliation of family and working life. We use data of the German National Educational Panel Study and aggregated occupational information based on German register data of the Sample of Integrated Labour Market Biographies and the German Microcensus to test these hypotheses empirically. We employ discrete time event history models. Our results show that higher occupational wage levels lead to shorter breaks but the part-time ratio has no significant influence on the probability to re-enter the labour market. As obviously the higher part-time ratios in female-dominated occupations cannot cushion the negative effects of lower wages our results question the theory of compensated differentials.

Creating new opportunities, facing new challenges: Reconciliation of family life and career for young academics

Thorben Sembritzki, Deutsches Zentrum für Hochschul-und Wissenschaftsforschung, Germany, et al

In the German academic system successfully balancing career and family presents a major challenge for young academics. At the same time, the academic system is facing its own challenges to meet the requirements of young academics regarding partnership and family and to enable scientific careers for both women and men (Metz-Göckel et al. 2014). Women have a strong intention of pursuing an academic career, at the same time they do not want to give up on having children (Abele 2003, 2013). Recently men as well increasingly and actively want to combine their scientific activities with (more time for) family and children (Behnke 2012; Baisch & Neumann 2008). The personal drive and structural pressure to reconcile academic qualification and research (e. g. PhD-studies) with having children and living in a partnership thus generates various personal and structural contradictions and different challenges not only for women, but also for men.   Our research is based on the concepts of expectancy-value theory (Esser 1999) ("Wert-Erwartungstheorie") and professional self-socialization (Heinz 1991, 2001). It specifically focuses on the latitude created by "family-friendly policies" that are offered by the institutions as well as the ways young academics are discovering and using them for pursuing their ambitions for their life courses. Beyond that we focus on how negotiation processes in different couple constellations (dual/separate career, with/without children) take an effect on the reconciliation of the different areas of professional and private lives.   Using the advantages of a mixed-method approach, we combine and integrate the findings of a quantitative, representative survey (WiNbus-panel) with a qualitative (problem-centred) interview study. At the conference we would like to present our theoretical model as well as preliminary results from both sub-studies.

Does perceived income adequacy matter for fertility? The role of subjective economic uncertainty for the transition to first and second births in the UK

Juliet Stone, University of Southampton, UK, et al

Fertility behaviour may change in complex ways in the context of economic uncertainty. For example, while the costs of having children may represent a barrier to childbearing if economic resources are precarious, part-time work and unemployment may increase the time available for childcare and, conversely, increase fertility. This paper explores associations between fertility and a range of indicators of economic uncertainty at different levels of measurement, including subjective financial status. The latter is of particular interest given that objective and subjective measures may reflect different experiences of economic uncertainty. For example, absolute income does not necessarily reflect income adequacy, perceptions of which are likely to vary across different groups and contexts. The analyses use prospective data from waves 1-3 of Understanding Society (2009-12), a panel study of UK households. We use discrete-time event history analysis to model the transition to first birth (14,435 person-years of data) and second birth (6,502 person-years) for men and women aged 16-44 years. For objective indicators (economic activity, household income) we generally observe an age-specific effect, with uncertainty associated with increased fertility at younger ages, and vice-versa at older ages. However, for women of all ages, those describing their financial situation as difficult are more likely to become parents. For men, subjective financial status is significantly associated with entry into fatherhood, whereas household income is not. We conclude that perceptions of financial strain may capture aspects of economic precarity not reflected in more objective measures. This may include experiences of an insecure housing position or uncertainty over whether welfare benefits will be restricted/withdrawn. We discuss our findings in the context of means-tested welfare assistance in the UK.

Human capital in the family and early transitions into parenthood in the United States and Canada

Robert Crosnoe, University of Texas at Austin, USA, et al

Due to changing economic realities and evolving social norms, the age at which women and men transition into parenthood is climbing in North America. Yet, despite this delayed parenthood, many men and women still become parents in their teens through early 20s, and these early transitions into parenthood are a window into both life course dynamics and societal inequality. Consider family human capital. The educational attainment of parents may factor into the timing of this transition because it is a marker of socioeconomic status, with all of the associated resources, opportunities, and norms, while the educational pathways of young people themselves may also matter because they shape current and future social and economic prospects. This multigenerational significance of human capital to the timing of parenthood, however, is likely structured by the broader

institutional and cultural landscape. In Canada, the greater social safety net could blunt the degree to which human capital differentiates young people on early parenthood. At the same time, because of the greater prevalence of young parents in the U.S. (relative to Canada), early parenthood is less exceptional, possibly blunting the differentiating effects of human capital in that country. In this spirit, this study examines how transitions into parenthood are embedded in family histories within broader national contexts. We will apply event history analyses to the Canadian National Longitudinal Survey of Children and Youth and the National Longitudinal Survey of Youth 1979-Young Adult Survey (U.S.), examining the timing of births before the age of 22 (for women and men), how the educational attainment of parents and young people themselves predict this timing, and how these links between family human capital and the timing of parenthood vary between countries. Doing so will offer insights into the ways that societies reinforce and break intergenerational transmissions of inequality.

Maternal postnatal blues and childhood injury: Longitudinal findings from the United Kingdom Millennium Cohort Study

Steven Hope, University College London, UK, et al

Evidence that maternal psychological distress increases the likelihood of child injury is scant, particularly whether risks are apparent throughout childhood. We investigated the link between postnatal blues (an indicator of maternal distress early in a child's life) and subsequent childhood injury, using data about children who have participated in the United Kingdom Millennium Cohort Study (MCS) from age 9 months to 11 years. The analytic sample comprised almost ten thousand children who took part in all data collection sweeps. The definition of postnatal blues was based on whether the mother reported at 9 months feeling low or sad for a period of two weeks or more since the birth. Counts of injuries requiring health service attendance in the intervals between sweeps were recorded (categorised as 0, 1 and 2 or more injuries). Ordinal logistic regression was used to estimate odds of injury according to maternal postnatal blues. Elevated odds of child injury associated with maternal blues were demonstrated at every sweep from 9 months (OR: 1.36, CI: 1.13-1.64) through to 11 years of age (OR: 1.25, CI: 1.10-1.42), despite the changing nature of injury as children get older. Our analyses demonstrate an association between postnatal blues and injury from infancy through to middle childhood. We examine the role of persistence of maternal distress, and explore other potential risk factors. We also investigate whether child, family and environmental characteristics may be protective against injury for those children growing up in households where mothers reported postnatal blues.

8B   Paper Session: Adults and Health

Sleep quality among older adults in Ireland and the United States: a comparison of two longitudinal studies of aging

Jennifer Ailshire, University of South Carolina, USA, et al

Sleep is increasingly being recognized for its importance to health and well-being with several countries declaring insufficient sleep a public health epidemic. Research on sleep across countries is limited, but recent evidence suggests adults in the UK are more likely to experience poor sleep than those in the United States. We use data from two nationally representative surveys of adults ages 50 and older to compare sleep quality in the United States and Ireland. Data come from the 2009 Irish Longitudinal Study of Aging (TILDA) and the 2010 Health and Retirement Study (HRS). Sleep quality is measured with two items asking how often one has difficulty falling asleep and how often one awakens early and is not able to get back to sleep. Compared to 48% of Americans, only 35% of Irish adults reported difficulty falling asleep some or most of the time. About half of both Irish and American adults reported difficulty awakening early. Multinomial logistic regression models were estimated to examine differences in frequency of sleep trouble by age, gender, education, marital status, and employment status. Women in both studies were more likely to report difficulty falling asleep and waking early, compared to men, but the gender gap was larger among TILDA respondents. Less education was associated with worse sleep quality in both studies, but the education gap was larger among HRS respondents. Difficulty wakening was more frequent among high educated TILDA respondents than high educated HRS respondents. We find that older U.S. adults, in general, have worse sleep than older Irish adults, particularly with respect to difficulty falling asleep. Furthermore, gender and education differences vary by country. Sleep is important for healthy aging and identifying variation in sleep quality across countries may inform research on cross-national differences in population health and aging.

Good Jobs, Good Pay, Better Health? The direct effects of job quality on health dynamics among older European workers

Golo Henseke, University College London, UK

The correlation between job quality and individual health has been commonplace in the literature on employment relations for some time. However, open questions and methodological issues persist. Firstly, the conceptualisation of job quality remains contested. Economists focus almost exclusively on pay, whilst scholars from other disciplines predominantly utilise psychosocial measures. Secondly, there is still debate as to what degree observed health differences between workers in high and low quality jobs reflect causal effects. Limited data has made it difficult to account for health-related selection into jobs or the complex dynamics of health over time. In utilising life-course data from the Survey of Health and Retirement in Europe (SHARE), I can narrow some of these gaps. SHARE is a cross-national household panel study of people aged 50 and older with rich information on current health and socio-economic status as well as retrospective data on family background, childhood health and health incidents over the life course. I am using the first four waves covering the years from 2004 to 2012 and retrospective life-histories in the analysis. The data enables me to examine the effects of job quality on a range of physical and mental health outcomes. Following interdisciplinary studies on the quality of work and employment, I construct a multidimensional measure of job quality that distinguishes between intrinsic job quality, job security and pay. To address issues of causality, I analyse the incident of new health conditions between survey waves, i.e. the change in health over time, and make use of the unique life-course data. In doing so, I control for individual heterogeneity, initial differences in health, and the selection into jobs. The results will provide a comprehensive picture of the effects of job quality on the dynamics of health among older workers in Europe.

Onset of impaired sleep and risk of hypertension, diabetes, and dyslipidaemia: analysing observational data as a series of non-randomized pseudo-trials

Alice Clark, University of Copenhagen, Denmark, et al

BACKGROUND: Impaired sleep has previously been linked to a higher risk of cardiovascular disease (CVD), but the underlying mechanisms are still unsettled. We sought to determine how onset of impaired sleep affects the risk of established physiological CVD risk factors (i.e. hypertension, diabetes, and dyslipidaemia). METHODS: We used longitudinal observational data on duration and quality of sleep from 45,647 adults from the longitudinal Finnish Public Sector Study. Information on development of CVD risk factors, as indicated by initiation of medication for hypertension, diabetes, and dyslipidaemia was derived from nationwide registers. We employed clustered Cox models in a series of "pseudo-trials" with strict temporal requirements and pre-defined inclusion and exclusion criteria, thereby mimicking a trial setting. RESULTS: We found onset of disturbed sleep to be associated with subsequent risk of hypertension (hazard ratio=1.26, 95% confidence interval: 1.05-1.51) and dyslipidaemia (HR=1.16, 95% CI:1.04-1.29). A higher risk of hypertension associated with onset of short sleep in an age- and sex-adjusted analysis was not apparent after adjustment for body mass index and health behaviours or when addressed in a healthy sub-sample. CONCLUSIONS: Onset of disturbed sleep was associated with a higher risk of hypertension and dyslipidaemia, which may partly explain the higher risk of CVD observed among impaired sleepers.

Age and income-related inequalities in C-reactive protein: Evidence from Understanding Society (UKHLS)

Apostolos Davillas, University of Essex, UK, et al

Background: Inflammatory markers, such as C-reactive protein (CRP), have been shown to be socially patterned in older age groups and are hypothesized as mediating pathways between socio-economic position (SEP) and cardiovascular disease. However, it is unclear when socio-economic differences in CRP emerge across the lifespan. To investigate this, income-related inequalities in CRP across all ages were explored. Methods: Data from 8,799 participants (aged 16+) of wave 2 (1/2010-3/2012) Understanding Society (UKHLS) were employed. Disadvantaged SEP is defined as belonging to the lowest quartile of equivalised household income. Regression models estimated quadratic interactions of age with SEP to explore CRP-age trajectories for disadvantaged and less disadvantaged SEP; lifestyle indicators (smoking, physical activity and body mass index) were added to models, along with gender and ethnicity. First, raw income-related inequalities in CRP were estimated across age. Subsequently, the pertinent inequalities were decomposed to estimate the effect attributed to differences in the lifestyle indicators between income groups across ages. Results: Income-related inequalities in CRP emerge around the age of 30 after which

they non-monotonically increase to the age of 55, where they peak, and then slightly reduce and remain constant until 70s; subsequently, they further narrow, converging at older ages most likely due to healthy survivor effects. Decomposition analysis shows that the proportion of the raw inequalities attributed to differences in lifestyle-related factors, is lower in middle ages and higher in younger and older individuals (between 17 to 88%). CRP inequalities still remain; however, they are reduced in magnitude and restricted to 40-75 age range, while peaking at the same age (55 to 60). Conclusions: Income-related CRP inequalities emerge in 30s and do not follow homogenous patterns across age. These inequalities remain apparent when considering lifestyle related factors but the proportion of the inequalities explained varies by age, which requires further investigation.

8C

Symposium: Following a panel of small-town youth into young adulthood: Findings from the Community Youth Development Study

Sabrina Oesterle, University of Washington, USA, et al

This symposium will present data from a longitudinal panel of small-town youth followed from elementary school to young adulthood in a randomized trial of Communities That Care (CTC) in the US. CTC is a science-based community prevention capacity building and planning system designed to prevent behavioral health problems among children and youth community-wide. CTC guides communities to install, implement, and monitor the results of tested and effective prevention programs and policies that address community-specific elevated risk factors and depressed protective factors and reduce problem behavior. The Community Youth Development Study (CYDS) is a community-randomized trial of CTC in 24 small towns in the US, matched and randomized in pairs, in 7 states. The trial has shown that CTC can produce immediate and sustained reductions in youth delinquency, violence, and substance use. CTC has been used by communities in the US as well as in the Netherlands, Germany, the UK, Australia, Canada, Chile, and Colombia. To test the efficacy of CTC to prevent youth problem behaviors, the CYDS collected 9 waves of data from a cohort of 4,407 youth from grade 5 (2004) to age 21 (2014). Great care has been taken to track and retain the sample to maintain a high-quality longitudinal data set, achieving a 91% retention rate through age 21. The first presentation will describe the data collection, locating, and retention methods used in the study and share learnings focusing on issues that arise when following a large panel into young adulthood. The second presentation will summarize the longitudinal impact of CTC on behavioral health problems from adolescence to young adulthood in this panel. The third presentation will examine differences in the transition to young adulthood among those panel members who moved away from their small and rural home towns by age 21 and those who stayed.

Achieving high retention rates in longitudinal samples transitioning to young adulthood: Lessons from the Community Youth Development Study

This presentation will share lessons learned about what it takes to achieve high retention rates when following a large panel of youth into young adulthood. As part of the randomized trial of the Communities That Care (CTC) prevention system, the study collected 9 waves of data from grade 5 to age 21 (2004-2014) from a cohort of 4,407 5th graders who lived in the 24 study communities in 7 states. During the school years, the panel was surveyed annually using a paper and pencil questionnaire completed during a 50-minute classroom period. After high school, the study moved to a web-based survey. Although this survey mode may seem fairly cost- and time-effective, considerable effort had to be spent on locating once the sample reached young adulthood. At age 21, about half of the panel had moved away from the original 24 small study communities and was dispersed across all 50 states and several countries. New contact information had to be found for almost 20% (n=859) of panel members. Nevertheless, the study achieved a 91% response rate and was able to locate all but 1% (n=48) of panel members. The presentation will describe the important role Facebook played in locating participants in addition to paid search tools (CLEAR and Tracers Information Specialists) and third party locators. A particular challenge for finding participants at this age was that panel members had not yet made a significant "footprint" in the world for locating them and were less connected to immediate family. Yet, parents and other relatives were still very important in the locating process. In addition to the considerable effort required to locate the sample, the high survey completion rate was only achieved through ongoing web-prompting calls (over 30,000), text messaging, and in-person contact by traveling to participants and providing a paper survey option.

Longitudinal impact of the Communities That Care prevention system on behavioral health problems from adolescence to young adulthood

The Communities That Care (CTC) system builds community capacity to adopt a science-based approach to prevention. A coalition of diverse community leaders and stakeholders uses epidemiologic survey data from community youths to assess levels of exposure to risk and protective factors and behavioral health problems. The coalition prioritizes prevalent risk factors and depressed protective factors and addresses these priorities with tested, effective preventive interventions. Implementation of these preventive interventions with fidelity is expected to decrease adolescent substance use, delinquency, violence, and related behavioral health problems. CTC's theory of change has been tested in a community-randomized controlled trial involving 24 communities across 7 states in the US. Using survey data from community key leaders, the trial found increased adoption of a science-based approach to prevention and implementation of a greater number of tested and effective prevention programs in CTC compared to control communities. Using data from a panel of youth followed from grade 5 through 12, the trial found that CTC decreased targeted risk factors for behavioral health problems and lowered the incidence and prevalence of delinquency and drug use during the 5 year CTC implementation phase of the study. Effects on delinquency and alcohol and tobacco use initiation were sustained through 10th and 12th grades, 6 and 8 years after initial implementation of CTC and 1 to 3 years after technical and financial support for CTC implementation from the study ended. The presentation will compare results based on the longitudinal panel with data from repeated cross-sectional analyses of CTC on youth behavioral outcomes.

Community prevention in small and rural towns: A comparison of young adult movers and stayers at age 21

Young adults from small towns differ in an important way from urban young adults. They are much more likely to move away after high school, often because of limited local educational and occupational opportunities in small towns. Those who remain tend to have fewer socioeconomic resources and fewer educational and occupational skills and may be at higher risks for problems in young adulthood such as substance abuse and other health-risking behaviors. They may also move more quickly into adult roles such as full-time employment and family formation. Those who leave may be similar in their adoption of adult roles to young adults who grew up in urban areas in that they experience an extended transition period with college attendance and postponement of family formation. However, there are few empirical studies of the transition to adulthood of small town youth. This presentation will share data collected from a panel of youth(N=4407) who were followed from grade 5 to age 21 as part of the randomized trial of the Communities That Care (CTC) prevention system in 24 small towns (average population size 15,000) located in 7 states. By age 21, 50% of panel members had moved away from their small home towns. Preliminary results from latent class analyses found 3 dominant transition pathways for women (workers, college students, mothers) and 4 for men (underemployed, college students, employed family men, full-time workers/military). As expected, men and women stayers were significantly more likely than movers to have transitioned into family roles by age 21 and less likely to be attending college. Male stayers were also more likely than male movers to be underemployed (working part-time or looking for work). The presentation will also share results from a comparison of movers and stayer's functioning at age 21, including substance abuse, mental health, and violence.

8D

Symposium: Consequences of New Living Arrangements in Cross-national Comparison

Brienna Perelli-Harris, University of Southampton, UK, et al

Throughout Europe and the US are experiencing profound changes in the family, particularly due to increases in cohabitation and union dissolution, as well as childbearing outside of marriage. These changes raise questions about the consequences of these new family arrangements and whether they may be associated with poor outcomes. Previous studies have found that marriage benefits health, wealth, and well-being by providing social support, intimacy, and protection. However, much of the previous research was conducted in earlier decades and usually in the US, when cohabitation was less common and selective of particular characteristics. In addition, most of this research compared the married and unmarried, without distinguishing between cohabiting and single people. Given the increase in the prevalence and duration of cohabitation, it is no longer clear that the act of marriage per se matters for well-being or health; simply forming a lasting partnership may provide similar social and emotional benefits. Thus, it is important to investigate whether new living arrangements now result in similar outcomes as marriage. This panel will compare the consequences of new family arrangements in a

number of diverse settings that represent different welfare regimes and cultural contexts: Australia, Norway, the UK, and the US. The collaborative team will systematically analyze a range of partnership behaviors and childbearing in different types of partnerships. The team will explore a number of outcomes in mid-life, including mental well-being, health, depression, wealth, satisfaction with life, and relationship quality. They will primarily employ Propensity Score Matching, which will reduce selection bias by matching respondents with similar characteristics and observing the effect of the treatment, i.e. different living arrangements. By collaborating on methods and measures, the collaborators aim to present a cohesive study that compares the consequences of new family behaviors across countries.

Comparing the consequences of cohabitation and marriage in mid-life: are the effects similar across countries?

Previous research has found that marriage conveys benefits to individuals, but with recent increases in cohabitation, it is no longer clear that it is marriage per se that matters, compared to the benefits of living in a co-residential partnership. This is especially questionable in countries where cohabitation is becoming widespread, such as Australia, Norway, the UK, and the US. In this paper, we compare the effects of marriage and cohabiting partnerships on mid-life outcomes. We investigate whether there are differences in self-rated health, depression, life satisfaction, and relationship quality. Our surveys - the Australian HILDA, Norwegian GGS, UK BCS70 and the US NLSY - include a mix of longitudinal and retrospective questions, allowing us to control for socio-economic background and family structure in childhood, which often select individuals into marriage. In addition, we investigate a number of partnership trajectories, including pre-marital cohabitation vs. direct marriage, and long-term cohabiting unions vs. long-term marriages. Our cross-national comparison will provide insights into how the meaning of cohabitation differs across countries, given different historical patterns of cohabitation development as well as legal regulation of cohabitation. For example, previous US studies have shown that those who cohabit before marriage have worse relationship quality than those who directly marry, but this relationship may be very different in other contexts, for example Norway, where direct marriage is a rare behavior and cohabitation and marriage have more similar legal benefits. Thus, the study will show to what extent the outcomes associated with marriage and cohabitation are consistent across countries.

Consequences of childbearing within cohabitation for parents' mid-life health

The increase in childbearing within cohabitation is one of the major changes in family behavior, but little is known about whether parents who chose this living arrangement are worse or better off when they reach mid-life. In this study, we assess if those who have children within cohabitation differ from those who have children within marriage on measures such as depression and self-rated health. In general, we expect marriage to be more beneficial, because it provides more protection and support. On the other hand, we expect that parents who have children within cohabitation will report higher levels of depression and worse self-rated health. However, the meaning of cohabitation is changing and cohabitation is becoming indistinguishable from marriage. As more people have children within cohabitation, cohabitation is becoming less selective. The consequences of childbearing within cohabitation may therefore play out differently in different contexts. To assess this we compare analyses from Australia, Norway, the UK and the US representing both liberal and socio-democratic welfare regimes. Because the consequences of childbearing within cohabitation may differ by gender, we estimate the outcome measures separately for men and women. We use data from nationally representative surveys: Australian HILDA, Norwegian GGS, UK BCS70 and the US NLSY. We implement a simple Propensity Score Matching (PSM) procedure. The Propensity Score (i.e. the propensity to have children within cohabitation) is derived from several background characteristics (e.g. race and ethnicity, socio-economic status and family structure in childhood). Using PSM, we compare mothers and fathers who are similar on the included background characteristics and only differ in whether they had children within cohabitation or marriage, and whether these relationships persisted. Thus, we take away some selection bias and get closer to estimating the causal effects of having children within cohabitation on mid-life health.

Unpartnered at first birth: Mid-Life physical and mental health for women in cross-national comparison
The protective aspects of coresidential relationships for women with children have been studied extensively. To date, this literature has tended to focus on short-term outcomes and relied primarily on US data from younger women. The long-term consequences of childbearing outside of partnerships on physical and mental health outcomes has received far less attention. Given the increase in single parent households across developed countries, further exploration of the longer-term consequences of raising children outside of partnerships is warranted. The current analysis explores whether there are differential effects on mid-life health and life satisfaction for women who had a first birth within a partnered relationship (e.g. cohabitation or marriage) versus an unpartnered one. We follow the single women to see whether they subsequently marry or cohabit, and the partnered women to see whether their relationship dissolves. We are particularly interested in how such associations might vary across several countries, including the U.S., the U.K., Australia, and Norway, countries with different levels of childbearing outside of partnerships and different social welfare policies, especially for single mothers. In particular, we assess whether lone parenthood produces equivalent physical and mental health disadvantages in a cross-national context. Using the Australian HILDA, Norwegian GGS, UK BCS70 and the US NLSY, we exploit the availability of longitudinal data that follows cohorts of women all aging into their 40s in the 2000s. Multivariate regression techniques estimate the effect of an unpartnered first birth on our main outcomes of interest: self assessed health, depressive symptoms, and life satisfaction, and propensity score matching techniques are used to address issues of selection into parenting within a partnership.

The link between partnership and mental well-being in Britain: When cohabitation is common, does marriage still matter?
Changes in partnership formation in the UK raises questions about whether new forms of partnership behavior have consequences for mental well-being. In the UK, cohabitation has become common recently; e.g. around 80% of those who ever married in 2000-04 experienced premarital cohabitation, and 20% of the 1970 cohort who were ever in a union never married. Here we investigate how partnership formation influences well-being in mid-life in the UK. We concentrate on mental well-being because mental health is crucial for overall well-being and a foundation for individuals' functioning. We use the 1970 British Cohort Study, which is a prospective longitudinal survey of over 17000 babies born in England, Wales and Scotland in 1970. Mental well-being at age 42 is measured with the Warwick-Edinburgh Mental Well-being Scale. We address issues of selection by employing propensity score analysis on prospective longitudinal data. The BCS data offers rich background variables measured in childhood, including family structure, mother's background, socio-economic status, behavioral difficulties, self-esteem, and attitudes towards marriage. These extensive background characteristics allow us to match individuals with similar characteristics and examine whether receiving the treatment (ever in union, ever married) produces different levels of mental well-being. Preliminary results from the Propensity Score Models show that men have significantly higher well-being scores if they ever enter a union, while women receive no significant benefits from entering a union. However, both men and women who have ever been in a union receive minor benefits from marriage. In contrast to our expectations, marriage matters positively for individual well-being even if cohabitation is widespread. Further analyses will investigate whether these results are robust to heterogeneity in treatment effects and long-term partnership trajectories.

8E

Symposium: Approaches to participant engagement in longitudinal and life course studies
Alison Park, University College London, UK, et al
Participant engagement in longitudinal and life course studies   Much of the value of longitudinal studies depends on their ability to persuade study participants to continue their participation in the study over a considerable period of time, keeping sample attrition to a minimum. After a period of considerable decline in overall survey response rates, longitudinal studies are exploring the most effective ways of engaging with their study participants.   This symposium will explore the range of different approaches taken by longitudinal studies to participant engagement, focusing both on studies which engage very actively with their participants and those which has a less active approach to participant involvement. Themes covered will include the range of different approaches to participant engagement, the ways in which communication has to change as participants get older and expectations of research change, and the challenges of actively involving participants in study decision-making.   The session will begin with an overview of how participant engagement strategies have changed over

time, and will set out the approaches currently being used in a range of longitudinal studies across the world. This will be followed by three case studies from cohort studies whose participants currently range in age from early childhood to their mid-20s. The symposium has been organised by the Cohort and Longitudinal Studies Enhancement Resources (CLOSER) network, which pools expertise and skills from nine of the UK's longitudinal studies along with the British Library and the UK Data Archive. Its aims are to stimulate interdisciplinary research, develop shared resources and infrastructures to enable research, assist with training and development and to share expertise.

Participant engagement in longitudinal and life-course studies: an international overview
How longitudinal studies engage with their participants has changed considerably over time, with recent years seeing a transformation in the ways in which studies can keep in touch with study members. This paper will set the scene for the symposium by briefly tracing how participant engagement has changed over time. It will highlight the importance of a range of factors with a bearing on how studies are able to engage with their sample members, including: study size; the expectations of study participants; public confidence in statistics and data; funding arrangements; and technology. It will then examine how participant engagement varies cross-nationally, using data gained from desk research and a survey of longitudinal and cohort studies. Issues covered will include: whether and how studies stay in touch with participants between and during waves; the use of targeting strategies, whereby different groups of participants are sent different materials; the extent to which studies give participants feedback about key findings or their own results; whether and how studies involve participants in key decisions about the study (for example, questionnaire content, ethical review); and the challenges of 'true' participatory research'.

Growing Up in New Zealand: approaches to participant engagement
Growing Up in New Zealand recruited a cohort of 6853 children via their pregnant mothers in 2009 and 2010. Since the antenatal recruitment and baseline interviews with the mothers, and independently with 4401 partners, there have been a further nine data collections during the children's preschool years requiring direct participant engagement (including both CATI data collections and CAPI face-to-face interviews). The children and families in the cohort were explicitly recruited to be broadly representative of the ethnic and socioeconomic diversity of current NZ births. Retention rates have remained very high throughout the study ensuring that the longitudinal information can be utilized to provide population relevant evidence to inform the evaluation and development of strategies to improve the wellbeing of all NZ children. Approximately 98% of the cohort have been tracked since birth and 93% of all recruited children have been retained in the cohort through until the 54 month data collection wave, which was completed in the field in March 2015. This retention has relied on the utilization of multiple engagement strategies from the recruitment period onwards. This presentation will review the implementation and evaluation of the approaches taken to recruit and retain a pre-birth cohort in the New Zealand context in the 21st century. It will also discuss the strategies being scoped for engagement with the children themselves as they become old enough to engage independently in the data collection (initially when they are 7 years of age). The challenges of ongoing participant engagement will be provided in the context of the ever-present funding uncertainty and the subsequent issues regarding sustainability of the longitudinal resource and maintaining participant trust.

Tweets, Branding and Swag: Engaging Teenagers in Research
Twenty-first century teenagers are a difficult group to engage in research. Their expectations and preferences for receiving information have been shaped by growing up in a digital age. They are developing their own identities, forming their own opinions and making some important decisions about their futures. However, at this stage in life young people will display different amounts of maturity and independence. Yet it is crucial to be able to engage this group in research. This is the challenge facing the Millennium Cohort Study (MCS), a large-scale cohort study in the UK. At the sixth sweep of MCS study members will be 14-years old. This sweep may be the last at which parents are so heavily involved. Therefore, direct engagement with the young people will be crucial for retaining them in the study. Given this context, extensive participant engagement research was carried out with young people, including some members of the study, prior to the start of fieldwork for the Age 14 Survey. Qualitative research, including focus groups and depth interviews, was conducted with young people and their parents. The aim was to understand how young people engage in research generally, their preferences for

information gathering and communication, as well as their perceptions of the data collection instruments that were proposed for the sixth sweep. Findings from this research informed overall engagement strategies for the study, including the design of the study brand, development of the study website and social media strategy, approaches to communicating with 14 year olds, and swag, as well as data collection tools, protocols and survey engagement materials for the Age 14 Survey. The findings and implications of this research are highly relevant to other studies of young people and provide insight into how to maximise engagement among this age group.

Avon Longitudinal Study of Parents and Children: Participant involvement in research
The Avon Longitudinal Study of Parents and Children (ALSPAC) is a three-generation prospective study investigating influences on health and development across the life course. Over 14,500 pregnant women living in and around the Bristol area were recruited into the study in the early 1990's and detailed information has been collected and samples obtained at many different time points since then. Since 2012 the children of the children have been recruited into the study and new data and sample collection has started on this cohort. Additionally, since 2014 ALSPAC has been actively recruiting grandparents and siblings of the original cohort with a view to collecting new data later this year. ALSPAC has a long history of active engagement with study participants. The engagement methods used differ for each of the separate cohort groups. The methods used for the original cohort, now aged around 23, have changed as the participants have transitioned through childhood into young adulthood and as expectations about the involvement of participants in the research process has changed over time. This presentation will discuss the three main methods that ALSPAC has used over the last few years to engage participants in the study: 1) the setting up and maintenance of an active participant advisory group who are involved in aspects of study design 2) participant involvement in ethical processes including membership of the ALSPAC Law and Ethics Committee 3) and the use of social media as a way to enable two-way communication with participants. The presentation will end with a discussion of the benefits of active engagement and a summary of the challenges it raises.

8F

Symposium: Linking research and policy: lessons from case studies of maternal smoking and breast feeding
Catherine Law, University College London, UK, et al

Longitudinal research is essential to policymaking because it answers questions about the changing circumstances of people's lives and their consequences. However, the nature of both research and policymaking raises challenges to effective translation of longitudinal research into policy. These challenges include: studying populations in changing political and environmental contexts; inferring causality, research over long time (latent) periods; how to act in the face of scientific debate and uncertainty; how to use research to promote equity; and many more.

This session will open the day by using two case studies to explore some of these challenges and how they may be addressed. Historical and recent research on maternal smoking and breastfeeding will be presented, illustrating how research at the earliest stages of life may influence policy across the lifecourse. The session will focus on illustrative examples, and maximise the opportunities for dialogue and debate.

PARALLEL SESSION 9

9A   Paper Session: Leaving home and school to work transitions
Changing trends in first entries to out-of-home among children in England: analysis of national administrative data from 1992 to 2012
Louise McGrath-Lone, University College London, UK, et al
Background: On average 60,000 children are placed in out-of-home-care (OHC) annually in England, representing approximately 0.5% of the total child population. However, evidence is lacking on the cumulative proportion who enter OHC over their life course and how this has changed over time. Ethnic disproportionalities in OHC entry evident in other countries are also poorly described. Methods: This study describes the age-specific cumulative proportion of children entering OHC for the first time for non-respite reasons using administrative data, namely the Department for Education's one-third sample of looked-after children (LAC) from 1992 to 2012. LAC

(N=89,168) were grouped by year of birth and denominator data derived from population estimate averages. Variation in rates of first OHC by gender and ethnicity were explored, as well as changes over time in placement type and in duration, stability and outcomes of OHC over two years. Results: Overall 3.5% of children born 1992-94 entered OHC by age 18. Variation in this cumulative proportion was observed by gender (3.8% boys vs. 3.2% girls) and ethnicity (4.9% black vs. 1.8% white children). Incidence of first OHC was highest in the first year of life and increased over time from 0.5% of infants born 1992-94 to 0.8% of those born 2010-12. Changes over time were also evident in duration, stability and outcomes of care; for example, in the two-year period following first OHC entry, children born 2001-2010 had fewer placement changes and were less likely to be returned to their parents than those born 1992-2000. Conclusion: The proportion of children entering OHC in England appears to be increasing and the characteristics of care are also changing with earlier intervention and longer, more stable placements. Further work to understand the reasons for these apparent changes in OHC practice and whether they improve outcomes for children is required.

Leaving too early? The role of home-leaving age in the intergenerational transmission of education
Hanna Remes, University of Helsinki, Finland, et al

Previous research has found early age at leaving the parental home to be associated with lower educational attainment and aspirations, possibly due to less parental support. Although low parental education is known to predict both early leaving and lower educational attainment, it is unclear whether extended co-residence benefits offspring of high- and low-educated parents similarly. This study examines how the association between timing of leaving the parental home and educational attainment varies according to parental education. Furthermore, we adjust for measures of social disadvantage as potential confounders in the association and take into account different routes out of parental home such as studying, employment, forming a union, or having a child. Based on longitudinal register data on a 20% representative sample of all families with children aged 0–14 years in 2000 in Finland, our dataset contains detailed information on parental education, income and health, family structure, home-leaving age, and educational attainment for cohorts born in 1986–1988 (N=34 828). Early age at leaving was clearly associated with educational attainment: less than a quarter of the early leavers had either achieved or were enrolled in higher education by the age of 24 years as opposed to over 45% among those who left at the age of 19 or later. In addition to early leavers, lower education also applied to young adults who hadn't left by the age of 24. Preliminary analyses showed a significant interaction (p.<0.002) between parental education and home-leaving: particularly in men the differentials by home-leaving age were much less pronounced among those with lower parental education, indicating less benefit from continued co-residence with parents with less resources. Further analyses will use binary and generalized ordinal logit models to assess the effects of accumulation of disadvantage across the early life course for educational outcomes in early adulthood.

Delayed or squeezed transitions into adulthood? Educational expansion and its effect on socio-economic status and family formation
Christian Brzinsky-Fay, Wissenschaftszentrum Berlin für Sozialforschung (WZB), Germany, et al

Across recent decades, school-to-work transitions became prolonged mainly because of educational expansion. Within this context, the question arises whether higher investment in education leads to a higher pay-off in terms of socioeconomic positions or labour market placements. And how do prolonged education periods affect family formation processes? In other words: If education takes more time, are the processes after education postponed or squeezed, because higher educational degrees enable young adults to speed up their labour market entry and the family formation? I borrow ideas from the model of "compensation" and "fixation" (Carlsson and Karlsson 1970) and examine the labor market entry careers of West German individuals from the age of 15 to the age of 30 for five birth cohorts (1950, 1960, 1964, 1970 and 1974) using retrospective life course data from the German National Education Panel Study (NEPS). The sequences of monthly labour market statuses are classified into ideal types, and are then taken as independent variables in a multinomial regression model to assess the effects on socioeconomic status (ISEI) and birth of the first child. The first results show that there is a squeeze of labour market entry processes across cohorts, which appears with respect to the socio-economic status (ISEI) at the age

of 30. Higher investment in education pays off in terms of gaining socio-economic positions faster. Or to put it differently, young people need to invest more in education in order to gain the same position. In contrast, the birth of the first child is postponed, because at the age of 30 younger cohorts rarely have children than older cohorts. Apart from that, the school-to-work transitions become more volatile or turbulent.

The pattern of school-to-work transition for vocational vs. general college graduates in Taiwan
Shu-Chen Chiang, Center for Educational Research and Evaluation, Taiwan
Originally, various markers of the were clearly defined as individuals transitioning to adulthood, including leaving school, starting a full-time job, leaving the home of the origin, getting married, and becoming a parent for the first time (Shanahan, 2000). Yet different from the apparently linear route before, the school-to-work transition gets even problematic accompanying with youth delayed entry to stable adult roles. The term of emerging adulthood in the U.S. (Arnett, 2000; 2004; 2006) is coined to refer to individuals in their 20s, inclining to identify questions of who they are and what they want to do for work (Arnett, 2004). It is assumed to be the case in Europe due to its dramatic changes in social, political, and economic context. In England, for instance, the later cohort showed more fluidity or complicity in the school-to-work transition than their older cohort did and the transition varies from country to country (Brook, 2009). With the theoretical inquiry in mind, this study applies age 30 as the cutoff to divide the sample into two different age cohorts to compare. This study aims to explore if there is different patterns of the school-to-work transition for cohorts age under 30 vs. age above 30. Data came from The German National Educational Education Panel (NEPS), particularly, the Starting Cohort Adults with a sample of 10,404. With data constructed in spell files, NEPS allows researchers to apply Event History Analysis (EHAs) to analyze the time to the occurrence of an event (Cleves, Gould, Gutierrez, & Marchenko, 2008). The event is individual first full-time job that lasts for a year. The outcomes of this study are expected to shed light into the issue of youth school-to-work transition and to examine if there is a trend of youth delayed entry into their first full-time and stable career.

9B   Paper Session: Health Issues

Transmission of body size from parents to children? Exploring body mass index trajectories in the Millennium cohort study
Michelle Kelly-Irving, INSERM, France, et al
Background: The steady increase in body mass index among children poses a risk to health over the lifecourse. The dynamics within the intrafamilial context are potentially important to understanding mechanisms favouring weight gain. This paper attempts to disentangle the mechanisms of intergenerational transmission of BMI. Methods: Data are from the Millennium Cohort Study, a British birth cohort study initiated in 2000/2001. We used a sample of 8774 children for whom BMI data was available at ages 3, 5, 7 and 11 years of age. Mother's prepregnancy BMI and father's BMI at birth are used as a proxy for the early nutritional environment. Other variables included are child's ethnicity, perinatal information (birthweight, smoking etc), parental social class and mother's weight change. Hierarchical multivariate linear regression models were carried out on the incremental change in children's BMI in the interval between each data point (age 3-5; 5-7; 7-11). Results: Initial results show a strong linear association between maternal prepregnancy obesity and offspring's increasing BMI at each interval, after adjusting for birthweight, ethnicity, social class etc. Father's BMI at birth is also strongly and independently associated with an increase in child's BMI at each interval. The association between parental social class and BMI change is not significant in the earlier intervals, but becomes significant over time. Further analyses will be carried out to examine these initial results. Discussion: These findings point towards the early prepregnancy environment playing a significant and consistent role in children's BMI trajectories up to the age of 11. Social class appears to independently affect BMI trajectories from the age of 7. The plausible social, behavioural and biological mechanisms linking parental and children's BMI will be discussed.

Choosing a measure of birth size in longitudinal studies: how do various measures compare?

Pamela Salsberry, Ohio State University, USA, et al

As the fetal origins hypothesis has gained support over the past two decades, an increasing number of studies have used birth size as a predictor for later life health. Birth size is thought to matter because it is a marker of adverse intrauterine conditions that results in various structural, physiological and metabolic changes in the fetus. Empirical tests of the fetal origins hypothesis have generally provided support, but not all studies have found a relationship. This may be related to methodological differences across studies, with wide variation in how birth size is measured. For example, birth size has been captured using birth weight as a continuous measure as well as in categories of low and high weight; others capture gestational age or birth length as part of the measure. Little justification is generally provided regarding the choice of measure. But are these measures the same? Clinical research in maternal-fetal medicine indicates that different birth size measures provide different information about fetal development, thus suggesting that these measures may not be interchangeable. The purpose of this study is: i) to investigate how different birth size indexes predict young adult health outcomes, including age at menarche and BMI, outcomes that are related to adult health; and ii) whether different indexes identify the same group of high risk infants. The US based NLSY79 mother, child and young adult files are used in these analyses. Sample inclusion requires birth data and young adult outcomes on the participants. Regression analyses will be completed. Results from these analyses will help inform researchers about how various measures of birth size compare, providing empirical results to inform decisions regarding the choice of birth size measure in future studies.

Early life socioeconomic status and health from young adulthood to old age

Kathleen Mullan Harris, University of North Carolina at Chapel Hill, USA, et al

There is substantial research documenting a social gradient in health, with individuals of lower socioeconomic status (SES) experiencing greater health risks, disease, and disability than higher SES individuals. Recent attention has focused on the early-life origins of SES disparities in health using a life course perspective to identify how early-life experiences shape later life outcomes. This research is limited by cross-sectional designs, and one measure (i.e., father's occupation) and retrospective reports of childhood SES. Moreover, there is little attention to how social conditions "get under the skin" to affect biological functioning that lead to health risks and disease. We use an innovative design to explore four life course mechanisms for how early-life SES is related to later adult health across the adult life span. Using four national, longitudinal U.S. studies covering young adulthood (Add Health), mid-adulthood (MIDUS) and older adulthood (NSHAP, HRS), we explore how early-life SES shapes adult SES and health across the adult life span. We test four life course models: 1) sensitive period model—early-life SES has persistent, irreversible effects on later life physical functioning; 2) accumulation of risks model—risks and exposures associated with economic conditions at various points in the life course accumulate and compound to affect health; 3) pathway model—early-life SES relates to later life health through its effects on later-life SES; and 4) social mobility model—health effects of early-life exposures can be modified by later-life SES. For each dataset, we construct and standardize composite measures of early-life and adult SES and harmonize physical health measurements of immune, cardiovascular, and metabolic functioning that represent health risk to disease. We find that the relative importance of early-life and adult SES varied across young-, mid-, and late-adulthood, with accumulation of risks operating in young adulthood and pathway and mobility models operating in later adulthood.

It's all or nothing! The trajectories of 'everything but the kitchen sink' through preventive programs and out-of-home care

Mette Lausten, SFI - The Danish National Centre for Social Research, Denmark, et al

After making longitudinal surveys on CIC (Children in Care – a Danish longitudinal study) on all children in out-of-home care from the cohort 1995 up till the age of 18, we are interested to analyse 'what works' in the context of the social system in charge of the parental role. The social system is here the common denominator for preventive programs, where the children live by their parents, and different kinds of out-of-home care arrangements. Can we, by analysing the trajectories of all adolescents who have been in out-of-home care, give a simple conclusion on what works? Using different kinds of outcome (such as education, delinquency, and dependence on social assistance) and making sequence analyses on monthly data from birth to age 18 we will include the following research questions: 1) Can we bundle the trajectories through the wide range of preventive

programs and out-of-home care facilities into a finite number of clear care careers, or is it really 'everything but the kitchen sink' for everybody? We try to including all 6 kinds of preventive programs and 4 kinds of out-of-home care in the analysis. 2) Does the number of risk factors at entry affect the trajectory? Risk factors are here family stability, mother's socioeconomic background such as age, ethnicity, educational level, and employment status. 3) Do the different pathways affect the outcome? As outcomes we will use level of education, delinquency, and dependence on social assistance, all at age 19. We use the 19-year-olds from the cohort 1995 who have been in out-of-home care at some point during their childhood (N = 2,900) to show the diverse kinds of life events histories that is hidden in the stories of the out-of-home care children. Keywords: out-of-home care, administrative data, sequence analysis.

9C   Paper Session: Transition to Adulthood

Extended kin and mobility in the transition to adulthood
Janel Benson, Colgate University, USA, et al

Family support is critical for launching youth into successful adult lives. Although studies have documented the association between family support and success in the young adult transition, existing work focuses primarily on parental support, giving little attention to extended and fictive kin. This narrow definition of family may miss critical exchanges of support, especially among low-income families. Drawing on panel survey data (n=1500) and in-depth interviews (n=90) with young adults from the Philadelphia Educational Longitudinal Study, this study expands our understanding of social support in the transition to adulthood by examining young adults' social networks and the types of support and resources embedded within these networks. The results show that unreciprocated support from parental figures is common only among the most advantaged youth living in two parent family forms. Less advantaged youth are typically embedded within complex social networks composed of extended and fictive kin where they are often expected to be both giving and receiving up, down, and across the generational ladder. While these networks can be a source of resilience, they are often fragile and subject to external shocks, such as job loss and health declines. As a result, youth coming of age in extended networks are more likely to report providing care and financial support to relatives compared to those growing up in two-parent configurations. The qualitative data show how these network obligations serve as obstacles to upward mobility by delaying young adults' investments in their own education and work trajectories.

The role of non-cognitive skills in the transition to work for youth in diverse contexts
Renee Ryberg, University of North Carolina at Chapel Hill, USA

Globally, the vast majority of youth — 85 percent — live in developing countries. As these countries develop and attempt to take advantage of their young populations, it is important to understand the skills that youth need to successfully transition to adulthood. The importance of non-cognitive skills for workforce success, in particular, has been well established in recent years — in the United States and Europe. Indeed, non-cognitive skills rival the predictive power of cognitive skills when examining workforce outcomes. These skills are especially important for youth, as non-cognitive skills are more malleable than cognitive skills during this developmental period. Employers in developing countries seek out non-cognitive skills in their employees. However, the very limited rigorous research on non-cognitive skills and workforce outcomes in developing countries has reached mixed conclusions. This paper addresses this research gap by examining the role that cognitive and non-cognitive skills play in predicting workforce participation among youth across four diverse developing countries: Ethiopia, India, Peru, and Vietnam. Using data from the Young Lives study, this paper applies multi-level analyses to examine how cognitive and non-cognitive skills in early adolescence (age 11-12) predict workforce participation in mid-adolescence (age 14-15). These are strategic ages to study because these youth begin their transitions to adulthood in mid-adolescence. At this age, one out of seven youth work in India. In Ethiopia, one out of five young women marry before the age of 15. How do cognitive and non-cognitive skills contribute to the transition to the workforce in developing countries? Under diverse social and economic conditions, non-cognitive skills may not be important predictors of workforce entry, as they are in the United States and Europe. An understanding of the roles played by non-cognitive skills in developing countries will help international aid programs effectively target their skills development for young workers in developing countries.

Resource transfers during the transition to adulthood in complex families
Paula Fomby, University of Michigan, USA
Family organization in the United States has become increasingly complex since the 1970s. One cause is more frequent union instability. Rising and then plateauing divorce rates, high rates of remarriage, and the emergence of cohabitation as a frequent but unstable union form have contributed to children's experience of repeated changes in parents' union status. A corollary cause is parents' multipartner fertility, or the experience of childbearing with more than one partner. The family complexity that emerges from union instability and multipartner fertility produces an intricate network of biologically and socially-based family relationships that transcend household boundaries. Complex family networks, while potentially large, are porous in terms of investments in children's well-being. Compared to otherwise similar biological co-resident parents who have had children only with each other, nonresident parents and stepparents and their extended families are less likely to invest time, money, or instrumental support in children. In turn, complex family membership is associated with children's more frequent emotional problems, early home leaving, diminished educational attainment, and early union formation and childbearing. Complex family organization thus potentially represents a mechanism for creating or exacerbating disparities in the transition into adulthood, particularly among lower-income and race/ethnic minority youth.   I describe variation in family investments in children during the transition to adulthood using data from the US Panel Study of Income Dynamics and its accompanying 2013 rosters and transfers module, which characterizes transfers of time and money between household heads and spouses/partners and their adult children. Measures of young adults' exposure to family complexity in childhood are derived from parents' birth and marriage histories, which have been collected from adult panel study members since 1985, and from children's residential histories. Explanatory models assess the contributing influence of selection mechanisms, strain on financial resources, and patterns of social exchange in complex families.

Transition to adulthood among descendants of immigrants in France: cultural vs. structural determinants
Giulia Ferrari, INED, France, et al
Patterns of transition to adulthood changed substantially in most Western countries from the late 1960s onwards. The emerging trend reveals more complex and longer transitions (Aassve et al. 2002; Furstenberg 2010; Rindfuss et al. 2010), due to changes in norms, greater labour market insecurity and the increased cost of living. Socio-economic stratification plays a crucial role in this process of transition to adulthood. This study questions if such changes have also taken place among descendants of immigrants in France. Focusing on the interplay between cultural and structural factors, it investigates whether individual behaviours are affected by tradition and open to individual choice and/or shaped by structural factors, especially economic resources. We limited the analysis to individuals aged 30-50 and to the most represented areas of origin that are Southern Europe and Maghreb, comparing them to natives. Based on event-history data collected in the Trajectories and Origins survey (Ined, Insee 2008), we construct individual sequences of states occurred during the transition to adulthood, paying particular attention to residential (living in the parental home vs. living alone), occupational (being student, unemployed/not in a stable employment, or in a stable employment), conjugal (being single, cohabiting, married), and parenthood (childless vs. parent) dimensions. Using optimal matching sequence analysis, we then classify similar trajectories into five transition typologies, namely Married parents (37%), Single and childless (32%), Cohabiting (15%), Latest nest leavers (12%), Unemployed in union (3%). Paths into adulthood significantly differ by gender, socio-economic characteristics, and background factors. Descendants of immigrants from Maghreb are more frequently late nest leavers and unemployed in union and less often cohabiting. We will further apply multivariate regression analyses to test whether cultural, structural factors, or a combination of the two affect timing and sequence of transition to adulthood events.

9D

Symposium: Fertility Intentions and Behaviors across the Life Course
Sarah Hayford, Ohio State University, USA, et al
Attitudes and plans for childbearing reflect individual goals and values as well as social norms and context. But not all plans come to fruition: goals may change, alternatives may arise, or obstacles may prevent the achievement of plans for childbearing. Understanding the link between plans and outcomes is inherently a longitudinal question, requiring multiple measures over time to connect intentions and behaviors. Furthermore,

fertility intentions themselves incorporate future plans and past experiences in other life course domains, including education, employment, and romantic partnerships. Both intentions and the intention-behavior link evolve over time as individuals grow older, complete education, form and dissolve romantic partnerships, and move in and out of the labor force. This session examines the relationship between childbearing attitudes, intentions, and outcomes at different life course stages. The session is made up of four papers addressing stages ranging from adolescence through the end of the childbearing years. The first two papers focus on adolescence and early adulthood. These papers examine the association between multiple measures of attitudes toward childbearing and unintended fertility, focusing in particular on aspirations for education as a possible competing goal. The third paper uses qualitative data to explore in-depth how intentions are formed in adulthood and the role of uncertainty and instability of intentions. The final paper studies the evolution of fertility intentions and the importance of unfulfilled intentions toward the end of the childbearing years. In all four papers, particular attention will be paid to the conceptualization and measurement of childbearing intentions and attitudes. Individually, the papers will make comparisons within societies, examining differences between men and women, variation across race-ethnic groups, and the impact of educational attainment and employment status. Collectively, the papers will draw on data from France, Germany, Italy, Poland, and the United States, allowing for comparisons across societies as well.

Race Differences in the Links between Childbearing Attitudes and Behaviors
Pregnancy desires do not always predict behavior. In the United States in particular, unintended pregnancies are common, and are unevenly distributed across race-ethnic groups: Black women evaluate 69% of their pregnancies as unintended, while the corresponding number for white women is 42% (Finer and Zolna 2014), and the unintended pregnancy rate for Black women is more than double (92 per 1000) the rate for white women (38 per 1000) (Finer and Zolna 2014). Our previous work found that, relative to their white peers, young black women's pregnancy desires are similar, measures of pregnancy desires have similar measurement properties, and that prospective reports of pregnancy desire are similarly related to post-pregnancy evaluations (Barber et al. forthcoming). In this paper, we will investigate the possibility that Black women are less willing or able to implement their desire to avoid pregnancy. We will use a unique dataset including weekly interviews over a period of 2.5 years with 961 18- and 19-year-old women (628 white and 333 Black) in a county in Michigan. We will estimate two models of the relationship between pregnancy desires, intentions, and behavior – the Prototype/Willingness model, and the Theory of Planned Behavior. Specifically, we will examine whether pregnancy desires predict pregnancy better for white young women than for Black young women. If race differences exist, we will use weekly data on sexual activity and contraception to identify the intervening mechanisms that explain them.

The Role of Educational Aspirations and Attainment in Explaining Early Unintended Childbearing
This paper will examine differences in plans and motivations in adolescence as a potential explanation for variation in childbearing at different points in the life course, focusing on race-ethnic differences. In the United States, race-ethnic differences in childbearing behavior are longstanding and well-documented. Black and Hispanic women have higher birth rates than white women, particularly for early and nonmarital births. These differences are primarily driven by unintended births – race-ethnic differences in desired family size and desired birth timing are smaller than differences in behavior. However, the reasons underlying race-ethnic differences in unintended fertility are not well understood. We draw on three waves of data from the National Longitudinal Study of Adolescent to Adult Health ("Add Health") to analyze the relationship between childbearing attitudes and educational aspirations measured in adolescence (age 12-19) and unintended childbearing in early adulthood (ages 18-24 and 24-32). We move beyond previous studies by considering desires and expectations for educational attainment, a key life course domain often considered to conflict with childbearing, as well as attitudes more directly related to fertility. We examine early goals for college attendance, the degree to which these goals change over time, and the later achievement (or not) of these goals as possible mechanisms connecting early attitudes and subsequent unintended fertility. Analyses will focus on race-ethnic differences in educational aspirations and the achievement of aspirations as possible explanations for race-ethnic differences in unintended fertility.

Uncertain, Changing, and Situated Fertility Intentions

In this paper, we examine the multiple dimensions of declared fertility intentions in order to provide a critical reading of currently used indicators of the childbearing decision-making process. Using a qualitative approach, we pay attention to the complexity of the process through which individuals make (or fail to make) plans regarding their reproductive future. The data are a series of comparable in-depth interviews conducted in a number of European countries with varying fertility levels, and differing normative and institutional contexts. A total of 261 people (179 women and 82 men) were interviewed in four countries (France, Germany, Italy, Poland). Most respondents were between age 20 and age 35; the sample included married, cohabiting, and single adults, both childless and with offspring. The interviews were analyzed in the context of the EU FP7 REPRO project (Grant Agreement: SSH-2007-3.1.2- 217173). First, we analyze the meanings that respondents attribute to their childbearing intentions, paying particular attention to uncertain intentions. Second, we study the ways in which individuals vary in holding to their intentions over time, and consider why they might change their minds, even over relatively short periods of time. Third, we examine how several aspects of the larger social context (attitudes towards having children, family policy, norms related to the division of labor, norms about the timing of children) shape fertility intentions.

Change in Intentions and Childbearing in the Late Life-course

While at early ages unintended pregnancies can be a source for over-achieving fertility goals, at later ages other factors enter into account that make it more likely to not have the children one wishes. With the delay in age at first birth, an increasing share of women want to have their first or second child at ages where it is biologically more difficult to conceive (i.e. 35+) and socially less accepted to be a mother. Many men have also postponed the start of their family life, but they might be less constrained by the age limitations to childbearing. The more unlikely childbearing becomes, the more people can start having doubts about ever having the children they would expect, and the more they can revise intentions. In this framework, using panel data from the French Generation and Gender survey (2005 to 2011; N=1881 men and 2550 women), we draw changes in intentions in the late life-course, and childbearing achievements, for both men and women. Timing of change and realization differs for men and women, and depends on the achieved parity. We will also investigate whether pressure of the family to have a child soon and having just entered a union are correlated with likeliness to change one's mind. Since highly educated start a family later in their life course, we will detail whether they also live these transitions differently from their less educated peers, for instance by persevering more often in their desire to have a child.

9E

Symposium: Attitudes on the life course over the life course
Heiner Meulemann, Universität zu Köln, Germany, et al

People monitor their own lives. They do that in specific forms. They aspire goals, they evaluate their attainment, they attribute success to internal and externals sources, they reflect upon their life histories, they summarize what they have experienced in the form of general and domain specific life satisfaction. This session is devoted to these attitudes to the life course, in so far as they are surveyed repeatedly over different life stages such that their development as well as the development of their determination can be assessed. Welcome are presentation of panel surveys and their analysis by means of panel regression techniques.

Social psychological dispositions as a moderator for the evaluation of biographical success

In a sample of 1301 former German high school students, first interviewed in 1969 at the age of 16, and re-interviewed at the age of 30, 43, and 56 (Cologne High School Panel – ChiSP), it is analyzed whether the impact of biographical 'failures' such as comparably low occupational status and / or income on respondents' general and occupational satisfaction is moderated by their internal vs. external causal attribution of success. While it is well-known that people tend to attribute success more internally and failures more externally, we explicitly ask whether there are particular individual causal attributions that makes the sour grapes of being less successful than parents or class mates the own taste sweeter, i.e. that serve as a lens through which biographical failures are evaluated less negatively. As regards sociological theory, our contribution sheds light on the question whether one and the same social situation may be evaluated differently by individuals with different social

psychological dispositions. Analytically, we test the idea of middle-range theories with German life-course data by computing the marginal effects of several biographical predictors of interest (i.e. comparably low occupational status and/or income) on respondents' general and occupational satisfaction over the range of internal and external causal attribution moderators. In a second step, we aim to extend our framework to both private biographical 'failures' such as break-ups and divorces and other social-psychological dispositions as potential moderators.

Challenges and coping strategies life success and self-determination as determinants of biographical self-reflection from early to late midlife

Three questions are examined. (1) Do biographical self-reflections depend negatively upon life success and positively upon coping strategies of acceptance – success and self-determination hy-pothesis? (2) Do they decrease between youth and late midlife – consolidation hypothesis? (3) Do the impacts of life success decrease while the impacts of coping increase – internalization hy-pothesis? The sample consists of former German high school students at the age of 30, 43 and 56. The number of responses to open questions about regretful decisions, positive and nega-tive events and unhappy developments in their life is regressed upon objective and subjective success in occupational and private life as well as upon the religious coping strategies of ac-cepting or searching for meaning and the existential coping strategies of flexible goal adjust-ment or tenacious goal pursuit. The success hypothesis is confirmed partly, the self-determination hypothesis rarely; contrary to the consolidation hypothesis the frequency of biographical self-reflection increases; and contrary to the internalization hypothesis all impacts decrease.

There are three main research questions behind this work: Does subjective social status (SSS) change over life course? Which potential socio-economic determinants are subjectively important for SSS? The third question – connecting the two other ones – examines changes in determinants over the life course.

It can be assumed, that SSS is not constant over the life course and that it tends to change in earlier stages of life rather than in later stages. Objective socioeconomic status should have a strong effect on SSS. Data from the Kölner Gymnasiastenpanel are used. This panel study started 1969 as a survey with 3385 students of academic secondary schools in North Rhine-Westphalia. The former students where surveyed again at the age of 30, 43, and 56 regarding their educational, occupational, and private life courses as well as personal attitudes to society. Subjective social status will be examined with two concepts: subjective social class and self-identification as an elite member. The first concept is a general way SSS is researched and it is broadly accepted by members of a society. While in general social surveys working and middle class are the most frequently answers, in our privileged cohort the decisive question is, whether you belong to the middle class or the upper (middle) class. The second concept is measured with a dichotomous question based on a broad and pluralistic definition of elites. For analyzing causal effects hybrid logistic regression models are used. Both results correlate moderately between different stages of life course. Subjective social class is more stable at later moments in life than at earlier times. Causal analyses show that objective socioeconomic variables in general have a strong causal impact on SSS. Different socioeconomic factors are more crucial for subjective class and elite membership.

9F

Symposium: Why do we need national cohort studies? A dialogue between research and policy on the experiences of the Growing Up in Scotland, Ireland and New Zealand studies

Paul Bradshaw, ScotCen, UK, et al

Contemporary longitudinal studies in New Zealand include Growing Up in New Zealand (2009), the Pacific Islands Family Study (2000), and the indigenous household survey Best Outcomes for Maori:Te Hoe Nuku Roa (1994). Growing Up in New Zealand has been explicitly designed for policy translation across the sectors of influence on child development, and like the Pacific Island Family study, the cohort is followed prospectively within the broader context of family, environment (physical, cultural, economic) and society. Te Hoe Nuku Roa is built on an holistic indigenous framework with interacting domains of influence, recognising that the diverse outcomes experienced in New Zealand by Maori are unlikely to improve with single sector responses supported only by cross sectional evidence. Our longitudinal studies also have parallel objectives that involve contributing to the effective, equitable and efficient development, implementation and evaluation of existing policies in New Zealand. The ability to meet such objectives is assisted by relationships with policy stakeholders and programme

developers; balancing tensions between the cycles of policy and research; and managing collaborative expectations. Yet areas of policy which are dissonant with best outcomes can only be influenced by robust, research supported evidence. This symposium will present exemplars of translational research from each of the three longitudinal studies in New Zealand: recent changes to the policy regarding provisions for parental leave in early life (Growing Up in New Zealand), the translational implications of the health, social, and environmental factors associated with hearing impairment and ear problems in childhood (Pacific Islands Families Study) and the significant New Zealand government investment resulting from Housing and Health research (Te Hoe Nuku Roa). These case studies will demonstrate existing translational research practice in New Zealand, challenges in measuring the impact (successful or otherwise) of evidence-based policy translation, and the lessons being learnt (or swallowed) in the process.

PARALLEL SESSION 10

10A

Symposium: Inequalities in young people's post-school destinations: the role of standardisation of curricula and certification

Cristina Iannelli, University of Edinburgh, UK, et al

In many countries youth transition processes and outcomes continue to largely differ between men and women and among people from various social backgrounds (Smyth et al., 2001). Moreover, inequalities in post-compulsory educational participation and labour market outcomes have been found to be more pronounced in countries with differentiated education systems than in undifferentiated systems. This research has mainly focused on between-school tracking, in particular the distinction between vocational and academic education (Shavit and Müller, 2000; Iannelli and Raffe, 2007). Much less attention has been paid to differences within-school (academic) programmes and how they relate to gender and social inequalities. It is to these differences that the proposed symposium will draw attention. Three comparative and longitudinal studies conducted by the 'Education and Social Stratification' research strand of the AQMeN (Applied Quantitative Methods Network) centre will be presented. They investigate the relationship between specific subjects studied at school, field of study in higher education (HE) and destinations after leaving education. We compare youth transitions in Scotland, Ireland and Germany, three countries which vary in the degree of standardisation of curricula and certification at upper-secondary education and of higher education admission policies: on the one hand, Germany has a highly standardised secondary system both in terms of curricula and national certification and entry into HE guaranteed by the Abitur; on the other hand, Scotland has a much less standardised system where students largely vary in the number, types and levels of subject taken for their final examinations (Highers). Moreover, entry into HE is determined by a combination of subjects and grades and allocation of places is decided at institution level. In an intermediate position the Irish system is characterised by less variation in students' curriculum choices, strong standardisation in the final examination and a centralised system of allocation of HE places. The proposed papers will examine the consequences of these national differences for gender and social inequalities in young people's post-school transitions, namely whether students entered HE or the labour market, which occupational destinations they achieved but also issues of HE retention and how they may be related to differences in entry requirements.

Family background, curriculum choice and school-to-work transitions among upper-secondary school-leavers in Scotland and Ireland

This paper investigates the role of curriculum choices in secondary education in young people's post-school destinations in Ireland and Scotland. In particular it examines 1) whether in these two countries patterns of subject choice vary by social background characteristics and 2) whether social class differences in subject choices explain differences in young people's education and labour market outcomes. This paper addresses the following questions: Are there differences in the choice of subjects at upper-secondary education among students from different social backgrounds? If so, do these variations in subject choice lead to socially differentiated post-school destinations? Have these patterns changed over time? In both Ireland and Scotland secondary education takes place in comprehensive schools, school curricula are predominantly general and links between education and the labour market are relatively weak. Despite these commonalities, however, these two

countries have also some national specificities. Scotland lacks a standardised certification system and there is flexibility in the number, types and levels of subjects that students can take in upper-secondary education. This flexibility may lead to substantive differences among students from various family backgrounds in their school subject choices (perhaps not different from those observed in tracked systems). A lack of standardization of certification may also provide a poor signal of school-leavers' future productivity to employers which in turn may lead social inequalities to emerge in the labour market. By contrast the Irish school system has a more standardised examination system: upper secondary students are required to study three compulsory subjects (English, Maths and Irish) and there is less variation in the number of subjects typically taken in the final school examination (six to eight subjects) than in Scotland. These country specificities lead us to expect lower social class differences in subject choice and ultimately in post-school destinations explained by subject choices in Ireland than in Scotland. For our empirical analysis we use a series of Scottish and Irish school-leavers surveys covering the period between 1987 and 2005. Our outcomes are labour market destinations (further education, employment and non-employment) and, among the employed, their occupational position (measured by the European Socio-economic classification and the International Socio-Economic Index of Occupational Status) upon labour market entry.

Social origin and student retention in higher education – Comparing the UK and Ireland

assess whether there is an association between social origin and student retention in higher education (HE), and, if so, whether this relationship differs between the UK and Ireland. We ask whether the degree of social inequality in student retention is associated with national institutional factors such as HE recruitment policies. In the UK, universities usually expect that university candidates have taken at least three Highers/A-levels at the end of secondary schooling. Apart from the number of Highers/A-levels, universities (especially the most prestigious universities) take the secondary school subjects studied and the grades achieved within these subjects into account in their decisions to make an offer. UK upper-secondary students largely vary in the number and types of subjects they study at school and these choices affect the range of fields of study they can subsequently take. In Ireland, entry to higher education is largely determined by grades in the Leaving Certificate examination and subjects only play a minor role. Moreover, Irish upper-secondary students are required to take English and Maths in their final examination and commonly take between six and eight subjects in total. In this paper we ask whether these differences in admission policies have consequences for HE retention of students from different social backgrounds. It may be hypothesised that the stronger focus on subjects in the UK for HE entry, which should ensure a stronger match between what is studied at school and at university, may lead to a higher rate of success of students (including those from lower social origin) in the UK than in Ireland. In this scenario, student retention should be lower and social inequalities stronger in Ireland than in the UK. On the other hand, if attainment in general (as a proxy for ability) is more important for succeeding in HE studies, then the Irish HE system may show higher retention of students and less social inequality in this outcome than in the UK. For our analysis, we use rich administrative data on students in higher education from the UK and Ireland. For the UK, student records were provided by HESA (Higher Education Statistics Agency). For Ireland, we obtained administrative data from the Irish HEA (Higher Education Authority) student record system.

The institutional embeddedness of gendered choices of field of study

This paper examines how national institutional features of the upper-secondary school systems and HE entry shape gender-specific choices of field of study. We adopt a cross-country approach by comparing the mediating role of subject choices in upper-secondary education for gender segregation in higher education in Scotland, Ireland and Germany, three distinct countries in terms of standardisation and stratification of the school system. Germany is known for early tracking (at the age of 10) into different school tracks but lacks a strong differentiation of curriculum in upper-secondary education. Ireland has a common curriculum and assessment framework at both lower- and upper-secondary levels. Scotland has, in common with Ireland, a comprehensive lower-secondary system but, unlike the other two countries, has a flexible upper-secondary system in terms of curricular choices and certification. Moreover, subject choices are highly relevant for HE admission in Scotland. Due to these institutional differences in the configuration of upper-secondary education, we expect subject choices in upper-secondary education to be the strongest mediator for gender differences in field of study choices in Scotland, followed by Ireland, being the least pronounced in Germany. This is because Scottish

students have to take decisions on school subjects which are influential for entering certain fields of study and institutions and may therefore follow gender-typical field choices more frequently than students in the other two countries. The mechanism of subject choice may be less pronounced in Germany than in Ireland because upper-secondary students (due to early selection) are a more homogeneous group in terms of abilities and aspirations. We test our ideas with comparable data from each country on upper secondary school leavers who were followed in their transition from school to work/education in the mid-2000s.

10B Paper Session: Personality, well-being and mental health

What predicts changes in mental health? Findings from middle-aged German working women
Silke Tophoven, Institute for Employment Research, Germany

Sickness absence due to mental diseases is of increasing relevance. Furthermore, in Germany, mental disorders are the main reason for the transition into disability pension. Thus, examining work-related reasons for poor mental health is not only of medical relevance, it is also of economic relevance. Thereby, the prevalence of depressive symptoms, the most relevant mental disorder, is higher in women than in men. Working women are often embedded in multiple roles. Thus, when examining mental health status for female workers, not only working conditions have to be considered. In addition to working conditions also the private life circumstances have to be taken into account. Furthermore, the interplay of professional and personal tasks can result in a perceived work-family conflict, another possible risk factor for poor mental health. Against this background, I examine whether the requirement constellations of different spheres of life predict changes in mental health. For Germany, a particular focus on the situation of the growing proportion of older working women's mental health is missing so far. With increasing age, work demands as well as domestic and family tasks might change and are experienced differently. I make use of the first two waves of the "lidA study. German Cohort Study on Work, Age and Health" which were conducted in 2011 and 2014. Two different measures of mental health status as well as several scales and variables to map working conditions and private life circumstances are available for two points of time: baseline and three years later, for more than 2,000 women. Different statistical methods are employed to predict and explain changes in mental health status. First results will be presented at the conference.

Interrelations between the happiness and well-being of adolescents and their parents
Elizabeth Webb, University College London, UK, et al

Substantial evidence supports the hypothesis that maternal well-being impacts upon child well-being, and in earlier work we have established that this relationship is bidirectional. Here we explore how, in two parent families, both parents' well-being relates over time to their adolescent child's happiness. Analyses were conducted using data from waves one to four of Understanding Society, the UK Household Longitudinal Study (UKHLS). UKHLS collects data on adult's well-being (General Health Questionnaire [GHQ]) and on youth's (age 10-15) happiness with their school work, appearance, family, friends, school and life as a whole. We use structural equation models to investigate the reciprocal relationships between both parents' well-being and their child's happiness. The analytic sample is 4748 triads (adolescent child, mother, father). Our results show that the well-being of each parent longitudinally predicts that of the other parent. Maternal but not paternal well-being longitudinally predicts adolescent happiness, but adolescent happiness does not have longitudinal effects on parental well-being. When analyses are stratified by sex of adolescents, we find that female adolescents experience longitudinal effects of their mother's well-being whereas male adolescents do not. Stratification of adolescents into two age bands (10-12 and 13-15 years) suggests that paternal well-being has a longitudinal influence on the happiness of older adolescents. Our findings indicate that there are meaningful longitudinal effects of parental well-being on the happiness of their adolescent children, and reciprocal effects of the well-being of parents. This supports the suggestion that the family should be considered as a dynamic system, for instance when planning clinical interventions.

Personality and preventive healthcare utilisation

Anne Nolan, Trinity College Dublin, Ireland, et al

There is extensive empirical evidence that personality affects many outcomes and behaviours, such as educational outcomes, labour market participation, savings behaviour, health behaviours, physical health status and mortality. In many cases, the effect of personality is more, or as, important as the effect of cognition or socio-economic status on outcomes. However, despite the steady accumulation of evidence that personality traits prospectively predict adult health outcomes, including mortality, there are few studies of the mechanisms by which they do so. One of the potential pathways between personality and health/mortality is via health-promoting or health-damaging behaviours. Use of preventive healthcare services (e.g., vaccinations, screening, etc.) is one such health-promoting behaviour and as an input into the production of health, it is therefore instructive to ask whether preventive healthcare utilisation is also impacted by personality. In this paper, we use data from the Irish Longitudinal Study on Ageing (TILDA), which is a nationally-representative longitudinal survey of the population aged 50+ in Ireland, to examine this issue. We find that personality traits such as conscientiousness and openness are important predictors of preventive healthcare utilisation, with effect sizes comparable to other significant predictors such as health status and insurance cover. While the policy implications of a role for personality are less clear-cut than for example, insurance, findings of a significant effect for personality on preventive healthcare utilisation can be useful for policymakers and practitioners in terms of targeting of interventions/programmes.

Lifetime unemployment, inflammatory biomarkers and psychological health at middle age: sensitive periods, accumulation and explanatory pathways

Amanda Hughes, University College London, UK, et al

Background: 'Scarring effects' of unemployment on mental health have been reported, but whether they are best explained by accumulation or sensitive period effects remains unclear, as do the mediating mechanisms involved. It is unknown whether scarring effects of unemployment exist for systemic inflammation. Methods: This analysis used 34 years of data from the 1958 Birth Cohort to investigate scarring effects on psychological distress and inflammatory biomarkers in middle age. To separate accumulation, sensitive period and transitory effects, I examined associations of Malaise Inventory at 50, and C-reactive protein and fibrinogen at 45, with:

(1) total months unemployed since age 16; (2) age at first unemployment; (3) recentness of last unemployment

All analyses adjusted for 'initial conditions': psychological health, physical health and socioeconomic position at 16. Mediation was examined via: later socioeconomic position, physical health, health behaviours, and current unemployment at outcome measurement. Results: Accumulation effects were indicated by a roughly dose-response association of psychological distress at 50 with total years unemployed ($p<0.001$). First unemployment at 16-21 and 21-30 was associated with psychological distress at 50 ($p<0.001$): this was explained by greater total unemployment. In contrast, the association between psychological distress and total unemployment was not explained by unemployment at particular ages, against a sensitive period effect. Mediation by socioeconomic position explained more than other pathways. Adjusting for current unemployment confirmed the 'scarring' nature of associations, with independent transitory effects indicated by very strong associations with current unemployment. In contrast, while analyses of CRP and fibrinogen found robust associations with current unemployment at 45, total unemployment was associated only with fibrinogen; this was again largely explained by SEP. Conclusions: Results suggest interventions at all ages could mitigate long-term effects of unemployment on psychological health, while effects of unemployment on CRP appear in this population to be largely transitory.

10C   Paper Session: Adulthood

The effect of the changing meaning of "adulthood" on the life course

Ekaterina Pavlenko, Institute of Education of National Research University, Russia, et al

Recently, the concept of adulthood has been in the center of attention among researchers and common public. The shift in meanings and structure of the life course are so significant, that new life stages are being suggested ("emerging adulthood"). We insist that correspondence between symbolic structures around "adulthood" and contemporary changes in life course should be understood better. We need to understand how culture affects the ways people think and act upon youth/adulthood. We propose that cultural sociology specifically is the

robust and precise instrument to account for these major changes. It allows describing "youth" and "adulthood" as symbolic structures, which are collectively sustained in society. It wasn't until now that young people found themselves facing such a vast amount of possible futures, as they face today. Among those possible futures, "becoming an adult" is a long-standing formula which began to shatter only recently. Binary child/adult is one of the cultural universals. If this boundary is diffused, it means not only that youth is becoming longer, but also that images of adulthood are becoming "polluted". What we will present is an investigation of types of symbolic structures surrounding adulthood in their connection with decisions individuals make on different stages of the life course on the data from Russia. We used data from Russian panel study of Trajectories in Education and Occupations (TrEC), established by Higher School of Economics and carried out by the Center for Cultural Sociology and Anthropology of Education. In this paper cases are based on long interviews from the Tracer Atom qualitative sub-project.

Walk with Love: understanding self development and Indian adulthood through the Bhaavyatra initiative
Rachana Bhangaokar, The Maharaja Sayajirao University of Baroda, India, et al
Bhaavyatra, a walking pilgrimage guided by the spirit of service, is a unique initiative undertaken by some Indian adults inspired by the work of Mahatma Gandhi and Vinoba Bhave. Against the backdrop of developmental goals of adulthood in India, the study aimed to understand self development during adulthood by documenting the motives and the experiences of bhaavyatris (people undertaking the bhaavyatra). The sample comprised 11 adults, both men and women, from different parts of India. The study was qualitative in nature and in-depth interviews were conducted to gather data. Participants' personal blogs and videos were also analysed to support data from the interviews. Results indicated that bhaavyatra and walking were a means to 'slow down' and connect with oneself and others. With more experience of bhaavyatra, older participants reported positive shifts in their lives when they cultivated the ability to reflect and purify their intentions, and align their actions with their intentions amidst the challenges of everyday life. Participants felt bhaavyatra was a journey in the identification of pure intentions (bhaav) behind actions that led to wellbeing and enhanced trust networks. Bhaavyatra was thus a catalyst with developmental benefits and the potential to trigger long term inner transformations during adulthood.

Using longitudinal data to support the measurement of Sustainable Development Goals (SDGs)
Prerna Banati, UNICEF, Italy, (Expert Advisory Group includes members from Young Lives, University of Pennsylvania, Emory University, UCLA and UNICEF among others)
The recent Sustainable Development Goal (SDG) framework has identified a number of goals and indicators relevant for children. Many of these indicators aim to capture progress in core domains of child wellbeing including nutrition, education, health and poverty reduction through cross sectional monitoring. In this regard, the SDG indicator frame has two challenges. Firstly, within the current framework, it is limited in its ability to understand connections across development domains. A lack of a full understanding of how indicators link means that the framework itself cannot inform a strategic response plan with a coherent overview and informed prioritization of SDGs. This risks creating a 'siloed' response to the goals, which is likely to be suboptimal. Secondly, cross-sectional indicators restrict our ability to see the evolution of a child over his or her life course, and what the impact of interventions today could have on the future wellbeing of children as they transition and enter adulthood. The measures are limited in what can be said about elements which contribute to bringing up well-nurtured and supported children. It can also be used to better understand the consequences of missed goals in past cohorts. Longitudinal data has some comparative advantages over cross-sectional measures by tracking children as they grow over time. Such data are well suited to understanding the main features of children's physical, cognitive, psychosocial developmental trajectories; and how these domains interact in shaping outcomes and well-being. It can help explore children's developmental trajectories, and improve understanding of the factors shaping these trajectories, including the role of the timing of events, influences and institutions. This paper explores how longitudinal research can be better leveraged to track the development and wellbeing from childhood through adolescence and to better understand the trajectories of children globally, in a way that helps inform the SDGs.

Social and environmental concerns from adolescence to midlife: a 25 year longitudinal study
Harvey Krahn, University of Alberta, Canada, et al
Previous research has shown that younger people are more likely to view poverty, unemployment, racial and gender discrimination, and environmental degradation as serious problems. Higher education is also associated with such concerns, at least at a surface level. More educated citizens, however, are not necessarily more receptive to government initiatives that might reduce such problems. Most of the research on this topic has been cross-sectional, leaving open the question as to whether people become more conservative as they age, or whether older people's values and beliefs were shaped in an earlier era. Also, little attention has been paid to prior effects of family socio-economic status (SES) on citizens' beliefs although educational attainment is known to vary as a function of family SES. Consequently, whatever the effect (positive or negative) of higher education on social and environmental concerns, is it due to the socializing effects of family SES or participation in the higher education system?   The 25-year Edmonton Transitions Study (ETS), which tracked over 900 Canadian high school seniors from 1985 to 2010, asked participants at ages 18, 22, 32, and 43 whether they felt that racial discrimination, female job discrimination, poverty, unemployment, the treatment of Native Canadians, and environmental pollution were serious problems (1 = not a problem at all; 5 = a very serious problem). Using growth curve modeling, this paper examines trajectories of these social and environmental beliefs between late adolescence (age 18) and early midlife (age 43). It also begins to sort out the effects of family SES and personal educational attainment on social and environmental beliefs by exploring growth trajectories as a function of interindividual differences in family SES and educational attainment by age 43, while controlling for gender.

Getting bullied at school, involuntary precarious employment and psychological distress in adulthood: evidence from community-based data in Japan
Emiko Ando, University of Tokyo, Japan, et al
Introduction. Getting bullied at school is counted as not only a childhood determinant of mental health in adulthood but also possibly leading to poorer socioeconomic position, such as precarious employment by lower education attainment and social isolation This study investigated the mediating role of precarious employment on the association of getting bullied at school and poor mental health in adulthood. Methods. Data from 1,949 (991 men and 958 women, with average age of 39.6 years) employees from the 2nd wave respondents of Japanese Study of Stratification, Health, Income, and Neighborhood in Tokyo metropolitan area were used. The information on getting bullied at junior high/high school was surveyed at the 1st wave using a self-administered questionnaire. Respondents' current employment status and psychological distress (measured by the Japanese version of K6) were assessed at the 2nd wave. Employment status included regular, involuntary precarious, and non-involuntary precarious employment. Getting bullied at school as an independent variable and current psychological distress as a dependent variable, the standard error and 95% confidence interval of direct and indirect coefficient were calculated with 5,000 times bootstrap. Results. Among three employment status groups, involuntary precarious employees showed the highest prevalence of experience of bullying (n= 75, 57.2%) and K6 mean score (5.47, SD4.9). After controlling age and perceived living condition at age 5 as covariates, the coefficient of total effect of getting bullied at school on psychological distress in adulthood was statistically significant in each sex (1.2572 95% CI= 0.7082-1.8062 in men, 0.5739 95% IC= 0.0463-1.1015 in women). Specific mediation effect of involuntary precarious employment was statistically significant in men and women (0.0758 95% CI= 0.0126-0.2053 in men, 0.0478 95% IC= 0.0028-0.1527 in women). Conclusion. Involuntary precarious employment may be a mediator on the significant link between school bullying and mental health in adulthood.

10D

Symposium: Residential mobility: motivations and outcomes
Heather Joshi, University College London, UK, et al
Moving home is usually something that often happens at crucial junctures of the lifecourse. Moves may be milestones or turning points, and may lead to better or worse outcomes. The first of the papers in this symposium explores US data on the interconnections between people and places that combine to result in mobility that may have been intended or not intended, along with immobility that has been as planned or unintended. This perspective on intentions offers additional insight to the second and third papers in the symposium, which are parallel investigations of mobility among young families in USA and UK (the Fragile Families and Child Wellbeing Study and the UK Millennium Cohort respectively, up to age 5). Each seeks to

understand how the development in pre-school children may be affected by family moves. While the studies have evidence in common on factors affecting family mobility, children's outcomes, and a common measure of neighbourhood social advantage, they also exploit information specific to each source – housing quality in UK, and the incarceration of fathers in the USA. Each paper reaches a similar conclusion that outcomes for young children are not apparently worsened by moves per se, but by the circumstances which surround them. The fourth paper looks at an outcome of mobility of special concern to longitudinal research – its effect on the continuity of survey response. The paper uses administrative data from the UK Millennium Survey to show how the presumed problem of response bias can be moderated by appropriated tracing efforts, and is not irreversible.

Intentions and Outcomes: Mobility and Immobility over the Life Course

Migration and residential mobility studies are dominated, as their names suggest, by studies of movers and we know a good deal about how life events generate moves. We know less about how mobility intentions are translated into actual moves and the role of unexpected events in the mobility process. Although there has been new work on the gap between stated preferences (the plan to move) and revealed preference (actual moves) we do not have a good understanding of (1) how place and place attachment affects the decision making and (2) how the move or lack of move is translated into perceived housing and place outcomes. Although a very high proportion of those who express and intention to move also move, there are many who do not move, and some who do not intend to move, who do move. What explains these discrepancies and how much of it is related to personal behaviors, how much is related to unexpected events in the life course, and how much is related to interconnections between households and the places that they live? There is a growing concern with neighborhood affects generally, and specifically how the inter-connections between people and place influence their decision making and their outcomes. How do duration, and the interaction between people and places play a role in mobility/immobility? In this analysis we construct a series of models of the intention to move and move behavior and outcomes in the housing market. Specifically we model the process at two levels : (1) households who express an intention to move and who move and (2) households who express the intention not to move and who move, as a function of (i) demographic variables, (ii) levels of satisfaction and connection with the locality and (iii) destabilizing life cycle events.

Upacking an adverse association between mobilty and child development in the pre-school years: evidence from US Fragile Families Studies

Families in the United States change residence frequently in a child's early years. Yet young children have been relatively neglected in research on residential mobility. Some existing studies attribute poor child outcomes to frequent home moves, while others find no such effects. We examine whether residential mobility affects children's well-being as measured by cognitive and behavioral development at age 5. We use the first four waves of data of the US Fragile Families Study to investigate who moves, how often, whether, and for whom moving home achieves neighborhood improvement or deterioration. We find that the majority of US children have moved at least once by age 5, with a substantial minority having moved more often. Moving is associated with negative family events, such as a break-up with the biological father, father's incarceration, housing insecurity, and adverse employment changes. When focusing on the relationship between frequency of moves and child outcomes, we find that the more often families move, the more behavioral and emotional problems the child exhibits; and the worse they perform on verbal tests. However, these adverse associations are statistically accounted for by the negative events associated with moving and with family vulnerabilities at baseline. We find no evidence that moving per se is detrimental for these outcomes in young children. This applies even where moves do not result in better neighborhoods. At least in work so far, and in tune with the findings in UK, moving appears to be, for some children, a response to other family stressors rather than necessarily always an 'adverse event' on its own.

Upacking an adverse association between mobilty and child development in the pre-school years: evidence from the UK Millennium Cohort

The early years of life are a time when families move home a lot. Does this residential mobility affect children's well-being as measured by cognitive and behavioural development indicators at age 5? The question arises as some literature assumes that moving home is a stressful life event, adversely affecting child development, particularly if it occurs frequently. On the other hand, there are also studies which suggest a more mixed role for

home moves, which may themselves reflect adverse or positive changes in family circumstances. This paper uses evidence from the first five years of the UK Millennium Cohort to ask who moves, how often and whether, and for whom, moving home achieves better housing and/or neighbourhood improvements. We find that many British families at this point in the life-cycle move to better homes a growing family. We then investigate the relationship between different types of moving and child outcomes. With one exception (the verbal score in moves where neither area nor size of home worsens), any type of move displays an adverse association with the indicators of child development. However, the adverse association is statistically accounted for changes in family structure and employment status, insecure housing tenure and controls for other family vulnerabilities at baseline. We find no evidence here that moving per se worsens these outcomes in young children. This applies even where moves result in worse housing or a worse neighbourhood. At least in work to date, and as in the sister study of the US Fragile Families Study, moving emerges as sometimes a response to other family stress but not, on its own, a driver of stress for young children.

Residential Mobility and Response in the UK Millennium Cohort Study

This paper examines the relation between residential mobility and unit non-response in the first five waves of the UK Millennium Cohort Study (MCS). The objective is to ascertain whether moving home affects the likelihood of response and whether any impact is persists over time. The existing literature is extended by examining the impact of moving home on the likelihood not only of attrition but of returning to the survey after dropping out in a previous wave. This paper focuses on the concern that if home movers are more likely to drop out from the survey, the sample may become biased over time with fewer home mobile families than expected. The findings show that residential mobility has a negative impact on response. However, this impact is not persistent over time. Put differently, moving home is circumstantial and movers are likely to come back to the survey after being absent in a previous wave. The findings also shed light on the importance of tracing home movers in order to maintain the sample representativeness in a long term longitudinal survey.

10E Paper Session: Adverse life events and health

The relationship between perceived stress, age and heart rate variability in a large, population sample of older adults

Joanne Feeney, Queen's University Belfast, UK, et al

Introduction: High lifetime exposure to stress has been shown to have adverse effects on mental and physical wellbeing in older adults. Evidence also suggests that high levels of current perceived stress (PS) negatively impact physical health. However, the relationship between these two indices of stress in predicting physiological function in older adults has been under explored. The aim of the current study was thus to determine how differing measures of stress exposure relate to heart rate variability (HRV) in older adults. Methods: The sample consisted of 2885 adults aged 50 or older who took part in wave 1 of The Irish Longitudinal Study on Ageing. HRV was assessed by electrocardiography during ten minutes of supine rest. Information on stress exposure was gathered by means of a self-completion questionnaire. Individuals were asked to indicate whether they had been exposed to any of 12 possible LEs. Current PS was assessed via the 4-item Perceived Stress Scale. Multiple linear regression analysis with interactions was carried out using Stata 12.0. Analyses were survey weighted to account for differential non-response and adjusted for confounders. Results: Relative to no events reporting 3 or more LEs was associated with lower high frequency HRV (b= -.55, p<.001). Higher PS was also independently associated with lower high frequency HRV (b= -.04, p<.05). However, individuals who reported both a greater number of LEs and high current PS had higher high frequency HRV (b= .08, p<.01). This pattern was also observed for other indices of HRV. Conclusion: Greater exposure to stressful LEs and high current perceived stress are independently associated with lower HRV. However, individuals who report a greater number of LEs coupled with high current PS have higher HRV. This work has implications for theories of resilience and the issue of survivor bias in retrospective life course studies.

Does exposure to stressors predict onset of rheumatoid arthritis?

Cathie Hammond, University of Essex, UK

Rheumatoid arthritis (RA) is a progressive and disabling condition that is costly to the state. The socio-economic gradient in RA prevalence indicates that environmental conditions and lifestyle are important for its onset, and there is increasing evidence about physiological links between psychological responses and immune function. This paper examines the importance of exposures to stressors over the life course for RA onset to investigate: (1) Whether stressors such as financial hardship, unemployment, partnership breakdown, death within the family, and witnessing deaths predict onset of RA (2) Whether exposures at particular life stages matter (3) The relative importance of exposures in different domains (material and occupational, family, trauma), of different durations, and frequencies (4) Whether smoking, which is socially patterned and may predict RA incidence mediates any associations found. Data from the English Longitudinal Study of Ageing are employed in Cox regression analyses to estimate associations between RA onset and exposures to stressors, adjusting for gender, cohort, and family background. After adjustment, exposure to at least one stressor during childhood predicts RA onset from age 16 (hazard ratio (HR)=1.50, 95% confidence interval (CI)=1.03-2.18), between 16 and 44 predicts RA onset from 45 (HR=1.83, 95%CI=1.20-2.78), and between 16 and 59 predicts RA onset from 60 (HR=2.14, 95%CI=1.03-4.45). Exposures during early adulthood (16-30) are particularly important for onset of RA from 45 and from 60. Evidence for associations with RA onset does not differ by domain of exposure, but is stronger for acute stressors, and rare stressors. There is no evidence that associations are mediated by smoking. Evidence about the role of stressors in RA onset is sparse and these findings require replication. Nevertheless, our findings indicate the importance of environmental stressors in the development of RA, and the more detailed findings raise questions for future research about the mechanisms involved.

Childhood and adulthood socio-demographic circumstances as predictors of heart disease incidence and fatality in the ageing Finnish population

Fanny Kilpi, University of Helsinki, Finland, et al

The social inequalities in heart disease incidence and mortality may have their roots in early life conditions that influence later life socioeconomic attainment and health. Life course influences on heart disease are particularly interesting in the Finnish context, as the society and the structure of the economy underwent rapid development in the latter half of the previous century. The present study examines multiple dimensions of socio-demographic circumstances in childhood and adulthood as predictors of heart attack incidence and fatality in this context. We use longitudinal data on cohorts who experienced childhood in the 1940s and 50s, derived from a 10% sample of households drawn from the 1950 census with a follow up of myocardial infarction (MI) hospitalizations and mortality between 1988 and 2010. We use register-based information to identify different aspects of childhood and adulthood circumstances that have influenced the risks of MI incidence and fatality in these cohorts. The results suggest that childhood factors protective of MI incidence include higher parental education, professional and farming background, family home ownership, and less crowded housing conditions. Farming background and crowding also remain associated with incidence after controlling for multiple adulthood circumstances, which suggests that the physical environment of childhood may have an important independent effect. Advantageous childhood circumstances do not however appear to buffer MI patients from one-year fatality. Nor do they explain the associations of adulthood marital status, education, occupational class, income, employment status, and home ownership with MI incidence. Marital status and income in adulthood also function as significant predictors of one-year fatality. The results pave the way for further research on how different socioeconomic trajectories in men and women have influenced heart disease morbidity and mortality in the context of the socioeconomic development and structural changes in Finland in the 20th century.

Socio-economic variation in heart rate recovery to orthostatic challenge

Cathal McCrory, Trinity College Dublin, Ireland, et al

Background: Much recent work has focused on the prognostic value of heart rate recovery as a risk factor for cardiovascular disease and cardiovascular mortality. This paper explores socio-economic variation in HRR following exposure to a potent physiological stressor. Method: The sample involves a nationally representative cohort of 4475 community-dwelling older persons aged 50 years+ participating in the Irish Longitudinal Study on Ageing (TILDA). Participants completed an active stand (i.e. vertical stand from a supine position) as part of a detailed clinic-based cardiovascular health assessment. Heart rate and blood pressure responses to the stand

were monitored over a two-minute time horizon using a finometer. Highest level of educational achievement served as the indicator variable for socio-economic status and mediation analysis was undertaken to explore the pathways through which social inequality comes to affect the speed of heart rate recovery using the extensive array of covariates available in the TILDA dataset. Results: Participants with primary level education were characterised by a significantly slower heart rate recovery following the stand (B= -1.16 bpm, CI95% = -1.78, -0.55; p<0.001) compared with those with tertiary level education. Mediation analysis revealed that lifetime smoking history accounted for a sizeable proportion (~50%) of the educational differential. Additional adjustment for other objectively measured markers of lifestyle measured during the clinic-visit rendered the educational differential non-significant. Conclusions: This study will explain why a one beat per minute difference in heart rate recovery to the stand is of theoretical and clinical relevance and will illuminate the potential life course mechanisms through which social inequality becomes embedded in the organs of the body.

Clustering health-related behaviours using two British birth cohort studies
Claire Mawditt, University College London, UK
Background: Research findings indicate that health behaviours relate to one another and do not co-occur within individuals by chance alone. Methods: This research uses data from two British birth cohort studies: the 1958 National Child Development Study (NCDS) and the 1970 British Birth Cohort Study (BCS70) to extract the clustered patterns of four health behaviours. The four health behaviours are: smoking (current numbers of cigarettes per day), alcohol use (number of units consumed in the last week), diet (average consumption frequency of 5 food groups), physical activity (average frequency). Latent Profile Analysis (LPA) is used to extract the clustered patterns of health behaviours in each birth cohort study. Results: Three clusters were extracted at age 33 in the NCDS and at age 34 in the BCS70. The three clusters were labelled; "Multiple Risky Behaviours", "Smokers", "Healthy lifestyle". "Multiple Risky Behaviours" were the smallest cluster in both studies (6.4% NCDS; 4.5% BCS70), followed by "Smokers" (25.2% NCDS; 19.7% BCS70) and finally "Healthy lifestyle" were the largest cluster in both studies (68.4% NCDS; 75.7% BCS70). Individuals in the "Multiple Risky Behaviours" cluster smoked more cigarettes per day, drank more units per week, had poorer diets and lower levels of physical activity in comparison to the other two clusters. Conclusion: The results of this study demonstrate the importance of considering health behaviours together rather than as individual entities. This research can contribute to the development of health-related behaviour policies and interventions that target homogeneous subgroups of the population. Next steps: The next steps in this doctoral project will to be 1) To identify the lifecourse predictors of health behaviour clustering 2) To investigate health behaviour clustering longitudinally.

How does the chronicity of parental depressive symptoms influence adolescent risky behavior?
Erin Holmes, Brigham Young University, USA
Mixture modeling of longitudinal data makes it possible to identify distinct groups of individuals with differing experience of psychiatric symptoms over time (Muthen & Muthen, 2000). Thus we will conduct a dyadic mixture model to identify distinct typologies of maternal and paternal depression trajectories. These trajectories capture the chronicity of parental depression over time within and between families, emphasizing the life course assumption of linked lives in developmental context. We will then explore the impact of the chronicity of depression within the family system on adolescent risky behavior. This sample is taken from the Eunice Kennedy Shriver NICHD funded Study of Early Childcare and Youth Development (SECCYD), and consists of 490 families who were stably partnered over time. On average, fathers in this sample completed 15.34 years of education (SD = 2.61), and mothers received 15.22 years of education (SD=2.27). The average income-to-needs ratio over time was 4.79 (SD=2.91), the average years married at the birth of the target child was 5.74 (SD=3.50). Forty-two percent of the adolescents in this sample were firstborn (n=207), 89% (n=436) were White, non-Hispanic, and 50% (n=247) were female. Parental depression scores were measured using the CES-D (Radloff, 1977) with scores measured when the target child was 4½ years old, 1st grade, 3rd grade, 5th grade, 6th grade, and ending when s/he was 15 years old.   At age 15, adolescents completed the Risky Behavior Questionnaire designed for this study (53 items, Cronbach's alpha = .89). It includes items reflecting a range of behaviors including tobacco use, alcohol use, violence-related behaviors, and vaginal and oral sex behavior. In preliminary analyses, we identified four typologies of parental depression: 1) fathers reporting moderate levels of depressive symptoms,

with mothers maintaining low levels (26%); 2) chronically depressed mothers, with fathers maintaining low levels (16%); 3) chronically depressed fathers, with mothers reporting moderate levels (7%); and 4) fathers and mothers reporting consistently low levels (52%). Further analyses demonstrate that adolescents in homes with at least one chronically depressed parent have significantly higher levels of risky behavior.

10F

Symposium: Translational research Down Under: exemplars of the policy-research interface from longitudinal studies in New Zealand
Polly Atatoa Carr, He Ara ki Mua, University of Auckland, New Zealand, et al
Contemporary longitudinal studies in New Zealand include Growing Up in New Zealand (2009), the Pacific Islands Family Study (2000), and the indigenous household survey Best Outcomes for Maori:Te Hoe Nuku Roa (1994). Growing Up in New Zealand has been explicitly designed for policy translation across the sectors of influence on child development, and like the Pacific Island Family study, the cohort is followed prospectively within the broader context of family, environment (physical, cultural, economic) and society. Te Hoe Nuku Roa is built on an holistic indigenous framework with interacting domains of influence, recognising that the diverse outcomes experienced in New Zealand by Maori are unlikely to improve with single sector responses supported only by cross sectional evidence. Our longitudinal studies also have parallel objectives that involve contributing to the effective, equitable and efficient development, implementation and evaluation of existing policies in New Zealand. The ability to meet such objectives is assisted by relationships with policy stakeholders and programme developers; balancing tensions between the cycles of policy and research; and managing collaborative expectations. Yet areas of policy which are dissonant with best outcomes can only be influenced by robust, research supported evidence. This symposium will present exemplars of translational research from each of the three longitudinal studies in New Zealand: recent changes to the policy regarding provisions for parental leave in early life (Growing Up in New Zealand), the translational implications of the health, social, and environmental factors associated with hearing impairment and ear problems in childhood (Pacific Islands Families Study) and the significant New Zealand government investment resulting from Housing and Health research (Te Hoe Nuku Roa). These case studies will demonstrate existing translational research practice in New Zealand, challenges in measuring the impact (successful or otherwise) of evidence-based policy translation, and the lessons being learnt (or swallowed) in the process

PARALLEL SESSION 11

11A

Symposium: Ageing, Scioeconomic Position and Health (1)
Johan Fritzell, Aging Research Center (ARC), Karolinska Institutet & Stockholm University, Sweden, et al
It is generally agreed upon that we should apply a life course perspective in order to understand health and health inequalities at older ages. The influence of different socioeconomic position, or more generally social determinants of health, is thereby also often highlighted. In this symposium, consisting of a series of two sessions, we focus on ageing, socioeconomic position and health presenting results on life course influences on mid-life and old age health. While the papers use different indicators of socioeconomic position and different end-points they all direct attention to the life course, and to health differentials at midlife and old-age. The presentations cover analyses from different countries, but also with a comparative perspective

Life course social status and midlife physical activity - the interaction with personality
Social status and personality are related to health behaviors, including physical activity. We aim to investigate how social status is associated with physical activity in midlife and examine the potential interaction with personality. The study includes 3,233 Danes with comprehensive information collected across the lifespan. Compared to people with high social status across life, those with low status in childhood (odds ratio (OR)=0.81, 95% confidence intervals (CI)=0.64-1.02), midlife (OR=0.80, 95%CI=0.66-0.97), or both (OR=0.67, 95%CI=0.56-0.81) were less likely to report high physical activity level in midlife. Statistically significant main effects and

interactions were found between social status and the big five personality traits (p<.05). Highly conscientious people were more often physically active regardless of social position; less neurotic people were more often physically active, especially those of higher social status; and less extraverted people were less physically active, especially those of low social status.

Health inequalities and aging: a test of the Cumulative inequality theory and Age-as-leveler hypothesis

It is now well established that socioeconomic health inequalities persist into old age. However, less is known about how the magnitude of the inequalities develops with increasing age. According to cumulative inequality theory, various advantages and disadvantages tend to accumulate over the life course, leading to growing socioeconomic differences in health with increasing age. In contrast, the age-as-leveler hypothesis suggests that socioeconomic differences in health are reduced with increasing age because of the generally higher prevalence of health and functional impairments in later life. Moreover, selective mortality may lead to the appearance that health inequalities diminish with age. The aim of this study is to investigate these hypotheses by analyzing trajectories of health and functional impairment from midlife into old age in different socioeconomic groups. Nationally representative data from the Swedish Level of Living Survey and the SWEOLD study will be used. Together they form a longitudinal dataset with up to eight points of measurement over a 46-year period (1968-2014). Several measures of socioeconomic position are available as well as various indicators of health and function that capture different aspects of aging and late-life health. Multilevel regressions will be used to model trajectories of various indicators of health and function with advancing age in different socioeconomic groups. The results will advance our understanding of the development of socioeconomic differences in health and functional impairment from midlife into old age.

Long-term impact of a past history of substance use disorder on chronic medical conditions in middle-age and elderly populations

Substance use disorder – including excessive alcohol use and illicit drug use – has been associated with mortality and a variety of health problems. In the United States (U.S.), substance use disorder is considered to be a major public health concern, with the lifetime prevalence of substance use disorder estimated to be around 15%, and higher in more recent cohorts (Kessler et al., 2005). Substance use disorder may therefore contribute to the growing health care burden that is associated with population aging. To our knowledge, however, few studies on the health impact of substance use disorder have focused on its long-term impact on the development of chronic conditions within the aging population. Using data from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), a nationally-representative sample of more than 21,000 adults in the U.S., aged 30 year and older, the current study estimates the extent to which a past history of substance use disorder is associated with various chronic health conditions. A special focus of this study is placed on comparing those who have recovered from substance use disorder, those with ongoing disorder, and those who have no history of disorder. Preliminary results suggest that, even among individuals in stable remission, a past history of alcohol use disorder is associated with an increased likelihood of several specific chronic conditions, as well as a significantly greater number of chronic conditions compared to those with no history of disorder. Further results focusing illicit drug use, as well as subgroup analyses across age, gender, and socioeconomic groups, are forthcoming. Findings from this study should provide guidance regarding the value of screening for past substance use disorder within aging populations, even when individuals present no current signs of disorder.

Causal effects between socioeconomic status and health in a life course perspective

Health differences between groups with different socioeconomic status (SES) are a well-established fact but there is debate about the underlying mechanism: Do people have worse health because they are poor or low-educated (social causation) or do they have less education and income because of poor health (health selection)? We study this question using retrospective data from the Survey of Health Aging and Retirement in Europe (SHARE, n≈30,000, 14 countries) and the English Longitudinal Study of Ageing (ELSA, n≈7,000). The data includes information about events and changes of SES and health from childhood to age at interview (50+). We use structural equation models in a cross-lagged panel design to study the correlated processes of health deterioration and the development of SES. Preliminary findings show, first, that health depends on previous health and SES depends on previous SES. Second, education is an important mediator between childhood SES and adult SES. Third, the reciprocal influence between SES and health only gets significant at the transition from

adulthood to old age. Fourth, social causation is slightly more important than health selection. Our finding of relatively late mutual effects of SES and health suggest that only later in life when health gets worse and more problematic, it seems to be influenced by SES. Likewise, only when health shows substantive variation in older age it has a measurable effect on SES. This does not necessarily imply an absence of effects in younger ages; it may partly be due to accumulative effects that can only be identified after several decades in the life course. We discuss differences between gender, countries and alternative measures of SES and health. We discuss conditions for causal interpretation of the findings and implications of the finding that both afore-mentioned causal mechanisms seem to be at work.

11B

Symposium: Understanding risk factors for adolescent marijuana use in the era of legalization: Findings from three longitudinal studies
Jennifer Bailey, University of Washington, USA, et al
As of November 2014, the nation of Uruguay and four U.S. states have legalized recreational marijuana use and possession for adults. Many prevention scientists expect that increases in marijuana use will be observed among youth, even though marijuana use remains illegal for them under current laws. The present symposium aims to inform marijuana prevention efforts and further understanding of the etiology of marijuana use by examining environmental, individual, and cross-generational factors associated with youth marijuana use. The presentations draw from three longitudinal, U.S. studies: the Community Youth Development Study (CYDS), the SSDP Intergenerational Project (SSDP-TIP), and the Raising Healthy Children (RHC) study. Paper 1 (CYDS) used prospective data from a panel of 2002 youth to examine the relationship between general and marijuana-specific risk factors and marijuana use from ages 10-18. Paper 2 (SSDP-TIP) used prospective data linking three generations to examine associations between parental and grandparental marijuana use and child cigarette, alcohol, and marijuana use. Analyses also tested whether links between family member marijuana use and child marijuana use were mediated by child substance use norms. Finally, Paper 3 (RHC) used prospective data from a panel of 1040 youth to document changes in the strength of association between family bonding and marijuana use from ages 10-25. Analyses tested differences in the strength of association by gender, behavioral disinhibition, and parent marijuana use/nonuse. Each study gives an example of state-of-the-art methods for analyzing complex, longitudinal data, including parallel processes multilevel growth curve analyses, multilevel analysis of accelerated longitudinal data, and time-varying effects modeling. These studies illustrate how etiological studies can help inform policy makers and voters about the potential impact of marijuana legalization.

The interplay between general and specific risk factors and marijuana use over the course of adolescence
Over the past two decades, several states in the US have modified their laws regarding adult use of medical and recreational marijuana. The associated public health concerns include possible increases in marijuana-specific risk factors (RFs) including permissive norms about marijuana use and general RFs such as poor parental monitoring, and the consequent increases in adolescent marijuana use. This study examines the relationship between general and specific RFs and marijuana use over the course of adolescence. Understanding the interplay between RFs and marijuana use can guide development of preventive interventions to reduce unintended consequences of marijuana legalization for adolescents. This study uses longitudinal panel data from The Community Youth Development Study, a randomized controlled trial testing the efficacy of the Communities That Care (CTC) prevention system involving 24 communities, matched in pairs within state, in seven US states (6 of which legalized medical and 3 also recreational marijuana use). Analyses used 7 waves of data from panel of youth (n=2002) followed from grades 5-12 in the 12 control communities. Preliminary results indicate a significant positive relationship between general and specific RFs and marijuana use at each grade and a strong developmental continuity in RFs and marijuana use over the course of adolescence. The presentation will report findings from parallel processes multilevel growth curve analyses to highlight the longitudinal interplay between RFs and marijuana use in adolescence and consider individual and community characteristics and differences by gender. This study expands the understanding of etiology of adolescent marijuana use in the context of legalization. Furthermore, it constitutes a building block for future examination of the potential CTC intervention effects on the relationship between RFs and marijuana use to understand the mechanisms through which community-based intervention can impact etiology of substance use. Implications for prevention and intervention programs and public policy will be discussed.

Effects of parent and grandparent marijuana use on child substance use: a prospective, three-generation study
Effective prevention of youth marijuana use may be complicated by the trend toward legalization of recreational marijuana use among U.S. states and internationally. Substance use by family members has been identified as an important predictor of youth substance use. Using prospective data spanning three generations (G1 grandparents, G2 parents, G3 children), this study tested associations between G1 and G2 marijuana use and G3 marijuana, cigarette, and alcohol use. G3's own norms about substance use and their perceived parent and peer norms were examined as potential explanatory mechanisms. Data were drawn from the Seattle Social Development Project (SSDP) and The SSDP Intergenerational Project. Participants included 383 youth (ages 6-22), their parents, and one grandparent. Multilevel models of accelerated longitudinal data included repeated measures (across 7 data collection waves) of G3 past year marijuana, cigarette, and alcohol use, and tested whether these G3 behaviors were predicted by time-varying measures of G1 and G2 concurrent marijuana use. Mediation was tested by including time-varying measures of G3s' own norms and perceived parent and peer norms. G3 child age was treated as the "time" variable to model the developmental pattern of youth substance use and the accelerated longitudinal design of the study. G2 marijuana use predicted a higher likelihood of child marijuana and alcohol use. G2 cigarette use predicted a higher likelihood of child marijuana and cigarette use. G1 substance use was unrelated to G3 substance use. Effects of G2 marijuana use on G3 marijuana and alcohol use were mediated by G3 norms and perceived parent and peer norms. To the extent that marijuana legalization is associated with an increase in the prevalence or frequency of marijuana use among parents, we can expect increased rates of marijuana and alcohol use among youth. Findings also highlight the importance of continued efforts to reduce cigarette use among parents.

Time-varying effects of family bonding on marijuana use: the effects of gender, behavioral disinhibition, and parental marijuana use
Prevention studies have documented that children from families with good family management report less drug use than children from less well-managed families. Studies have also shown that both the amount and the impact of family management vary over the course of adolescence. The degree of family influence on children also differs by child gender and personality characteristics, and may depend on whether parents themselves use marijuana. The current study examines the relationship between family management and marijuana use from ages 10 to 19, and compared these relationships by gender, behavioral disinhibition, and parental drug use. Participants were drawn from the Raising Healthy Children study (n = 1040), a U.S. community study of risk and protective factors related to substance use and delinquency. Analyses were performed using time-varying effects modeling (TVEM), which estimates continuous longitudinal effects between predictors and outcomes. Results indicated a curvilinear relationship between family management and marijuana use; the strongest protective association was evident at ages 14-16, then the association gradually weakened. The influence of family management on marijuana use was stronger for girls, particularly during the period of transition to high school (ages 14-16). Differences in behavior disinhibition were evident at ages 13-16 with less disinhibited youth showing greater impact of family management. Analyses of parental drug use showed that it undermined parenting behavior and that the effect of family management was stronger for those families where parents did not use marijuana. Significant differences by parent drug use were seen during middle adolescence (ages 15-18). Findings provide information about the optimal timing for delivery of family-centered preventive interventions for marijuana use. For example, promoting consistent family management, particularly during the ages where the most protective effect is shown, could help prevent or delay marijuana initiation among adolescents.

11C   **Paper Session: Family Formation**

Cohabitation, marriage and first childbirth in East- and West-Germany 1960 – 2008: the role of family- and housing policy
Anders Juhl Aagaard, European University Institute, Italy
25 years after the reunification of Germany there are still marked differences between east- and west-Germany on issues such as family policy and housing policy. Both the provision of formal childcare and rental homes remained higher in the east. These persisting differences might be able to account for different patterns of family formation between the two geographical areas. Few studies have so far taken focused on both family- and housing-policy. A framework that takes both aspects into account should increase our understanding about the process of family formation, and account for the differences between successive cohorts from the 1960s

onwards. Using longitudinal data from the Gender and Generations Survey this paper studies events leading to family formation among successive cohorts in west- and east-Germany from the 1960s until 2008. The timing and order of events, cohabitation, marriage and first childbirth is investigated in order to determine if cohabitation emerged as a viable alternative to marriage, or a form of trial-marriage for prospective partners and parents. The key question is if the process of family formation is related to the institutional characteristics of family policy and housing policy? In order to answer this question a comparison among successive birth cohorts in the two geographical areas is conducted in order to trace the influence of changes in family- and housing policy. Using event history analysis a piecewise constant model is employed that traces the process of family formation and the order of events associated with family formation, and the influence of family- and housing policy. The question is if the institutional characteristics also influenced the spread of cohabitation, and made it a more likely alternative to marriage, and if these differences in the process of family formation persisted after the reunification.

Multigenerational perspectives on pathways of family formation
Lisbeth Trille G. Loft, University of Copenhagen, Denmark
Using data from The Danish Longitudinal Survey of Youth (DLSY) in conjunction with sequence analysis, I generated typological family formation pathways of two generations of Danish men and women. Within each generation four pathways of family formation were identified among men and among women. Although the family formation pathways were similar for men and women in each generation, there were some differences. In addition, within the youngest generation more women than men belong to pathways where educational attainment appears a dominant component, a trend likely initiated by the women in their parents' generation. Moving beyond the descriptive nature of the family formation pathways, I used multinomial regression analysis to predict the membership of each of the identified typologies within the youngest generation. Findings suggest that although the parents' family formation behavior to some degree predicts their children's patterns of forming a family, social mechanisms also operate independently through parental as well grandparental experiences of family dissolution and socioeconomic status. Overall, gender appear as a strong predictor of family formation behavior within the youngest generation.

Variation in the intersection between partnership and fertility: a comparison across three cohorts in 15 countries
Mark Lyons-Amos, University College London, UK
The intersection between fertility and partnership is increasingly complicated. The variety of union types has increased from a homogenous pattern of direct marriage to include cohabitation before marriage, short term cohabitation and lifelong cohabiting relationships. Union dissolution is far more common, both within cohabiting unions but also within marriage-which is no longer a lifelong commitment. The intersection between union and childbearing behaviour has also shifted: marriage is no longer a prerequisite for childbearing, which increasingly occurs within cohabitation. Children are therefore more likely to see their parents separate; although all childbearing unions are generally more stable than childless ones. The extent to which these trends have emerged has depended strongly on country context. Nordic countries have a long history of lifelong cohabiting unions while Southern Europe exhibits a low incidence of both non-marital relationships and childbearing. As such, the evolution of the intersection between fertility and partnership varies across national borders both in terms of the type of patterns exhibited and the rapidity of change. This paper uses multichannel sequence analysis to evaluate the relationship between partnership and fertility across the US and Europe. Multichannel sequence analysis is a longitudinal technique, which allows multiple processes to be analysed simultaneously and clustered into similar groups. The main aims of the paper are to establish how the association between partnership patterns and the timing of births varies between countries and across birth cohorts, by examining how the prevalence of fertility-partnership groupings across three birth cohorts (1945-54, 1955-64, 1965-74). I analyse retrospective union and fertility histories from 14 countries in Europe and the United States in the Harmonized Histories database and selecting women age 15-45. Results suggest that the relationship between partnership and birth timing have shifted although this shift varies by country reflecting heterogeneous evolution of partnership-fertility interactions.

Marriage, social control, and health behavior: same-sex and different-sex unions
Debra Umberson, University of Texas at Austin, USA, et al

The married are in better health and live longer than the unmarried. One explanation for this marital advantage in health is that spouses directly influence each other's health behaviors by imposing demands, threats, requests, or rewards to that end; a process referred to as the social control of health behavior. Moreover, studies show that women are more likely than men to impose control over their spouse's health behaviors. However, past research is built on the assumption of gender difference within heterosexual marriage. In this study, we analyze dyadic diary data from 100 gay, 100 lesbian, and 100 heterosexual married couples (N = 600 individuals and 6000 diary days) to examine the degree to which spouses implement social control in their relationships as well as how spouses respond to each other's social control efforts. Specifically, we address: (1) What are the primary social control tactics used by men and women in same-sex and different-sex marriages (e.g., regulation, support, facilitation)? (2) What are the same-day and lagged effects of social control efforts for both spouses' (i.e., agent and target of control efforts) dietary and exercise behaviors? (3) What are the same-day and lagged effects of social control efforts for both spouses' psychological distress levels? Preliminary results show strongly gendered patterns in the types of social control efforts that men and women engage in. Moreover, the response to these efforts differs for men and women depending on if they are in a same-sex or different-sex marriage. Understanding how social control operates in same-sex as well as different-sex marriages informs our understanding of gendered relationship processes that influence health behaviors, leading to cumulative effects on health over the life course. This study will provide the first quantitative evidence on relationship dynamics that may shape health behavior in same-sex marriages.

Residential differences in non-marital conception and childbearing outcomes in the U.S.
Anastasia Snyder, Ohio State University, USA

The rise in nonmarital childbearing is one of the most important changes in the family formation process in recent decades in the United States. Numerous studies have examined this trend and found significant patterns by race/ethnicity, socioeconomic status, and education level. Few have studied geographic differences in nonmarital childbearing outcomes in the U.S., but those that do find that women from nonmetro counties have distinct behavioral outcomes related to nonmarital conceptions and childbearing. Nonmetro women have more conceptions occur within a marriage, more nonmarital conceptions that end in a live birth, and more nonmarital conceptions born in marital unions compared to either cohabiting unions or no union (Albretch & Albretch, 2004; Snyder, 2006). Unfortunately, the retrospective structure of the data and the measure of nonmetro residence in these studies are methodological problems that leave some uncertainty about these findings. This study proposes to re-examing residential differences in nonmarital conception and childbearing outcomes in the U.S. using prospective panel data from the National Longitudinal Survey of Youth, 1979 and 1997 cohorts. Using both NLSY data sets will allow me to examine these outcomes across women's entire childbearing years (NLSY79) and also in a contemporary sample of young adults (NLSY97).

11D   Paper Session: Family relations, dissolution and re-marriage
Protection or selection? New insights into the effect of children on union dissolution in Germany
Thorsten Schneider, Leipzig University, Germany

Research on divorce or union dissolution demonstrates that the age of the youngest child is negatively correlated with the risk of breaking up. These findings apply at least to marital children. One line of argument is that children stabilize unions due to stronger feelings of obligation, stronger economic dependencies of mothers, etc. Another line of argument is that partners who are less satisfied with or committed to their relationship are less prone to have children in the first place. To get new insight into this controversial topic of protection vs. selection we investigate the consequences of births resulting from unplanned pregnancies on the stability of (marital and cohabiting) unions. We frame women with an unplanned pregnancy as the treatment group. As unplanned pregnancies are highly selective we use the technique of propensity score matching to identify one control group of women with planned pregnancies and one control group of women without a pregnancy. The union stability of these three groups is compared by survivor functions. The data comes from the German Socio-Economic Panel

Study, which asks mothers of new-borns if the pregnancy had been planned or not. In order to estimate the propensity of having an unplanned pregnancy we control for a lot of variables, surveyed prior to the conception. The initially lower union stability of couples with an unplanned pregnancy compared to a planned one decreases sharply after the propensity score matching, and the differences in union stability between unplanned and no pregnancy vanishes completely. Obviously, the selection effect outweighs the protection effect.

Divorce, behavioral outcomes, and parental style in children
Mathura Thevarajah, University of Manitoba, Canada, et al
Objective: The purpose of this study was to determine the educational, psychological and behavioral impact of divorce on children nine years of age and to explore the role of parenting and socioeconomic resources on attenuating this impact.   Methods & Materials: We performed a cross sectional analysis within a population-based cohort of 8568 nine-year-old children, studied between October 2007 and June 2008 as part of the Child Cohort in The Growing Up in Ireland (GUI) study. The primary exposure, divorce was self-reported and parenting style was assessed using the Parenting Styles Inventory II. The primary outcomes were behaviour and self efficacy measured by the Strengths and Difficulties Questionnaire (SDQ) completed by both parents and teachers and the Piers-Harris Questionnaire completed by youth respectively. Educational performance was determined from standard maths and reading tests (Drumcondra). Analyses were adjusted for household income, exposure to bullying, and maternal depression. Results: 1254 children (49% girls, 14.6% of sample) experienced divorce by 9 years of age. Children exposed to divorce, were more likely to miss school (19 vs 12%, p =0.001), less likely to be breastfed (40 vs 45%, p < 0.001), more likely to be bullied, and lived in households with less income 19.7k vs 14.8k ((equiv), p < 0.001). After adjusting for confounders parent (9.94±5.66 vs 7.65±5.17 p < 0.001) and teacher (7.83±6.31 vs 5.59±5.65, p < 0.001) reported SDQ scores were higher in youth exposed to divorce, while self-efficacy (44.6±9.75 vs 46.5±8.45), reading (65.2±21.5 vs 67.8±22.5) and math scores (50.3.5±21.8 vs 53.9±21.2) were lower in those exposed to divorce. Parenting style did not modify these associations. Conclusion: Divorce adversely affects behaviour, self-efficacy and academic performance in youth and these associations are not modified by parenting style. Prospective data are needed to confirm these cross sectional observations.

White and Latino remarriage differences in the United States: a case for moving beyond the Catholic assumption
Catherine McNamee, Queen's University Belfast, UK
In the United States, Latinos and non-Hispanic Whites have similar first marriage and divorce rates, but Latinos remarry at lower rates than Whites. Although Latinos are disproportionately more Catholic than Whites and Latinos remarry less than Whites, assuming that religion is driving the remarriage difference could be a religious congruence fallacy, which occurs when religion is assumed to be the driving influence behind a behaviour actually shaped by other forces. The present study utilizes the National Longitudinal Survey of Youth 1979 and discrete-time event history analysis to examine the influence of religious affiliation and attendance on ethnic remarriage differences. The findings suggest that Catholicism does not account for the lower rates of remarriage of Latinos compared to Whites. Taking into account religious affiliation had minimal to no effects on the odd ratios of Latinos compared to Whites; furthermore, the odds remained significantly lower for Latinos compared to Whites, suggesting that Catholicism cannot explain White-Latino remarriage differences. These findings provide strong evidence for dispelling the previously untested but frequently assumed Catholic influence on ethnic differences in remarriage and emphasizes caution toward attaching religion to Latino family behaviour in the U.S.

Same partner, same relationship? Differences in transition and stability, by age and relationship type
Alisa Lewin, University of Haifa, Israel
There are different ways that relationships may change over time, people may change partners and partnerships may transition from one type to another. For example, cohabitations may formalize their relationship by marrying, and non-cohabiting partners (LAT) may start to cohabit or they may marry. In parallel, marriages and cohabitations may dissolve, and people may enter new relationships with new partners. In this study I set out to explore the social, economic, and demographic factors that affect partnership instability and transition to more committed relationships, and I compare LAT, cohabitation and marriage. Moreover, I compare transitions and (in)stability by age. I expect that younger people will experience more instability, more transitions to more committed relationships, and more re-partnering than older people, whereas older people will experience more

stable partnerships, fewer transitions, and less re-partnering than younger people. This study draws on the two waves of the cross-national comparative Generations and Gender Program (GGP) (United Nations, 2005). The first wave was carried out 2003-2006 and the second wave was carried out three years later (2006-2009). Preliminary findings show that transitions, stability, and re-partnering differ by age: younger people were more likely than older people to transition from LAT to marriage and cohabitation, and from cohabitation to marriage. In addition, younger people in LAT and cohabitation were more likely to break-up and re-partner than older people. Multivariate preliminary findings show that people with academic education seem to have more stable relationships than less educated people and they are more likely to transition to a more committed relationship. This may reflect their high gains from cohabitation and marriage, as they can make a better match than people with few personal resources.

11E   *Symposium: Methodological Innovations in Life Course Research*

Aart Liefbroer, Netherlands Interdisciplinary Demographic Institute, Netherlands
In the last decade, sequence analysis has become a very popular method in life course research, mainly due to its ability to understand the patterning of life-course events. In addition, the development of relatively easy-to-use software, like the Traminer-package in R, has stimulated its use. However, questions remain, both about the type of sequence analysis to use, and about the potential and limitations of this new method. In this symposium, three papers are presented that introduce new ideas about how sequence analysis could be used, and illustrate these ideas by showing its potential for understanding the transition to adulthood. The first paper examines the strengths and weaknesses of the two main methods used to classify trajectories: sequence analysis and latent class analysis. What are the pros and cons of both methods and in which situations should one prefer one over the other? The second paper introduces two new tools to increase our understanding of trajectories, sequence discrepancy analysis and the implicative statistic, thus expanding our toolkit to holistically examine life-course trajectories. The third paper introduces a new way of combining an event-history approach and a sequence approach to the transition to adulthood, that allows the use of both time-constant and time-varying covariates. Together, the three papers attest to the huge potential of sequence analysis and show that it is not just a single tool, but a whole (expanding) toolkit that researchers can use to grasp the complexity of the life course. This is nicely illustrated by the substantive examples that all focus on how societal contexts influence the family-life trajectories of young adults.

Classifying Family-Life Trajectories of Young Adults: A Comparison of Sequence Analysis and Latent Class Analysis

Over the past years, studying life course trajectories as holistic units of analysis has become increasingly popular. The two most prominent approaches to classify such trajectories are sequence analysis (SA) and latent class analysis (LCA). These two techniques, SA and LCA, come from very different methodological backgrounds. The classification of life course trajectories through SA is carried out by calculating a dissimilarity matrix, that is subsequently used as input for a cluster analysis. LCA is based on a probabilistic modelling approach with the underlying assumption that individuals belong to a finite number of classes that cannot be directly observed. Some studies have tested the agreement between classifications reached by applying SA and LCA, but a real validation of these two types of data clustering has not been attempted. Some researchers use the classification result from one technique, for example LCA, to validate results from the other. In addition, the abundance of different dissimilarity measures available (see e.g. Studer et al, 2015) may affect the results from a SA-based cluster analysis. The current paper aims to increase our understanding of the advantages and disadvantages of these two approaches, by comparing the classifications based on SA techniques combined with cluster analysis and the classifications based on LCA in aspects that were previously not addressed, such as their sensitivity to order and timing. We will apply both methods to understand changes in young adult family-life trajectories by using Generation and Gender Survey (GGS) data from 17 countries. Thus, the results of this study are not only methodologically beneficial, but also reveal new insights about the transition to adulthood.

Gender, Education, and Family Formation in East and West Germany: Insights from New Sequence Analysis Techniques

The de-standardization of family formation over time and across countries recently received much attention. In contrast, differences in family formation for different social groups, such as men and women have been largely neglected. We use the historically unique case of the German division to scrutinize the intersection of social class and gender in structuring family life courses. This allows us to compare two societies with a similar language and cultural background but very different macro-structural conditions: a strong male breadwinner model in an unequal stratification system in the Federal Republic of Germany (FRG) in the West, and a universal breadwinner model in a communist egalitarian stratification system in the German Democratic Republic (GDR) in the East. Using data from the German National Education Panel (NEPS) we employ two new sequence analysis tools: sequence discrepancy analysis and the implicative statistic for analysing sequences of typical states. These tools enable us to scrutinize gender differences in longitudinal family formation trajectories by education in three respects: the quantity, the quality, and the timing of when gender differences in family formation are significant along the process. We find moderate gender differences in family formation across all status groups in West Germany. In contrast, gender differences in family formation were strong between the medium and lower educated in East Germany, but we find no significant gender differences among the highly educated. We conclude that high education equalized male and female family life courses in the universal breadwinner context of East Germany, but not in the traditionalist West. The results highlight that the intersection of gender and social class in structuring family life courses is highly context-specific.

Combining Survival and Sequence Analysis to Understand the Influence of Macro-Economic Developments on the Transition to Adulthood: Evidence from The Netherlands

Survival (or event-history) analysis and sequence analysis are the two most common methods used to understand changes in the transition to adulthood. Both methods have advantages and disadvantages. For instance, sequence analysis is better suited to take trajectories of events into account. However, survival analysis is better suited to study the influence of time-varying covariates on life-course processes. In this paper, we develop a strategy to combine survival and sequence analysis to understand how changing macro-economic conditions influence the family-life trajectories after young adults leave the parental home in The Netherlands, using pooled data from multiple retrospective life-history surveys. Given that leaving home is the first family-related event in the transition to adulthood for the large majority of Dutch young adults, we start with classifying the trajectories during the first five years after leaving home using sequence analysis and clustering techniques. Next, the resulting trajectories are used as competing destination states in a competing-risk survival analysis of leaving home patterns. In this competing risk-analysis, both time-varying and time-constant covariates are included. In substantive terms, our analysis will focus on the extent to which the timing of the onset of the process of family formation and the specific trajectories followed upon this onset differ between young adults from different social class backgrounds and is influenced by macro-economic conditions. In addition, it is studied whether the influence of parental socio-economic background depends on the macro-economic conditions prevalent during the transition to adulthood. All analyses are performed separately for men and women.

11F

Symposium: Wealth versus income-based welfare support and other social and economic policy translational challenges

John Bynner UCL, Institute of Education, UK, et al

The symposium is devoted to case studies that draw out particular issues to resolve in policy impact and translational science more generally. The first arises from a university documented 'impact study' of longitudinal research on the long term effects of savings, inherited wealth and investments which had led to the establishment of the UK government funded Child Trust Fund. Findings had to be produced at lightning speed to match political timetables leading to the commissioning of further research first to support and then potentially to undermine them which will be reported. The second case study examines the contribution of the New Zealand Longitudinal studies to understanding transitions between welfare states, or family environments that need policy-based support. For example, the proportion of families that rely on income tested benefits at each cross sectional time point within Growing Up in New Zealand is very similar, but longitudinally these are not the same

families – and this is clearly a challenge from a translational and targeting perspective in terms of the implications of such finding for policy and further research and how these are best communicated. The third case study analyses poverty dynamics in families with young children in Scotland using the longitudinal birth cohort study, Growing up in Scotland. It explores poverty exits and entrances and analyses family characteristics that drive poverty dynamics. The GUS data allows for comparisons between families with children born under different government administrations, New Labour and the Conservative-led Coalition government

PARALLEL SESSION 12

12A

Symposium: Ageing, Socioeconomic Position and Health (2)
Johan Fritzell, Aging Research Center (ARC), Karolinska Institutet & Stockholm University, Sweden, et al
It is generally agreed upon that we should apply a life course perspective in order to understand health and health inequalities at older ages. The influence of different socioeconomic position, or more generally social determinants of health, is thereby also often highlighted. In this symposium, consisting of a series of two sessions, we focus on ageing, socioeconomic position and health presenting results on life course influences on mid-life and old age health. While the papers use different indicators of socioeconomic position and different end-points they all direct attention to the life course, and to health differentials at midlife and old-age. The presentations cover analyses from different countries, but also with a comparative perspective.

Life course social status and midlife physical activity - the interaction with personality
Social status and personality are related to health behaviors, including physical activity. We aim to investigate how social status is associated with physical activity in midlife and examine the potential interaction with personality. The study includes 3,233 Danes with comprehensive information collected across the lifespan. Compared to people with high social status across life, those with low status in childhood (odds ratio (OR)=0.81, 95% confidence intervals (CI)=0.64-1.02), midlife (OR=0.80, 95%CI=0.66-0.97), or both (OR=0.67, 95%CI=0.56-0.81) were less likely to report high physical activity level in midlife. Statistically significant main effects and interactions were found between social status and the big five personality traits (p<.05). Highly conscientious people were more often physically active regardless of social position; less neurotic people were more often physically active, especially those of higher social status; and less extraverted people were less physically active, especially those of low social status.

Health inequalities and aging: A test of the Cumulative inequality theory and Age-as-leveler hypothesis
It is now well established that socioeconomic health inequalities persist into old age. However, less is known about how the magnitude of the inequalities develops with increasing age. According to cumulative inequality theory, various advantages and disadvantages tend to accumulate over the life course, leading to growing socioeconomic differences in health with increasing age. In contrast, the age-as-leveler hypothesis suggests that socioeconomic differences in health are reduced with increasing age because of the generally higher prevalence of health and functional impairments in later life. Moreover, selective mortality may lead to the appearance that health inequalities diminish with age. The aim of this study is to investigate these hypotheses by analyzing trajectories of health and functional impairment from midlife into old age in different socioeconomic groups. Nationally representative data from the Swedish Level of Living Survey and the SWEOLD study will be used. Together they form a longitudinal dataset with up to eight points of measurement over a 46-year period (1968-2014). Several measures of socioeconomic position are available as well as various indicators of health and function that capture different aspects of aging and late-life health. Multilevel regressions will be used to model trajectories of various indicators of health and function with advancing age in different socioeconomic groups. The results will advance our understanding of the development of socioeconomic differences in health and functional impairment from midlife into old age.

Long-term impact of a past history of substance use disorder on chronic medical conditions in middle-age and elderly populations

Substance use disorder – including excessive alcohol use and illicit drug use – has been associated with mortality and a variety of health problems. In the United States (U.S.), substance use disorder is considered to be a major public health concern, with the lifetime prevalence of substance use disorder estimated to be around 15%, and higher in more recent cohorts (Kessler et al., 2005). Substance use disorder may therefore contribute to the growing health care burden that is associated with population aging. To our knowledge, however, few studies on the health impact of substance use disorder have focused on its long-term impact on the development of chronic conditions within the aging population. Using data from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), a nationally-representative sample of more than 21,000 adults in the U.S., aged 30 year and older, the current study estimates the extent to which a past history of substance use disorder is associated with various chronic health conditions. A special focus of this study is placed on comparing those who have recovered from substance use disorder, those with ongoing disorder, and those who have no history of disorder. Preliminary results suggest that, even among individuals in stable remission, a past history of alcohol use disorder is associated with an increased likelihood of several specific chronic conditions, as well as a significantly greater number of chronic conditions compared to those with no history of disorder. Further results focusing illicit drug use, as well as subgroup analyses across age, gender, and socioeconomic groups, are forthcoming. Findings from this study should provide guidance regarding the value of screening for past substance use disorder within aging populations, even when individuals present no current signs of disorder.

Causal effects between socioeconomic status and health in a life course perspective

Health differences between groups with different socioeconomic status (SES) are a well-established fact but there is debate about the underlying mechanism: Do people have worse health because they are poor or low-educated (social causation) or do they have less education and income because of poor health (health selection)? We study this question using retrospective data from the Survey of Health Aging and Retirement in Europe (SHARE, n≈30,000, 14 countries) and the English Longitudinal Study of Ageing (ELSA, n≈7,000). The data includes information about events and changes of SES and health from childhood to age at interview (50+). We use structural equation models in a cross-lagged panel design to study the correlated processes of health deterioration and the development of SES. Preliminary findings show, first, that health depends on previous health and SES depends on previous SES. Second, education is an important mediator between childhood SES and adult SES. Third, the reciprocal influence between SES and health only gets significant at the transition from adulthood to old age. Fourth, social causation is slightly more important than health selection. Our finding of relatively late mutual effects of SES and health suggest that only later in life when health gets worse and more problematic, it seems to be influenced by SES. Likewise, only when health shows substantive variation in older age it has a measurable effect on SES. This does not necessarily imply an absence of effects in younger ages; it may partly be due to accumulative effects that can only be identified after several decades in the life course. We discuss differences between gender, countries and alternative measures of SES and health. We discuss conditions for causal interpretation of the findings and implications of the finding that both afore-mentioned causal mechanisms seem to be at work.

12B   Paper Session: Adolescence, young adulthood and health

Are young adults losing out on sleep? Changes in sleep duration in a U.S. population-based study

Katrina Walsemann, University of Southern California, USA, et al

Chronic sleep problems are widespread in the U.S. population, affect an estimated 50 to 70 million U.S. adults, and are associated with a number of adverse health outcomes. We know relatively little about how sleep duration changes over time, and specifically how sleep duration changes over the course of early adulthood, a period marked by substantial transitions into and out of education, employment, and family roles. We use prospective data from the National Longitudinal Survey of Youth 1997, a U.S. based representative sample of persons born between 1980 and 1984. Baseline interviews were conducted in 1997, with annual follow-ups through 2011. Sleep duration was assessed in 2002, 2007, 2009, 2010, and 2011. We estimated random-coefficient models to examine how sleep duration changes during early adulthood as a function of demographic characteristics, educational experiences, employment, and family roles. Results indicate that sleep duration declines from 18 to 30 years old, from approximately 7.25 hours to 6.6 hours on a typical weeknight. Men sleep

an average of 1.25 hours longer than women at age 18, but this sleep advantage declines to 18 minutes by age 30. Young adults with less than a high school education sleep longer than those with more education with the exception of college-educated young adults, and this difference does not change over time. Part-time and full-time workers report shorter sleep than non-workers, but over time, this difference narrows slightly. Finally, young adults with children in the household sleep consistently less than young adults with no children in the household. Overall, U.S. young adults experience shorter sleep over the course of early adulthood, but changes in sleep duration vary widely by demographic factors, education, employment, and family roles. This study is the first to establish how sleep duration changes during this important life stage.

The influence of shocks in parent's life on adolescents' locus of control convictions in Germany

Sandra Bohmann, Humbold University Berlin, Germany

Locus of control convictions significantly influence a variety of important outcomes across the life-span including educational attainment, wages, health and risk-related behaviors such as smoking. In addition to that locus of control convictions have been shown to vary with socio-economic background. This difference in control convictions has often been attributed to differences in parenting styles and child-rearing practices. A smaller number of studies investigates the influence of shocks experienced during childhood, such as parental involuntary job loss, divorce, illness or death, on the development of locus of control convictions. Since certain shocks such as unemployment or family disruption are experienced more often by families in lower socio-economic strata, shocks might be able to partially explain social-class differences in locus of control convictions. This paper contributes to this strand of literature by studying the role of parental shocks in explaining differences in locus of control convictions among adolescents in Germany. Using data from the German Socio-Economic Panel Study (GSOEP) I investigate whether the number of shocks experienced during childhood, or the occurrence of specific shocks can explain differences in locus of control convictions across adolescents. I also investigate whether shocks have differential effects on locus of control convictions depending on when they occur during childhood. In addition to that I investigate a potential alternative explanation for social differences in control convictions: namely whether socio-economic circumstances moderate the effect of shocks on the development of locus of control convictions. The idea behind this proposition is that socio-economically deprived families have less resources to mitigate the effects of a shock such that its effect on control convictions might be stronger. If evidence for both explanations is found, adolescents from a low socio-economic background face a double disadvantage.

Does an elite education benefit health, exercise, and sedentary behaviour in early midlife? Findings from the 1970 British Cohort Study

David Bann, University College London, UK, et al

Background Attending private school or an elite university is thought to benefit future earnings, but it is unclear if these benefits extend to health or health-related behaviours. We examined whether these indicators of education quality were associated with adult self-rated health, sedentary behaviour and exercise. Methods Data were from 8348 members of the 1970 British birth Cohort Study with available data for education and outcome measures. The high school attended (private or comprehensive and other types) was recorded at 16 years, and the university attended was recalled at 42 years (categorised as either an elite Russell Group or other institutions). Self-rated health (poor, fair, good, very good, or excellent), weekday television viewing (0 to <1 hour, 1 to <3, 3 to <5, or ≥5 hours/day) and exercise frequency (0 or ≥1 occasion per week) were reported at 42 years and used as outcomes in ordered or binary logistic regressions, adjusted for gender.   Results 528 participants (6.3%) attended private school, and 556 (28.8%) of participants who attended university did so at an elite institution. Compared with attendance at comprehensive and other school types, private school attendance was associated with better self-rated health (OR, 95% CI: 1.66, 1.41-1.95), less time spent watching television (0.38, 0.32–0.45), and higher exercise frequency (1.35, 1.12-1.64). Attending an elite compared with non-elite university was also associated with higher self-rated health (1.32, 1.10–1.59), less time spent watching television (0.59, 0.49–0.72), and with higher exercise frequency (1.26, 1.01–1.57). Conclusions Private school and elite university attendance were related to better self-rated health, less time spent watching television, and higher exercise frequency in early midlife. Although further research is required to examine the factors which underlie these relationships, findings suggest that a higher education quality may have persisting benefits for adult health and some health-impacting behaviours.

The impact of clean air policies on smoking among a national longitudinal panel of U.S. young adults
Mike Vuolo, Purdue University, USA, et al
Restrictions on smoking in public places has become a major global public health initiative over the past decade. To assess their impact, we examine the effect of comprehensive clean air policies on the probability of young adult cigarette use from ages 19-32 across the U.S. We combine a database of every tobacco policy among states and cities with the geocoded National Longitudinal Survey of Youth 1997, an annual nationally representative survey of adolescents aged 12-16 during 1997 (n=8,984). In this respect, we trace the impact of these clean-air policies from adolescence through young adulthood. Using a multilevel panel model, we find that comprehensive clean air policies lower the odds of any smoking (OR=0.788, p<.05) and smoking a pack per day (OR=0.652, p<.01) during the past 30 days, while controlling for numerous other factors at both the city and individual levels. Taking advantage of longitudinal policy data, we decompose policy into within- and between-person effects, finding that the effect on any smoking has a within-person effect; that is, a clean air policy affects a given person's odds of any smoking over time (OR=0.774, p<.05). By contrast, we see a between-person effect on daily pack smoking, such that policies distinguish between individuals who smoke at this level (OR=0.428, p<.01), but do not affect a specific person's use. We situate these findings within Bird and Rieker's (2008) Constrained Choices framework, which states that decisions and priorities concerning health are shaped by the contexts, including policy, community, and work and family, in which they are formulated. We demonstrate that policies restricting public smoking influence tobacco use over time even in the face of proximal constraints. Further, the results underscore the efficacy of clean air policies on young adult smoking behaviors throughout a critical point in the life course.

12C   Paper Session: Mortality

Social networks and mortality
Timo Anttila, University of Jyväskylä, Finland, et al
Social capital refers to various levels of social relationships formed through social networks. Previous studies have shown that social capital reduces mortality. Social capital scholars have begun to distinguish different functions of social capital according to their context. Typically, researchers separate bonding and bridging social capital. Bonding social capital refers to trusting and cooperative relationships such as relations with family and close friends, and respectively bridging social capital refers to relationships of respect and mutuality, such as associational memberships. The data consists of a representative Finnish Living Conditions Survey (FLCS) conducted in 1986 (N=12032) which has been combined with register-based follow-up data on mortality from Statistics Finland covering the years 1986–2011. The relative risk of death was examined by conducting Cox proportional hazards analyses. The results were adjusted for background (health, age, gender and working status). According to results, both measures of bridging and bonding network capital were associated with decreased risk of mortality. Bonding and bridging social capital had also an interaction effect on mortality. Those who reported simultaneously low levels of bonding and bridging networks had significantly higher risk of mortality, especially when comparing to those having large bonding and bridging networks.

From the cradle to grave. Early-life determinants of mortality in a cohort of 12,564 men and women born in Uppsala 1915-1929
Ilona Koupil, Stockholm University, Sweden, et al
This paper studies the associations between perinatal health characteristics and all-cause mortality by specific age intervals, specifically assessing the contribution of maternal socioeconomic characteristics and the presence of maternal-level confounding. Our study is based on a cohort of 12,564 singletons born between 1915 and 1929 at the Uppsala University Hospital. We fitted Cox regression models to estimate age-varying hazard ratios of mortality and 95% confidence intervals for absolute and relative birthweight and gestational age. We conducted between and within-family survival analyses to assess maternal-level confounding. Our results suggest that both mother's marital status and family socioeconomic position in early childhood have an effect on mortality across the life span and also provide evidence that light, small, and preterm newborns have a higher risk of mortality, although these associations vary by age and measure under scrutiny. The associations of risk of death with birthweight and gestational age were confirmed in the sibling analysis analyses, indicating that any residual maternal confounding is limited. Our findings support the interpretation that policies oriented towards improving population health should invest in improving birth outcomes and hence, in maternal health and social conditions.

Work-related stress in midlife and all-cause mortality: the role of sense of coherence
Charlotta Nilsen, Stockholm University, Sweden, et al
Late life health and survival reflect the accumulation of various environmental influences experienced over the life course. Sustained exposure to stress has negative long-term consequences on health. Given that employed adults spend much of their time at work, it follows that work-related stress might be an important indicator of the overall exposure to stress across adulthood. We explored the association between work-related stress in midlife and mortality, as well as any moderation by sense of coherence in midlife. Work-related stress (based on the job demand-control model) was assessed among 1,399 Swedish workers aged 42-65 at baseline via self-reported data from a nationally representative Swedish survey: the Level of Living Survey (LNU) 1991, and occupation-based data via an established psychosocial job exposure matrix. Work-related stress was indicated by high job demands, low job control, and high job strain (high demands/low control). Sense of coherence was measured with three components—meaningfulness, manageability, and comprehensibility. Mortality data was collected from the Swedish National Cause of Death Register. Hazard regression with Gompertz distributed baseline intensity was used. During the 20-year follow-up, a total of 222 participants died. High job strain among both women and men, and low control among men, was significantly associated with increased mortality. This remained after adjusting for education. High job strain was relatively strongly associated to higher risk of mortality in the presence of low sense of coherence, whereas the work stress-mortality link was not significant in the presence of high sense of coherence, indicating that high sense of coherence served a buffer for the negative effects of work-related stress on risk of mortality. Modifications to work environment to reduce work-related stress, and promoting sense of coherence among workers specifically, may contribute to better health and prolong lives.

Do lifetime affective symptoms predict mortality? And if so why?
Gemma Archer, University College London, UK, et al
Background: Previous studies have shown that depression increases the risk of mortality; however, the relationship remains largely unexplained. This is the first study to examine the association between mortality and affective symptoms across the life course. Furthermore, very few studies have been able to control for a wide range of potential explanatory factors. Methods: In the MRC National Survey of Health and Development (1946 British birth cohort study), affective symptoms were assessed at ages 13/15, 35, 43, and 53 years. At each age, an affective symptom 'case' was defined as those scoring in the top 16%. Mortality was obtained from the National Health Service Central Register from age 53 onwards, an average follow-up of 14.5 years (range 0.7-15). The study sample consisted of 3001 participants, of which there were 218 deaths. Covariates included measures of socio-economic position, health behaviours, physical health, medication use, and social support. Cox regression was used to estimate hazard ratios, and multiple imputation used to handle missing data. Results: After adjustment for sex there was an apparent dose-response relationship between the number of times a person was an affective 'case' and mortality, which was not accounted for by suicide. Being a case on 3+ compared with 0 occasions was associated with a mortality hazard ratio of 2.24 (95% CI 1.26 to 3.98). After full adjustment, associations were partially attenuated by physical health, smoking, lung function, physical activity and anxiolytic use; however, caseness on one occasion was associated with a hazard ratio of 1.49 (95% CI 1.05 to 2.10). Conclusion: Affective symptoms appear to considerably increase the risk of mortality. It is possible this association is partially mediated by health behaviours, which in may in turn influence physical health. These findings highlight the impact of mental health on physical health.

12D   Paper Session: Migration in the life course

Does she lose more than he does? Gender, job quality and Polish migration to Western Europe
Gillian Kingston, Economic and Social Research Institute (ESRI), Ireland, et al
While previous research has highlighted occupational downgrading immediately following migration (Chiswick, 1978), skilled migration, and labour market integration have slipped by as a largely genderless immigration story (Belevander, 2005). Utilising a unique, longitudinal and harmonised data source (SCIP), we ask whether there are gender differentials in recent Polish migrants' occupational transitions in Germany, the Netherlands, Ireland and the UK. Other work has found that migrant females experience a "double disadvantage" and are more likely to experience downward mobility than men (Reijman and Semyonov, 1997). Previous research indicates occupational position on arrival is associated with prior human capital, investments and motives for migration,

and these may differ between men and women (Mincer, 1978; Adsera and Chiswick, 2007). The comparison of outcomes of the same migrant group across countries, which represent different migration histories, policy arrangements and labour market structures, permits the analysis of country variations in migrant male and female trajectories. Changes in occupation are measured by comparing migrants' occupational status held in Poland, with those in the destination country. Results demonstrate that gender differences in occupational change vary across countries, linked in part to variation in the characteristics of the migrant groups in terms of their educational profile, previous job, marital/family status, migration motives and human capital investments. We find gender differences in the returns to human capital across countries. We suggest that outstanding country differences may be linked to differences between the receiving country labour markets, in terms of the accessibility of certain occupations to new migrants and the gendered nature of occupations, and work-family policies.

Parental migration and left-behind children's macronutrient intakes in rural china: a multilevel modelling analysis

Nan Zhang, University of Manchester, UK, et al

Background: One out of three children in rural China has been left behind by their parent(s) due to China's internal migration. Little is known about how different patterns of parental migration (whether it is only the father, only the mother or both parents who migrate) are associated with the macronutrient intakes of left-behind children (LBC). Methods: Data were drawn from the China Health and Nutrition Survey (CHNS) from 1997 to 2009, which included 975 children (555 boys and 420 girls) clustered in 140 villages with 2171 observations. Multilevel Modelling analyses (Level-1: observations; Level-2: individual; Level-3: village) were used to estimate whether relative macronutrients (i.e., protein, fat and carbohydrate) contributing to total energy intakes differ for LBC, as compared to their peers from intact families. Results: For rural boys, being left behind tended to reduce the relative protein intake for preschool (coefficient=-0.46; SE=0.32) and school boys (coefficient=-0.70; SE=0.23) compared to boys of the same age from intact families, after adjustment for relevant confounders. Being left behind by the mother only or by both parents seemed to be more detrimental for young boys by reducing 1.14 percent (SE=0.26) in relative protein intake, as compared to non-left-behind boys. Parental migration tended to increase young boys' relative fat intake by 2.60 percent (SE=1.23). No statistically significant associations were observed between left-behind status and relative macronutrient intake among girls. Conclusions: Being left behind due to parental migration is associated with decreased protein-density and increased fat-density among boys, especially during the ages of 1 to 5. Maternal migration can be more detrimental to young boys' relative protein intake. This may put them at increased risk of becoming overweight or obese when they grow up, and stunted growth.

How integration into working life affects childbearing for second generation immigrants in France?

Ariane Pailhé, INED, France, et al

Along with changes in norms and values (Lesthaeghe, 1983), the rise of economic uncertainty has emerged as an essential factor in the delaying of age at first birth and decreasing fertility in Europe (Blossfeld et al., 2005). In the context of increasing unemployment, young people may be led to remain in the education system and delay union formation and the births that follow (Billari and Liefbroer 2010). In France, descendants of immigrants from North Africa encounter adverse conditions to enter the workforce (Meurs et al., 2006). This study investigates how these difficulties may affect family formation. Does this tough context bring them to postpone childbearing or does their specific cultural background foster entry into parenthood no matter their employment situation? Are there any gender-specific effects? We used longitudinal data from the Generation 1998 and 2004 surveys (Cereq), representative of the population who left the education system in 1998 and 2004. These young adults were surveyed several times for a period of until 10 years after they have completed education. We used event history analysis to study the timing of first childbearing since the end of schooling and tested different indicators of declining employment security, i.e., current individual labour market position, the accumulation of unemployment periods, and the timing of unemployment. Unemployment contributes to the postponement of

childbearing for second generation immigrants. For men from North African ancestry, this postponement is mainly due to a longer stay in parental home: they have to be financially independent enough to live as a couple and start a family. For women of the second generation, unemployment does not affect partnership decision but delays fertility. Moreover, the way the individuals' labour market situation influences childbearing varies depending on their level of education.

12E

No session – room free for meetings

12F

Symposium: Higher Education and its Returns: Policies Challenges from a Life Course Perspective
Walter Heinz, Deutsche Zentrum für Hochschul-und Wissenschaftsforschung (DZHW), et al
Throughout Europe an increasing percentage of young people enrol in higher education. This development is in many ways intended and supported by educational policies. The individual decision for an academic career and policies in this field alike are often associated with the expectation that higher education guaranties higher returns in term of wages or job security in later life. Thus higher education is expected to serve also important social policy aims such as reducing poverty, precarious employment or unemployment. Moreover, a highly skilled workforce is considered to be a key precondition of a prosperous economy. However, the returns of higher education vary across individuals as well as across countries. This symposium seeks to elaborate in more detail the institutional (and individual) preconditions structuring the outcomes of higher education in order to identify key challenges for future educational policies. For example, the returns of higher education for women are structured by the individual and institutional parameters enabling women to reconcile family and work. The structural conditions of the labour market and education system, e.g. the existence of developed vocational education systems, may influence labour market outcomes as well. Moreover, also for young academics there are vulnerable transitions within the life course, such as career choices and/or job placement after graduation. Failure or successful coping with these important transitions in an employment career are likely to structure later outcomes of earlier educational investments as well. Here, the question is: which factors facilitate successful transitions into the labour market? The symposium addresses these socio-political questions that similarly occupy political actors and researchers. Moreover, by addressing these questions various longitudinal databases collected and provided by the DZHW are introduced. This allows an exemplary insight in the use of government funded research centres in Germany for the European scientific community.