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Bamberg University
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Germany

Society for Longitudinal and Life Course Studies (SLLS)

Annual International Conference

*'Education and the Life Course: Determinants and
Consequences of Unequal Educational Opportunities'*



2016

ABSTRACT BOOK



Hosted by



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Abstracts Listed in Order of Conference Programme

Day 1 Thursday 6 October 2016

Keynote Presentation

Determinants and Consequences of Unequal Educational Opportunities in the Life Course: Results From the eduLIFE Project

Hans-Peter Blossfeld, European University Institute, Italy

This keynote presents some of the core results of the eduLIFE project (2012-2016), supported by an ERC grant. The aim of this cross-national project was to study how educational careers of individuals unfold over the entire life course in different societies and to relate these changes to social inequality. The project adopted an explicit life-course perspective, utilized comparative research designs, and exploited the best available longitudinal datasets for studying educational processes in modern societies. The project was structured around four substantive topics: (1) *Childcare, Early Education and Social Inequality*: In this phase of the project, access to early education and childcare, quality of preschool education, and short- and long-term effects of early education and care on individuals from different social backgrounds were studied. (2) *Models of Secondary Education and Social Inequality*: In this phase, the educational differentiation in secondary education and short- and longer-term consequences with regard to social inequality in educational opportunities, achievement, and final educational attainment were examined. (3) *Gender, Education and Employment*: In this phase, educational trajectories and their consequences for gender differences at the school-to-work transition were analyzed. (4) *Adult Learning*: In this phase, various models of lifelong learning and the consequences they have for the educational trajectories of adults together with other (economic and non-economic) life-course outcomes were described.

Parallel Session 1

A1 EDUCATION 1

Paper Session: *Early Childhood Education*

Parental Aspirations and Participation in Early Childhood Education: Evidence of Early Disparities From the Growing Up in New Zealand Cohort

Susan Morton, University of Auckland, New Zealand

Growing Up in New Zealand is the country's largest longitudinal study to date, following the lives of nearly 7000 children born in 2009 and 2010. The children and their families represent the ethnic and socioeconomic diversity of contemporary NZ pre-schoolers. The multi-disciplinary cohort study has been explicitly designed to understand what shapes the developmental trajectories of children growing up in New Zealand in the 21st century from before birth, including what parental, familial and contextual characteristics are associated with pathways to educational success. Parents were asked about their hopes and dreams for their children before they were born and many referred to educational achievement as an important goal for their child. We compare these pre-natal parental aspirations with the post-natal realities of engagement in early childhood education for diverse NZ children and families throughout their pre-school years (from 0 to 5 years of age). We will describe what parental and contextual characteristics are associated with early vulnerability to educational failure as

well as resilience using measures of school readiness obtained both through parental self-report and via linkage to routine well child checks undertaken just before NZ children enter formal schooling.

One in four of the children in the cohort identify as Maori and one in five identify as Pacific so the large cohort also allows us to begin to disentangle why we see the marked inequalities in participation rates for Maori and Pacific children in early childhood education (participation rates are much lower for these groups). This early life information and the underlying causal pathways can begin to provide valuable insights into the origins of later life disparities in educational achievement and associated measures of life course health and well-being that burden the NZ adult population.

Parental Socioeconomic Status and the Quality of Early Childhood Education and Care: Evidence From Germany

Juliane Stahl, DIW Berlin, Germany

With growing maternal labour force participation and increasing provision and acceptance of formal child care, children spend more and more time in early childhood education and care (ECEC) institutions. Given that quality represents a crucial moderator of beneficial effects of ECEC on child well-being, we examine whether children from socioeconomically disadvantaged families, assessed by parental education, migration background, and household income, face less favourable conditions when starting their educational career by attending ECEC centres of lower quality compared to more advantaged children. We extend previous studies based on specific geographic regions in Germany by drawing on nationally representative data and examining a more diverse set of quality aspects. We draw on a sociological model of accommodation (Meyers and Jordan 2006) which conceptualizes child care decisions as accommodations to demands and resources, social and cultural expectations that rest upon incomplete information due to non-transparencies in the child care market as well as parents' lack of experience and time.

For the empirical analysis, we combine the German Socio-Economic Panel (SOEP; wave 2013) with information from the 2014 K²ID-SOEP extension study on the ECEC facilities attended by respondents' offspring. Our final sample consists of 727 children who attend 669 day-care groups in 618 ECEC facilities across Germany. To capture the local supply in ECEC quality, the data are supplemented by administrative records on average structural quality of ECEC institutions at youth welfare office district level as well as small-scale Microm neighbourhood data. The findings provide some evidence of children with less qualified mothers and those with migration background experiencing lower quality than their more advantaged peers mainly in terms of ECEC quality characteristics which are easy to observe or enquire about for parents. We find hardly any significant differences by household income.

Differences in Socio-Economic Status and Unequal Opportunity in Early Childhood Education: A Case From India

Saikat Ghosh, University of Bamberg, Germany

Because of several reasons like poverty, under nutrition, and poor learning environments millions of children under five in the developing world are unable to perform their potential for development. Early childhood education (henceforth ECE) is one of the significant interventions in human life because it is necessary to provide right start from the early childhood stage which is the most important building period. In India, there exists one of the world's largest public provisions of ECE since 1975 named: Integrated Child Development Scheme (ICDS) and also several private provisions of ECE; still almost half of the children are denied their access to any ECE.

The demand for ECE is very much endogenous and comes from parents and extended family members. And parental choices of ECE are mostly the reflection of their rationality to think, socio-economic status (henceforth SES), and values & sentiments. Based on empirical footings, this study examines whether the differences in SES leads to unequal opportunity in ECE in India.

Results shows that, SES of the household, other than household income, have no significant direct effect on the demand for ECE, but rather indirectly through parental motivation i.e. parents with higher SES are more motivated to provide better start to their children and therefore demand more for ECE. Furthermore, the social stigma based on gender, caste, and religion is lessening; although, there exists regional inequality in the demand for ECE based on districts.

The Changing Nature of Early Childhood and Its Link to School-Entry Achievement Gaps

Jane Waldfogel, RaeHyuck Lee, Columbia University, USA; Daphna Bassok, University of Virginia, USA; Jenna Finch, Sean Reardon, Stanford University, USA

By school entry, socio-economic gaps in children's cognitive skills are pronounced. Given the strong link between school readiness and a host of later-life outcomes, these gaps are troubling, and they have created the impetus for far greater policy interest in the first years of children's lives. Public investments in early childhood, such as public preschool and home visitation programs, have generally been targeted towards the lowest-income children with the explicit goal of narrowing early life inequalities. But, as parents, and especially high SES parents have responded by increasing their investments in children, disparities may be widening. However, there has not been careful empirical evidence documenting these trends over time.

This paper aims to fill this gap by leveraging two large, nationally-representative datasets (the ECLS-K 1998 and the ECLS-K 2011) to examine how early childhood experiences and investments, broadly defined, have changed in recent decades and whether socioeconomic gaps in such experiences/investments have broadened or narrowed. The study finds substantial changes in young children's lives over the past decades. Parents are investing far more in their young children than they once did, as measured through their activities with children and their provision of learning related items. At the same time, we see narrowing gaps in access to center-based preschool experiences, home literacy practices, access to home computers and internet, as well as positive approaches to discipline. Further, the study

provides suggestive evidence that these positive changes in early childhood experiences are associated with narrowing achievement gaps at school entry.

B1 EDUCATION 2

Symposium

The Determinants of Subject ‘Choice’ and Its Role in Determining Future Academic Pathways

Convenor: Jake Anders, UCL Institute of Education, UK

Summary: The importance of the subjects that young people study while at school for their future academic pathways has increasingly attracted the attention of policymakers. Most notably this has manifested itself in the UK Government’s introduction of the English Baccalaureate school performance measure at age 16 and their introduction of a school performance measure based on the Russell Group’s list of “facilitating subjects” at age 18. The interest from policymakers has sparked greater attention from researchers, who recognise that understanding subject ‘choice’ (recognising that such choice is often constrained) at age 14 is important because without doing so we do not have the knowledge to help young people make the choices that will help them to achieve their future plans. This symposium will present new evidence on the determinants of subject choice, extending this from traditional predictors such as pupils’ gender and SES, to consider non-cognitive traits and the importance of peer groups. It also considers the consequences of subject choice, specifically highlighting their role in influencing post-16 transitions and whether individuals remain on an academic focused track. By bringing together both the backward- and forward-facing aspects of this subject choice research this symposium will allow presenters and attendees to engage with this important topic in a holistic manner.

The Role of Schools in Explaining Individuals’ Subject Choice at Age 14

Jake Anders, Morag Henderson, Alice Sullivan, UCL Institute of Education, UK

Young people’s subject choices at age 14 may have important consequences for future academic and labour market outcomes. However, the choices that individuals face are shaped by the schools in which they find themselves at this point in time. This paper explores the important question of the extent to which individuals’ decisions are affected by the school they attend and to what extent this changes when we also consider the composition of their schools in terms of academic attainment and socioeconomic background. This is achieved using multi-level variance decomposition models applied to both survey and administrative data on the subjects young people study between ages 14 and 16, separately testing the robustness of the results to population-level data and to rich background data on individuals. We highlight the important role schools play in many subject choice decisions, but also how school’s decisions are in turn affected by their composition.

The Role of Non-Cognitive Traits in Socio-Economic Disparities in Subject Choices at University

Natasha Codiroli-McMaster, UCL Institute of Education, UK

This paper considers the underlying drivers to socio-economic disparities in subject choices at university, with a focus on the psychological processes involved in these choices. Firstly, I consider whether differences in students' perception of ability in, and enjoyment of STEM subjects can account for disparities in choices. Secondly, I consider whether these non-cognitive factors interact with social background, to further understand whether the psychological processes that underlie subject choice differ by students' background. I use representative survey data, Next Steps (previously the LSYPE), and regression methods to identify the unique associations between students' enjoyment of subjects, and their perception of ability, with subject choice at university. With prior academic attainment accounted for, I find significant interactions between students' family background, enjoyment of STEM subjects at the start of secondary school, and choice of subjects at university. Students whose parents do not have a degree and who enjoy maths and science are more likely to study social sciences, business and law at university over STEM subjects, than those whose parents have degrees. I will discuss findings in relation to sociological and economic theory, and explore possible policy implications.

The School Curriculum and Post-16 Transitions

Vanessa Moulton, Jake Anders, Morag Henderson, Alice Sullivan, UCL Institute of Education, UK The British school system provides a curriculum to 14-16 year olds which is highly differentiated, both within and between schools. This paper considers whether the subjects a pupil has taken in the 14-16 phase influence post-16 transitions, taking into account prior academic attainment, and if so, whether this accounts for socio-economic differences in access to post-16 education.

We consider post-16 progression to the following outcomes:

1: Full time education; 2: The college-track curriculum (A levels); 3: A level subjects which have been identified as highly valued by elite universities ('facilitating' subjects).

We address these questions using 'Next Steps', a study of 16,000 people born in England in 1989-90, linked to administrative education records (the National Pupil Database).

How Does the Choice of A-Level Subjects Vary With Students' Socio-Economic Status in English State Schools?

Catherine Dilnot, Oxford Brookes University, UK

The reasons why students from lower socio-economic groups are under-represented at highly selective universities are not entirely understood, but evidence suggests that part of the gap may be a consequence of differential choice of A-levels by social background. The Russell Group of universities has since 2011 published guidance on subject choices, describing some A-levels as 'facilitating' in that their choice keeps the largest number of Russell Group degree courses open to potential applicants. This study uses National Pupil Database data from three recent cohorts of English state school students taking at least three A-levels, and a taxonomy of all 96 A-levels certified for English students in 2014/15. Large differentials in subject choice by social background are found, particularly for facilitating subjects but also for subjects considered 'less suitable' by Russell Group universities. Multilevel linear probability models show that much of the difference is accounted for by the characteristics of schools and

colleges attended by students from different social backgrounds and by prior attainment, although a small but significant relationship of subject choice with social background remains for facilitating subjects. This suggests that there is an important role for appropriate subject choice guidance at age 16+, which is a particular challenge if students are changing school.

C1 HEALTH 1

Paper Session: *Obesity and Overweight in the Life Course*

BMI Development and Early Adolescent Psychosocial Well-Being: UK Millennium Cohort Study

Yvonne Kelly, University College London, UK

A growing body of research suggests the existence of distinct BMI development trajectories through childhood. Underlying influences on patterns of BMI development are not well understood and the psychosocial correlates of BMI growth have been little investigated. Objectives were to: 1. identify BMI developmental trajectories across the first decade of life, 2. examine early life predictors of trajectory membership, 3. investigate whether being on a particular BMI trajectory is associated with markers of psychosocial well-being including socioemotional difficulties, self-esteem, happiness and risky behaviours in early adolescence. We employed latent class analysis to derive BMI trajectories using data collected at ages 3, 5, 7 and 11 years on 16936 participants from the Millennium Cohort Study. Regression models were used to estimate predictors of BMI trajectory membership, and their psychosocial correlates.

Four trajectories were identified: i. 83.8% had an average 'stable' non-overweight BMI; ii. 0.6% were in a 'decreasing' group; iii. 13.1% had 'moderate increasing' BMIs; iv. 2.5% had 'high increasing' BMIs. Predictors of 'moderate' and 'high' increasing group membership were smoking in pregnancy (OR=1.17 and 1.97 respectively), maternal BMI (OR=1.10 and 1.14), skipping breakfast (1.66 and 1.76), non-regular bedtimes (1.22 and 1.55). Children in the 'moderate' and 'high' increasing groups had worse scores for emotional symptoms, peer problems, happiness, body satisfaction and self-esteem, and those in the 'high increasing' group were more likely to have tried alcohol and cigarettes.

The vast majority of children in this contemporary UK study had BMI trajectories in the non-overweight range. Several potentially modifiable early life factors appeared important in predicting membership of BMIs in the overweight and obese range. These findings support the need for strategies aimed at multiple spheres of influence on BMI growth. Intervening early could alter trajectories and have important implications for physical health, psychosocial well-being and health behaviours across the lifecourse.

Work-Family Life Courses and BMI Trajectories in Three British Birth Cohorts

Anne McMunn, Rebecca Lacey (Presenting), University College London, UK

Background/Objectives: Combining work and family responsibilities has previously been associated with improved health in mid-life, yet little is known about how these associations change over time (both biographical and historical) or whether this extends to BMI trajectories for British men and women. The aim of this study was to investigate associations between work-family life courses and BMI trajectories across adulthood (16-42 years) for men and women in three British birth cohorts.

Subjects/methods: Multiply-imputed data from three nationally-representative British birth cohorts were used – the MRC National Survey of Health and Development (1946 birth cohort, n=3 012), the National Child Development Study (1958 birth cohort, n=9 614) and the British Cohort Study (1970 birth cohort, n=8 140). A typology of work-family life course types was developed using multi-channel sequence analysis, combining annual information on work, partnerships and parenthood from 16-42 years. Work-family life courses were related to BMI trajectories using multilevel growth models. Analyses adjusted for indicators of prior health, educational attainment and socioeconomic position across the life course, and were stratified by gender and cohort.

Results: Work-family life courses characterised by earlier transitions to parenthood and weaker long-term ties to paid work (e.g. long-term homemaking) were associated with greater increases in BMI across adulthood. Some of these differences, particularly for those work-family groups which are becoming increasingly non-normative, became more pronounced over across cohorts.

Conclusions: Earlier transitions to parenthood and weaker long-term ties to paid work are associated with greater growth in BMI across adulthood for British men and women.

A Cross-National Comparison of the Relationship Between Family Structure, Family Transitions, and Childhood Obesity

Mikaela Dufur, Kristie Rowley, Jonathan Jarvis, et al., Brigham Young University, USA

Childhood obesity is a growing problem worldwide (Ebbeling, Pawtuck & Ludwig, 2002) and has been linked to short and long-term outcomes that span the lifecourse including: orthopedic, neurological, pulmonary, and endocrine conditions as well as self-esteem, body image and economic mobility effects (Strauss, 1999). Many have placed responsibility for childhood obesity within the family (Epstein et al. 1996, Gibson et al 2007), even citing parental neglect as a factor (Lissau & Sorensen, 1994). However, researchers have not examined the role of family stability or disruption on the prevalence of childhood obesity. A large body of research has connected family structure to a variety of child and adolescent outcomes; however, recent work focuses attention on more nuanced explorations of how a variety of family structures shape family mechanisms and processes (c.f. Boswell & Passmore, 2013; Golombok et al., 2013; Lamb, 2012; Dufur et al., 2010). In addition, little cross-national or comparative research on changes in family structures has been done (Bjarnason et al., 2012; McCulloch et al. 2000) and none on how family disruption over the life course relates to obesity. Using data from the UK Millennium Cohort Study (First, Second, Third and Fourth Sweeps 2000-2008), the US Early Childhood Longitudinal Study-Birth Cohort (First, Second, Third, and Fourth Waves 2001-2007), and the German National Educational Panel Study

(Starting Cohort 3, First and Second Waves 2010-2011), we examine the effects of duration in or transition to a variety of family types on child body mass index between the ages of 9-12. We use multivariate models to examine the effects of duration in or transition to a variety of family types on children's BMI using two outcome variables: BMI, and a categorical variable that compares underweight and overweight to normal weight.

Body Mass Index Trajectories From Early Adolescence to Young Adulthood: Do Adverse Life Events Play a Role?

Leonie Elsenburg, University of Groningen, Netherlands

Introduction: Adverse life events, such as disease or death of a family member and out-of-home placement, can cause changes in weight. We want to establish whether predetermined classes of body mass index (BMI) trajectories from early adolescence to young adulthood can be differentiated based on the number of adverse life events children experienced.

Methods: Data are from 2219 children, participating in the prospective TRAILS (Tracking Adolescents' Individual Lives Survey) cohort study, whom had their BMI measured at 1 to 5 occasions between the ages of 10 and 23 years. Parents reported on the adverse life events the children had experienced between birth and wave 1 in an interview. A latent class growth analysis (LCGA) was performed. A multinomial logistic regression was performed to see whether gender, socio-economic status (SES), ethnicity, pubertal stage and number of experienced adverse life events were differentially associated with the different classes.

Results: The LCGA resulted in four different BMI trajectory classes from early adolescence to young adulthood: a 'normal weight' class (50.2%), an 'at-risk for overweight class' (35.4%), a 'consistently overweight' class (12.0%) and a 'consistently obese' class (2.4%). Girls were more often in the 'at-risk for overweight' (OR=1.34, $p=0.012$) and 'consistently overweight' (OR=1.78, $p<0.001$) class, children with a lower SES were more often in the 'consistently overweight' (OR=1.86, $p<0.001$) and 'consistently obese' (OR=2.08, $p<0.001$) class and children with a higher pubertal stage were more often in the 'at-risk for overweight' (OR=1.61, $p<0.001$), 'consistently overweight' (OR=1.98, $p<0.001$) and 'consistently obese' (OR=2.36, $p<0.001$) than in the 'normal weight' class. There were no differences between the classes in number of adverse life events children experienced.

Conclusion: Four different BMI trajectory classes were identified from early adolescence until young adulthood. Class membership was related to several covariates, but not to number of experienced adverse life events.

D1 HEALTH 2

Symposium

Social Structure, Social Relationships and Health

Convenor: Mai Stafford, University College London, UK

The determinants of physical and psychological health are widely acknowledged as being not only biologically determined but as socially constructed and distributed throughout the life course. At all life stages evidence points to social relationships as a key determinant of health. In turn social relationships are influenced by the social structures in which they are embedded at national, regional, local and individual levels. In other words, the opportunity for having health-promoting social relationships is itself structured by more distal social factors. These include the level of freedom, wealth, equality and stability at the national and regional levels, neighbourhood cohesion, stress and deprivation at a local level and individual level factors such as gender and social position. In this symposium, we present findings from 4 studies illustrating structural inequalities in social relationships and their impact on health at different life stages.

The first study uses data from 23 European countries, covering 128 regions, to examine how the risk of loneliness in later life is influenced by structural factors such as national culture, health spending, social inequality, security, stability and regional wealth over and above individual-level determinants of loneliness. The second study focuses on data from Britain at a lower level of geography to examine how social capital is patterned according to levels of neighbourhood deprivation, and assesses their joint contribution to children's health and psychotic symptoms. The third and fourth studies explore whether the health effects of social relationship quality in middle to older age are modified by gender and social position. Each of these highlights structural factors which may constrain or promote health through their impact on social relationships.

When the Old Become Lonely: Structural Determinants of Late-Life Loneliness in Europe

Linda Ejlskov, Jesper Wulff, University College London, UK

Background: Given population ageing, it is crucial to gain insights into how societies can increase the number of healthy years of life. Loneliness is viewed as a serious impediment to healthy ageing. Recent literature suggests that in addition to individual determinants, where you live matters for the risk of being lonely. While several theoretical explanations of contextual influences on the propensity for feeling lonely have been put forth, only a few of the proposed contextual determinants for loneliness have been tested. More cross-country comparative research is needed to disentangle the mechanisms underlying loneliness in older age.

Aim: To examine cross-country variations in late life loneliness.

Methods: Several country and regional level determinants of late life loneliness in Europe are investigated. A three-level cumulative mixed model analysis is performed on 10,166 individuals from 23 European countries using data from the 6th wave of the European Social Survey.

Results: The analysis indicates that considering the region in which the individuals live as well as the country adds to the understanding of geographical variations in late-life loneliness. Additionally, extending the scope beyond culture to other contextual determinants adds to our understanding of variations in late-life loneliness across nations and regions. Both the information theoretic approach and the standardized coefficients indicate that the most important predictors of late-life loneliness are level of freedom (-0.30 (SE=0.06)) and equality (-0.30 (SE=0.06)) in a country followed by that country's health expenditure (-0.26 (SE=0.07)) and the wealth of the specific region (-0.21 (SE=0.06)).

Conclusions: Based on these results, the previous focus on culture as the sole determinant of variations in loneliness across countries is questioned and a theoretical explanation for the found associations is put forth.

Trajectories of Neighbourhood Cohesion in Childhood and Psychotic and Depressive Symptoms at Age 12 and 18

Francesca Solmi, University College London, UK; Ian Colman, University of Ottawa, Canada; Murray Weeks, Canadian Forces Health Services Group, Canada, et al.

Background: Incidence of non-affective psychoses, and, to a lesser degree, mood disorders exhibit non-random spatial variation. Most studies have assessed exposure to adverse environmental factors at a single time point, with less longitudinal evidence about how trajectories of exposure to neighbourhood factors in childhood may affect the development of psychotic and mood symptoms in adolescence.

Aim: To study the association between trajectories of neighbourhood cohesion in childhood and psychotic and depressive symptoms at age 12 and 18 years.

Methods: Using latent class growth modelling and data from the Avon Longitudinal Study of Parents and Children (ALSPAC) we defined trajectories of neighbourhood: cohesion (NC), discord (ND), and stress/crime (NS). We fitted univariate and multivariate models adjusting for maternal psychopathology, socio-demographic characteristics and socio-economic status (SES).

Results: A three-level trajectory provided the best fit for ND, NS and NC, with people classed into persistently low, medium and high exposure classes. High levels of childhood ND were associated with greater odds of psychotic symptoms at age 18 (Adjusted odds ratio (OR): 1.88; 95% confidence intervals (CI):1.33-2.67). No association between NC or NS and psychotic symptoms at age 18 were observed. Low levels of NC (Adjusted OR 1.35, 95%CI: 1.05-1.73) and high levels of ND (Adjusted OR: 1.38 95% CI: 1.04-1.82) were associated with depressive symptoms at age 18. At age 12, no associations were found.

Conclusions: Our results suggest that prolonged and more severe exposure to adverse social environments are associated with greater odds of developing psychotic and depressive symptoms in late adolescence, though these patterns were more consistent for depressive symptoms.

Socioeconomic Differences in Social Integration

Marja Aartsen, NOVA Norwegian Social Research, Norway

Objectives: There is substantial evidence that social integration is good for mental and physical health. Meanwhile, large socio-economic differences are observed in health, but only a few studies examined socio-economic differences in social integration. We identify different profiles of social integration and examine the associations of these patterns with differences in indicators of socio-economic position, i.e. fathers' and mothers' education, own education, and own occupational status.

Methods: Data are derived from two waves of the NorLAG study (year 2002 and 2007), and include data from 1452 men and 1392 women. Mean age was 57 (ranging from 40-80) at baseline. By means of Latent Class Analyses, respondents are classified into distinct profiles of social integration based on differences in five dichotomous indicators of social integration: paid work, unpaid work in organizations, helping others, living alone and feeling alone. The profiles were related to the educational level of the parents, own education and own occupational status in the same step.

Results: Preliminary analyses found five different profiles of social integration for women and six for men. Type of integration was associated with mother's level of education, and own level of education for men and women, but not with occupational prestige and fathers level of education.

Conclusions: Level of education plays an important role in level of social integration later in life. Higher educated people, and people with higher educated mothers are less lonely, live alone less often, and participate more often in paid and unpaid work.

Gender, Social Support and Trajectories of Body Mass Index and Waist-to-Hip Ratio During Mid-Life

Urszula Tymoszuk, Rachel Batterham, Mai Stafford, University College London, UK; Meena Kumari, University of Essex, UK

Background: Previous studies show that men and women vary in levels of providing and receiving social support as well as social support benefits for health outcomes. Body weight and its changes are important predictors of mortality and morbidity in middle-aged and older adults and social support has been linked to body weight levels at different time points in the life course. However, the effect of social relationships on rate of change in body weight and modification of this association by gender remain to be established.

Methods: Using data on 5,773 men and women in the Whitehall II cohort of middle-aged British adults we examined Body Mass Index (BMI) and Waist to Hip ratio (WHR) trajectories by marital status and perceived positive and negative support from the closest person. This analysis examines baseline social support and covariate data from phase 2 (1989-1990, ages 37-60) and trajectories of BMI and WHR over phases 3, 5, 7, 9 and 11 (2012-2013, ages 59-83). Person-level trajectories of BMI and WHR estimated using a multilevel growth model are tested for an interaction with gender and adjusted for ethnicity, socioeconomic status, health behaviours and General Health Questionnaire.

Results: Using data from 20 years of follow-up, we demonstrate that high confiding support compared to low, low negative aspects compared to high and being married compared to being single are associated with less steep linear increase in BMI and WHR, independent of covariates and that gender modifies the associations, with greater magnitudes in women (e.g. linear BMI slope coefficient high confiding support vs. low: men 0.192, SE 0.009 vs. 0.221, SE 0.008, $p < 0.05$ and women 0.211, SE 0.019 vs. 0.277, SE 0.017, $p < 0.05$).

E1 CHILDREN & FAMILY

Paper Session: *Childhood*

NCCR LIVES Best Paper Award for Young Scholars – Winner’s Presentation

Winner details and abstract are available after the conference – contact:
cwestlake@slls.org.uk

Do Parents Treat (Their) Children Differently?

Martin Diewald, Volker Lang (Presenting), University of Bielefeld, Germany; Wendy Johnson, University of Edinburgh, UK

How parents treat their children is highly relevant for offspring life chances. However, there are numerous concepts of what constitutes “parenting”, and several ideas about why it should be relevant to children’s well-being, skill development, and educational attainment. Various parenting styles and activities are theorized as cultural capital in sociology, and as skill-enhancing factors in behavioural economics. Parents are always differently able to realize parenting practices thought to be favourable, due to psychological resources such as own skills and personality as well as social resources such as money, time, culture, or status. Moreover, they may react to perceived characteristics of their children differently based on these resources but also based on differences in children’s personality and ability display. For example, they may invest in the development of those whom they perceive as having more potential, or they may make compensating investments in those whom they perceive as less “naturally” advantaged. Or, following egalitarian ethical considerations, they try to treat their children equally regardless of child characteristics. Existing evidence is inconsistent, and these inconsistent results might at least be partly due to different concepts of parenting, different operationalizations, and methodologies that do not sufficiently account for unobserved heterogeneities or confounding variables.

We address this by investigating several different parenting concepts and their social as well as psychological antecedents. We present analyses of the first half of wave 1 of the new TwinLife study, comprising 2000 twin families in four twin birth cohorts spanning middle childhood to young adulthood. The study design includes rich information about both parents and children, making it possible to assess which aspects of parenting are dependent on parental education, SES, family structure, or their skills and personality. With the nuclear twin family design, we can also assess how genetic and environmental factors contribute to differential parenting.

Child Labor as a Phenomenon Who Triggers Others: A Multi-Channel Sequence Analysis

Julio Cesar Martinez Sanchez, National Institute of Statistics and Geography, Mexico

Child labor has been present in most of the 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.

We use data from the National Survey of Demographic Dynamics (EDER in Spanish) 2011 which is the first project led by National Institute of Statistics and Geography (INEGI in Spanish) 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 to 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.

Keeping Our Children Injury-Free: Household Safety Evidence From Growing Up in New Zealand

Sarah Berry, University of Auckland, New Zealand

In 2007, New Zealand was ranked worst out of 24 OECD nations for rates of death from injury for those under 20 years of age. In addition, a great many more non-fatal injuries occur which require costly hospitalisation or other forms of medical attention, and which cause an important (and sometimes long-lasting) burden on children and their families. By the age of two years, 28% of the Growing Up in New Zealand children had sustained an injury that required a doctor, health centre or hospital visit. Approximately 450 children had sustained more than one injury that needed medical attention by the time they were two years old. The most common place for an injury to occur before the age of two years (in 69% of cases) was the children's own home. Previous work has suggested that the proper implementation of evidence-based safety measures could prevent a majority of injuries involving young children and the presence of such household safety features in the homes of the two-year-old children of this cohort was also explored. Nearly all families reported using a car seat for their two year old all the time, the majority (85%) knew what to do if their child ate or drank something poisonous, around 80% kept matches out of reach and had working smoke alarms, and just over three quarters of two year olds had play areas fenced. Of concern, less than half of families reported having their hot-water adjusted to a safe temperature, 32% had doors or gates on stairs to prevent falls, and only 22% use electrical socket covers. The absence of smoke alarms in 21% of the Growing Up in New Zealand cohort is of concern. Further, the likelihood of having a working smoke alarm at home was significantly affected by housing

tenure type as well as whether families were living in areas of socioeconomic deprivation. Thus this household safety feature demonstrates an opportunity to improve equitable prevention of a significant public health concern. New standards proposed for rental homes in New Zealand, following the release of this Growing Up in New Zealand analysis, include a new requirement for smoke alarms in all residential rental properties from 1 July 2016.

F1 GENERAL

Symposium

A Life Course Analysis of the Great Recession in the United States

Convenor: Jon Miller, University of Michigan, USA

Summary: Using the 29-year record of the Longitudinal Study of American Life (LSAL), this symposium will examine and assess the impact of the Great Recession (GR hereafter) on a national probability sample of young adults (age 40 to 43). The symposium will include four papers that will focus on the impact of the GR on (1) employment status and job security, (2) access to health services and health status, (3) home ownership and housing, and (4) ability to finance their children's post-secondary education. Each of the four papers will provide a description of the relevant literature, a discussion of the measures used, some descriptive statistics, and one or more structural equation models to assess the relative importance of selected life course variables (education, geographic location, occupational experience, marital status, number of children) on the impact of the GR on the outcome variables of interest.

The Impact of the Great Recession on Employment and Job Security in Generation X

Jon Miller, University of Michigan, USA

Using data from the 29-year record of the LSAL, this paper will examine the impact of the GR on short-term employment and on longer-term job security. Working within the context of prior education and training, this analysis will contrast each individual's employment status and occupation in 2007 (just prior to the onset of the GR) and in subsequent years through 2015. Measures have been constructed to capture short-term job loss, reduction in hours, and loss of benefits. Some of the LSAL young adults lost one job and subsequently obtained another, but the new job was at a significantly lower skill level or pay level. We have constructed a measure of under-employment to assess this outcome. A structural equation model (SEM) will be constructed to examine the factors associated with negative short-term employment and job status outcomes. A separate measure of longer-term employment prospects has been constructed and a separate SEM will identify the factors associated with longer-term job and employment security. Our preliminary results show that the level of prior educational attainment is the strongest predictor of all of the employment outcomes, with individuals with lower levels of education experiencing larger negative consequences from the GR. There is no gender difference in these results, but geographic location has a significant impact.

The Impact of the Great Recession on Access to Health Services and on Health Status

Jacqui Smith, University of Michigan, USA

Using the same 29-year longitudinal record from the LSAL, this paper will examine the impact of the GR on individual access to health services and changes in health status. The LSAL questionnaires asked about access to health services and the loss of health insurance before and during the GR and these measures represent an adequate indicator of access to health services. election of a major field of study, and graduate or professional study. The linkage between secondary school science and math achievement and mid-life outcomes is not simple or linear, but works through a number of intervening variables during the years after secondary school.

A longitudinal record of the length of the LSAY provides useful opportunities to explore combinations of academic, personal, and social factors in this process. A second set of analyses will look at the influence of secondary and post-secondary science study on the development of young adult interest in selected science-related public policy disputes and in their ability to find and make sense of information about these issues. This analysis will utilize two measures on health status. One self-reported summary index is a zero-to-10 scale collected from each respondent almost every year, which provides a useful measure of changes in general health status. A second index builds on reports of specific diseases or conditions (cancer, high blood pressure, asthma, vision problems, hearing problems, and disabilities) and provides a summary score that reflects health status. SEM's will be used to predict health status and access to health services.

The Impact of the Great Recession on Educational Pursuits in Adulthood

Lindsay Ryan, University of Michigan, USA

Educational attainment is a critical factor linked to health and economic consequences across the life course. Adults who pursue additional education are typically interested in maintaining stable employment, job promotions, or switching to a new field of work. The life course timing of the Great Recession may have important implications for the likelihood that adults pursue additional education and training. Early midlife adults experienced the Great Recession at a time when most have not engaged in formal education for nearly two decades, but also at a point where there are many work-years ahead that could benefit from additional training. The current paper utilizes unique data from the 29-year LSAL to investigate the extent to which the Great Recession impacted educational pursuits of early midlife adults in the United States. Specifically, 20% of the sample report pursuing additional education/training during the Great Recession. Analyses investigate the factors that predict which individuals enroll in additional education. Factors before and during the Great Recession are considered, including achievement in high school, pre-Recession education level, job loss during the recession, difficulty paying rent/mortgage during the recession, and the loss of benefits during the recession.

The Impact of the Great Recession on the Ability of Parents to Fund Their Children’s College Education

Sandra Tang, Jon Miller, University of Michigan, USA

In the United States, most families in the middle class or higher are expected to finance a significant portion of the cost of their children’s college education. And when children decide to pursue careers in law, medicine, or other fields with limited federal funding, it may be necessary for parents to cover part of the support of graduate or professional education as well. The LSAL has each participant in 2015 to report on the impact of the GR on their ability to provide this kind of funding. This analysis to identify the magnitude of the problem and set it in the context of other positive and negative impacts from the GR. A SEM will be used to identify factors associated with the ability or the inability of parents in Generation X to provide this kind of support for their children.

Parallel Session 2

A2 EDUCATION 1

Symposium

Transfers of Educational Attainment, Aspirations and Inequality Across Three Generations of Australian Families

Convenor: Jack Lam, University of Queensland, Australia

Summary: In recent years, research on the transfers of educational attainment over multiple generations of families has been rapidly expanding through increased availability of survey and administrative data. In this symposium, researchers from the Life Course Centre draw upon data from Growing Up in Australia: The Longitudinal Study of Australian Children to examine both the nature and mechanisms of educational transfers in across three generations of Australian families. The first presentation provides an overview of the relationships between the educational attainment of maternal and paternal grandmothers and grandfathers, the educational attainment of mothers and fathers, and the academic achievement of grandchildren, and discusses the role of assortative mating and the concentration of educational attainment within families as a mechanism for transfers of inequality. The second presentation then turns to examining contact with grandparents as a potential mechanism through which grandparents influence the educational trajectories of their grandchildren, and highlights a number of concerns as to why grandparent contact is not a reliable assessment of the extent to which grandparents directly influence their grandchildren independently of parent influence. The third presentation then looks at academic socialisation as a mechanism through which educational advantages are transferred across generations within families. The symposium concludes with a discussion about how these studies together contribute to the broader literature and the potential policy implications of the findings.

Three-Generation Education Patterns Among Grandparents, Parents and Grandchildren: Evidence of Grandparent Effects From Australia

Kirsten Hancock, Jenny Povey, Alice Campbell, Stephen Zubrick, University of Queensland, Australia; Francis Mitrou, University of Western Australia

The ways in which parents invest their human capital resources in the development of their children is well established, however the transfers of resources across multiple generations is less understood, particularly in Australia. Drawing upon information from the Longitudinal Study of Australian Children relating to the educational attainment of maternal and paternal grandmothers and grandfathers, mothers and fathers, we find that the likelihood of mothers and fathers completing Year 12 is higher among those whose own parents, and their partner's parents, had higher educational attainment. Controlling for parent educational attainment, grandchildren had higher numeracy scores at age 8–9 years if their paternal grandfather was university qualified and higher reading scores if maternal or paternal grandmothers were university qualified. We also find that achievement scores were substantially higher among children in families with concentrations of educational advantage. These results suggest that the concentration of human capital in families contributes to educational inequalities across multiple generations.

What Can the Frequency of Contact Between Grandparents and Grandchildren Tell Us About 'Direct' Effects of Grandparent Education on the Academic Outcomes of Grandchildren?

Kirsten Hancock, Jenny Povey, Alice Campbell, Stephen Zubrick, University of Queensland, Australia; Francis Mitrou, University of Western Australia

Studies concerned with transfers of educational attainment across generations have considered 'direct' grandparent effects as a possible transfer mechanism. For example, in addition to parental investments, grandparents may also invest their human, psychological and social capital resources in grandchildren through the provision of child care, by providing financial assistance for education costs, or by using their social networks to influence other opportunities for their grandchildren. Some have argued that if grandparents do play a significant role in the educational attainment of their grandchildren, then the association between grandparent and grandchild educational attainment should vary according to differences in opportunity for these transfers to be made. The current study tests this assumption by examining how the grandparent education effect varies according to the level of contact between grandparents and grandchildren. However, our results instead suggest that the contact hypothesis is difficult to assess because grandparents who cohabit with or see their grandchildren most frequently tend to have lower education attainment, and children with more frequent contact with grandparents have lower achievement outcomes on average.

Academic Socialisation and the Intergenerational Transmission of Education Advantage

Jenny Povey, Alice Campbell, Kirsten Hancock, University of Queensland, Australia; Francis Mitrou, University of Western Australia

There is a large body of evidence demonstrating the intergenerational transmission of educational attainment, but less is known about the mechanisms through which this occurs. This research utilises data from the Longitudinal Study of Australian Children to explore the role of academic socialisation in the transmission of education advantage across three generations. Academic socialisation is the process through which parents' foster high educational aspirations and expectations in their child. It involves communicating the value

of education and scaffolding a child's decision-making and future planning capabilities. This research investigates the pathways from parents' interest in their daughter's education growing up (as reported by their daughter) to the daughter's academic socialisation of her own child, and how this impacts on the child's academic achievement, self-efficacy, and expectations for their own educational attainment. Parents' interest in their daughter's education was associated with her academic socialisation of her own child, both directly and indirectly via her level of educational attainment.

Furthermore, a significant association was found between the daughter's academic socialisation of her own child and that child's learning outcomes, academic self-concept, self-efficacy and educational expectations. This research suggests that academic socialisation is a significant mechanism for the transmission of education advantage across generations.

B2 EDUCATION 2

Symposium

Barriers to Academic Achievement and the Transition to Post-Secondary Education: Evidence From Toronto District School Board Data

Convenor: Karen Robson, McMaster University, Canada

Summary: The following three papers examine outcomes of students in the Toronto District School Board (TDSB) followed over time. The Toronto District School Board is the largest school board in Canada and one of the most diverse in the world. Over three quarters of students are first or second generation (born outside of Canada or parents born outside Canada); students speak over 100 languages and come from almost every country in the world. The papers pull from three different datasets. The first is a series of Grade 9 cohort studies, following TDSB students from when they start secondary school, until they progress into the Ontario post-secondary system at the end of five years. The second is a set of Grade 12 transition studies, following students into post-secondary. The third is an ongoing study of Grade 6 students, currently in secondary school.

The studies access a wide range of administrative variables, including demographics, neighbourhood and school characteristics, and achievement variables such as grades and standardized tests. Included as well is information from the TDSB 2006 and 2011 Student Censuses, with a wide range of demographic and attitudinal variables rarely seen in Canadian research, such as student race and parental education, and attitudes towards school. Among the topics addressed in the symposium papers are:

- the powerful impact of failing one course at the beginning of high school-- and how this impact is not evenly distributed across the total student population;
- the intersectionality of at-risk characteristics on post-secondary access, and how this may be changing;
- the role of Special Education Needs in elementary school on the transition to secondary school, and the role of streaming.

Have Post-Secondary Access Policies Helped Marginalized Youth?

Karen Robson, McMaster University, Canada; Robert Brown, Toronto District School Board, Canada; Paul Anisef, Rhonda George, York University, Canada

An earlier analysis of TDSB Grade 12 students who wrote the 2006 Student Census found that post-secondary transition rates varied significantly according to student race, class, and gender; specifically, Black males were less likely to go to post-secondary compared other groups. The study used three successive years of post-secondary applications to Ontario universities and colleges, so as to provide a fairly complete picture of the post-secondary transition. This update from the 2011 Student Census, compares similar data to determine if access rates have improved.

The results are both perplexing and positive. Generally, student post-secondary access rates over three years have improved. Black students are still more likely to be in non-Academic streams which are less likely to result in post-secondary, they are more likely to have Special Education Needs, and they have generally lower marks, compared to other students. While they continue to have lower post-secondary access, their rates have improved; and in a regression they have higher rates of post-secondary compared to White students, when everything is taken into account. The paper discusses implications of these findings.

The Trajectories of Grade 9 Mathematics Achievement 2008-2013

Robert Brown, Lisa Newton, George Tam, Gillian Parekh, Toronto District School Board, Canada

A previous TDSB study found that most students who completed 8 credits by the end of Grade 9 graduated from high school and were attending university five years later; however, most students who completed 7 credits in Grade 9 graduated from high school five years later but were not attending post-secondary. This paper examines the trajectories of students looking at one mandatory Grade 9 subject (Mathematics) and follows the outcomes of students from when they started Grade 9 in 2008 up to 2013. By that point most students in the cohort had transitioned to Ontario post-secondary institutions; however, most students who failed Grade 9 Mathematics had not. However, this failure was not evenly distributed across the student population. Most noticeable was the role of Program of Study (streaming). Students in non-Academic (post-secondary) streaming were more likely to fail and more likely to fail with lower marks (under 40). In contrast, those in Academic (post-secondary) programming were more likely to have higher grades, although the programs of study were offered with the assumption of similar grade distributions. Generally previous achievement (e.g. in standardized tests elementary school) cannot predict course failure in secondary school. Implications are discussed.

The Role of Special Education in Grade 9 Program of Study: An Examination of the Home School Program (HSP) and Other Special Education Programs

Gillian Parekh, Robert Brown, Toronto District School Board, Canada; Chris Conley, Durham District School Board, Canada

The other symposium papers outlined the importance of Grade 9 Program of Study (or streaming) as an important gatekeeper of post-secondary access. This paper looks at issues of the earlier transition from elementary into secondary. First, a limited (Grade 7-9) cohort analysis found that the majority of TDSB students taking non-Academic courses in Grade 9 (Applied and Locally-developed), had been students with Special Education Needs in Grade 7.

This is important since most students taking non-Academic programming in Grade 9 do not make the transition to post-secondary. A further analysis examined students according to Special Education Needs and Grade 6 standardized test achievement in Mathematics. Generally, most students without Special Education Needs made the transition into Academic programming in Grade 9; however, students with Special Education Needs with similar Grade 6 Mathematics achievement moved into non-Academic programming in Grade 9. The paper focuses on students in the HSP program, where most students are put into congregated settings in Senior Elementary School (Grades 6-8).

C2 HEALTH 1

Symposium

Cohort and Longitudinal Studies Enhancement Resources (CLOSER): Harmonisation and Comparison of Measures of Body Mass Index, Physiological and Physical Function, and Well-Being Across Different Longitudinal Studies

Convenor: Alison Park, UCL Institute of Education, UK

Summary: Comparing findings across different birth cohort and longitudinal studies is invaluable in allowing us to examine the influence that different contexts can have on individual outcomes. However, such comparisons are not straight-forward; measurement approaches will often differ between studies, and instruments inevitably change over time. Consequently, a degree of retrospective harmonisation can be required in order to make valid comparisons between studies (or between different waves of the same study). The Cohort and Longitudinal Studies Enhancement Resources (CLOSER) network was established to address these sorts of challenges. Through pooling the expertise and skills from eight of the UK's longitudinal studies, along with the British Library and the UK Data Archive, CLOSER aims to stimulate data harmonisation and cross-study comparisons, develop shared resources and infrastructures to enable research, and assist with training and development.

This symposium reports on three CLOSER-funded harmonisation and comparative projects involving a number of different UK cohort studies. The first two papers examine the relationship between childhood and adult socioeconomic position (which have themselves also required harmonisation) and body mass index (Paper 1) and adult mental well-being (Paper 2). In each case, the paper explores whether and how this relationship varies between cohorts. Paper 3 examines how measures of physiological function and physical performance (examples include blood pressure and lung function) vary according to the measurement equipment used, and establishes whether correction factors can be applied to enable harmonised analysis.

Socioeconomic Inequalities in Body Mass Index Across Adulthood: Coordinated Analyses of Individual Participant Data From Three British Birth Cohort Studies

David Bann, Rebecca Hardy, University College London, UK; William Johnson, Cambridge University, UK

Lower socioeconomic position (SEP) is associated with higher adult body mass index (BMI), but how these associations have changed across time is poorly understood. We examined how childhood and adult SEP relates to adult BMI in representative British birth cohorts born in 1946, 1958, and 1970. In each cohort, father's (10/11 years) and own (42/43 years) Registrar General's occupation class were prospectively ascertained. BMI was measured repeatedly across adulthood in the 1946 (20-60-64 years), 1958 (23-50 years), and 1970 cohorts (26-42 years). Both SEP and BMI measures underwent standardised data processing/harmonisation to aid comparability. Associations between SEP and BMI at each age by gender were examined using linear regression models, separately in each study.

Inequalities in adult BMI according to childhood SEP were evident in both genders, typically larger at older ages, and similar in magnitude in each cohort. Inequalities according to adult SEP were more evident in women than men, similar across adulthood, and among women were found to be larger in the 1970 compared with earlier-born cohorts. For example, mean differences in BMI at 42/43 years amongst women in the lowest compared with highest occupational class were 2.0kg/m² (95% CI: -0.1, 4.0) in the 1946, 2.3 (1.1, 3.4) in the 1958, and 3.9 (2.3, 5.4) in the 1970 cohort.

Results suggest that socioeconomic inequalities in BMI have persisted across generations and, with respect to adult SEP among women, may have widened. Given the public health implications of these findings, policies to reduce these inequalities are urgently required.

Prospective Associations Between Childhood Socio-Economic Position and Adult Mental Well-Being in Four British Birth Cohort Studies

Natasha Wood, Mai Stafford, University College London, UK

There is much evidence showing that childhood circumstances are associated with physical and mental health later on in adult life; however, there is little evidence on how early life disadvantage may be associated with adult mental well-being and whether this has changed for successive cohorts. This paper aims to investigate whether childhood socio-economic position (SEP) is associated with adult mental well-being, to what extent the association is mediated through adult SEP and whether the same socio-economic pathways throughout adult life link childhood exposures to adult mental well-being in successive cohorts born between the 1930s and 1970s.

Data were used from four British birth cohort studies. The Hertfordshire Cohort Study, comprising people born between 1933 and 1939; the MRC National Survey of Health and Development (NSHD) born in 1946; the National Child Development Study (NCDS) born in 1958 and the British Cohort Study (BCS70) born in 1970. Adult mental well-being was measured using the Warwick Edinburgh Mental Well-Being Scale, a validated instrument capturing both hedonic and eudemonic aspects of well-being. Childhood SEP was measured through father's social class and adult SEP was measured through adult social class and educational attainment. Multi-group structural equation models were used.

A less advantaged childhood SEP was associated with lower adult mental well-being in all cohorts. However, educational attainment and adult SEP mediated this association in only three of the four cohorts. Childhood socio-economic advantage may promote well-being through adult socio-economic advantage including material advantage, better quality employment and enhanced skills, but findings suggest additional pathways remain to be identified.

A Randomised Trial to Compare Measures of Physiological Function and Physical Performance: Is it Necessary to Account for Differences in Equipment?

Carli Lessof, National Centre for Research Methods, UK; Andrew Wong, Rebecca Hardy, University College London, UK; the CLOSER equipment comparison team

Measures of physical function and physical performance such as blood pressure, lung function and grip strength are collected in many longitudinal studies to track health and the ageing process. There is, however, no standard set of equipment used to take these measurements. Equipment may differ across studies because of initial decisions made by investigators and may differ within studies if equipment becomes redundant and has to be replaced or if improved technologies become available. Consequently, it is important for analysts to understand how measurements which use different equipment compare – to support accurate cross-cohort comparison and to correctly estimate longitudinal trajectories.

As a result, a randomised, controlled trial with repeated measures compared some of the equipment used in eight UK studies. Funded by CLOSER, it involved two models of sphygmomanometer for blood pressure (Omron 705-CP and Omron 907-UK), two spirometers for lung function (Micromedical plus and Easy-on NDD) and four dynamometers for grip strength (Nottingham Electronic, Jamar Hydraulic, Jamar Electronic and Smedley). 118 healthy individuals who agreed to re-contact following an omnibus survey were selected from six groups (men and women in three age categories: 45-54, 55-64 and 65-74). Participants were randomly and equally assigned to a sequence of measurements, additionally providing measures of height and weight and responding to a self-completion questionnaire. Trained researchers carried out the assessments at the MRC Unit Lifelong and Healthy Ageing in London between October 2015 and January 2016, following prescribed protocols. This paper will present the primary results of comparing each model of equipment with the aim of establishing whether correction factors are required in analysis.

D2 HEALTH 2

Paper Session: *Education and Health*

Is Education in Youth Related to Health in Middle Adulthood? An Examination on the Basis of the Zurich Longitudinal Study ‘From School to Middle Adulthood’

Annette Krauss, Claudia Schellenberg, Achim Hättich, University of Applied Sciences of Special Needs Education, Switzerland

Previous research has shown that cognitive abilities in youth predict various health-related outcomes in middle adulthood and that people with lower socioeconomic status and less formal education are more often affected by diseases (e.g. Grossmann, 2005; Mielck et al., 2012). This relationship is subsumed under the term “social inequality”. An explanation for

this relationship can be the fact that persons, who are more successful at school, earn more money later in their professional life and have better access to health-promoting measures.

Our aim is to examine the relationship between the type of school attended in youth and health-related variables in middle adulthood on the basis of the Zurich Longitudinal Study 'From School to Middle Adulthood'. Additionally, we investigate the relationship between cognitive abilities, sociodemographic background and later health. It is a longitudinal study which encompasses eleven surveys. The study covers the life span from the 15th to the 52nd year of life and started in 1978, when the participants attended their last year of compulsory school. The current study was carried out by the University of Applied Science of Special Needs Education and the University of Basel. Various personality factors, socio-biographical information and health-related information in adolescence and middle adulthood were surveyed. The data of 806 people (representatives of the German-speaking part of Switzerland) are available. Our study includes multivariate data analysis and structural equation modelling. First results show that persons attending a type of school with basic demands in youth more frequently state health problems in middle adulthood than persons completing a school with higher demands. The correlation between school education and health can only partly be explained by cognitive abilities and sociodemographic background. Conclusions for the praxis are suggested.

How Much of the Effect of Family Background on Midlife Mortality Can Be Explained by Parental and Own Socioeconomic Position and Education?

Hannes Kröger, European University Institute, Germany

In research on social inequalities in health influences of the family are discussed as one factor explaining differences in mortality by socioeconomic position. We address reversed view on this association and try to answer the question how much socioeconomic position of parents and children contributes to differences in mortality risk between families. Further, we give an estimate of the overall family influence on mortality risk by estimating the similarity in mortality hazard between siblings. The estimates are based on a sample of Finnish siblings born between 1936 and 1950 from Finnish census data. Individuals are followed from age 35 up to age 72 and similarity in midlife mortality between siblings is estimated.

Further, the contribution of demographic background factors, the socioeconomic position of the parents and the siblings' own socioeconomic position at age 35 are taken as predictors of all-cause and cause-specific mortality. Results show that sibling similarity is higher for CVD, lung cancer, alcohol and violence and accident related deaths than for all-cause mortality and mortality related to other forms of cancer. Jointly, the demographic and socioeconomic factors explain between 10 and 40% of differences in mortality between siblings for different types of mortality. Socioeconomic position of the children has the largest contribution. Consequently, a large portion of the influence of the family on mortality is not explained by socioeconomic position although social stratification is substantial for all causes of death in the sample.

The Value of Education to Health: Evidence From Ireland

Yuanyuan Ma, Trinity College Dublin, Ireland

Does education have a causal impact on health? The literature presents mixed results. The disparate findings in the literature suggest that the association between education and health, and the mechanisms which explain the education-health association may differ in different social-economic-historical environments. More evidence is required from contexts that have not been explored in the literature.

Using data from the Irish Longitudinal Study on Ageing (TILDA), we attempt to contribute to the literature with new empirical evidence on the causal effect of education on health from Ireland, by exploiting two institutional educational reforms in Ireland that allow us to establish causality. In addition, the availability of very detailed, objective indicators of health status in TILDA also allows us to unpick the possible mechanisms underlying the causal links.

In this paper, by employing the instrumental variable (IV) probit model, we first investigate whether individuals' education has a causal effect on the onset of hypertension in their later lives, and then the role of education in shaping diagnosis, treatment and control of this condition. We find significant effect of education on the prevalence of hypertension. An additional year of schooling decreases the probability of having hypertension by 2 percentage points. Given that the total prevalence of hypertension among adults aged over 50 in Ireland is 60%, this is a significant impact. However, preliminary results suggest that the effect of education on the diagnosis and management of this condition among individuals having hypertension is very limited.

This decreased probability of the onset of hypertension in middle age, due to the additional years of schooling induced by the exposure to the two educational reforms in Ireland 40 years ago, provides evidence for long-lasting consequences for unequal education opportunities in early life and motivations to increase targeted support for education.

Diagnosing Kids on the Clinical Margins: Relationships Between Early Childhood ADHD Diagnosis, Learning-Related Behaviors, and Academic Achievement Among Children With Less Severe ADHD

Jayanti Owens, Brown University, USA

In 2011, 6.4 million (nearly 10%) of American children ages 4-17 had ever been diagnosed with attention-deficit/hyperactivity disorder (ADHD). Although many diagnosed children fall into a clinical "grey area" in terms of meeting diagnostic criteria, it is unclear whether diagnosing children with less severe ADHD improves or impedes later learning-related behaviors and academic achievement. Using a sample of 7,830 kindergartners from the Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS-K), we find that, especially among children with less severe ADHD, an early ADHD diagnosis was associated with significantly lower learning-related behaviors and academic achievement, net of cognitive abilities and mother and teacher rated ADHD-related behaviors measured just prior to diagnosis. Medication partially offset the negative diagnosis-achievement relationship. Results suggest that, for children with less severe ADHD, an ADHD diagnosis may trigger a negative social labeling process that is associated with poor learning-related behaviors and academic achievement.

E2 CHILDREN & FAMILY

Symposium

Child Language Development Over Time: Predicting Dimensions of Change in Different Birth Cohorts

Convenor: James Law, Newcastle University, UK

Summary: Child development has been identified in recent years as being a key "life chance" indicator of social inequalities even by the time the child reaches compulsory schooling (Field 2010; Marmot 2010). In a recent analysis for Save the Children we have demonstrated that by 5 years the performance of the highest and the lowest socio-economic groups differed in their oral language performance by over twenty months (Law et al.2014). The significance of the fact of such differentials is then superseded by the need to better understanding the mechanism and perhaps even more importantly the timing of the mechanisms involved. In this session we look at two different cohorts from Australia and the UK (The Early Language in Victoria [ELVS] Study and the Avon Study of Parents and children [ALSPAC]) and covering a span of ages in the early years of life. We see that parental behaviours are more important than crude demographic markers in the very early years, that it may be more important to examine the slope rather than the intercept when looking at change and finally ask to what extent non-verbal skills do or do not drive change over time. We then look at the implications of these mechanisms might be for theory, practice and potentially policy.

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Differentiating the Distal and Proximal Factors of Social Disadvantage on Children's Language Development at 2 Years: An Analysis of Data From the 'Children in Focus' Sample From The ALSPAC Birth Cohort

James Law, Newcastle University, UK; Robert Rush, Queen Margaret University, UK; Sue Roulstone, University of the West of England, UK; Judy Clegg, University of Sheffield, UK; Tim Peters, University of Bristol, UK

Background: An association between social disadvantage and early language development is reported in the literature. However, research has not yet explored the components of social disadvantage that impact on language development, namely distal factors such as family income and maternal education or more proximal measures such as the amount of stimulation in the home, resources available to the child and the attitudes/emotional status of the primary carer and the support available to him/her.

Method: This study examines the association between social disadvantage and language development in the early years in a population-based cohort. Data from 1,314 children in the Children in Focus (CiF) sample from the Avon Longitudinal Study of Parents and Children

(ALSPAC) were analysed. Regression models identified the contribution of distal (e.g., family income and material wealth) and proximal (what parents do with their children) measures of social disadvantage to language development at 2 years of age.

Results: Univariable and multivariable analyses identified a strong contribution of proximal rather than distal factors in 2-year language outcomes ($R^2 = 0.57$).

Conclusions: This study confirms that social disadvantage makes a strong contribution to children language development in the early years. It is though what parents/carers do with their children that contributes to their language development more than distal measures of social disadvantage such as family income. Parents/carers in contexts of social disadvantage should be encouraged and supported to facilitate the language development of their children.

Levers for Language Growth: Characteristics and Predictors of Language Trajectories Between 4 and 7 Years

Cristina McKean, Newcastle University, UK; Fiona Mensah, Eileen Cini, Murdoch Children's Research Institute, Australia; Patricia Eadie, University of Melbourne, Australia; Edith Bavin, La Trobe University, Australia; Lesley Bretherton, The Royal Children's Hospital, Australia; Sheena Reilly, Griffith University, Australia

Background: Evidence is required as to when and where to focus resources to achieve the greatest gains for children's language development. Key to these decisions is the understanding of individual differences in children's language trajectories and the predictors of those differences. To determine optimal timing, we must understand if and when children's relative language abilities become fixed. To determine where to focus effort we must identify mutable factors, that is those with the potential to be changed through interventions, which are associated with significant differences in children's language scores and rate of progress.

Methods: Uniquely this study examined individual differences in language growth trajectories in a population sample of children between 4 and 7 years using the multilevel model for change. The influence of predictors, grouped with respect to their mutability and their proximity to the child (least-mutable, mutable-distal, mutable-proximal), were estimated.

Results: A significant degree of variability in rate of progress between 4 and 7 years was evident, much of which was systematically associated with mutable-proximal factors, that is, those factors with evidence that they are modifiable through interventions with the child or family, such as shared book reading, TV viewing and number of books in the home. Mutable-distal factors, such as family income, family literacy and neighbourhood disadvantage, hypothesised to be modifiable through social policy, were important predictors of language abilities at 4 years.

Conclusions: Potential levers for language interventions lie in the child's home learning environment from birth to age 4. However, the role of a family's material and cultural capital must not be ignored, nor should the potential for growth into the school years. Early Years services should acknowledge the effects of multiple, cascading and cumulative risks and seek to promote child language development through the aggregation of marginal gains in the pre-school years and beyond.

Understanding the Long Term Impact of Social Disadvantage on Children’s Developmental Language Trajectories: Findings From the ALSPAC Birth Cohort Study

Judy Clegg, University of Sheffield, UK; James Law, Newcastle University, UK; Robert Rush, Queen Margaret University, UK; Sue Roulstone, University of the West of England, UK; Tim Peters, University of Bristol, UK

Background: Research has established an association between social disadvantage and impoverished language development in young children. Much less is known about the potential long term impact of social disadvantage on children’s language development beyond the early years into later childhood.

Method: This study examines the association between social disadvantage and language development from birth to 9 years in a population-based cohort. Data from 1,314 children in the Children in Focus (CiF) sample from the Avon Longitudinal Study of Parents and Children (ALSPAC) were analysed. Face to face standardised assessments of spoken language and language understanding are available at 18 months, 2 years, 4 years and 8 years. Regression models identified the contribution of early social disadvantage on language development through early childhood into later childhood while controlling for the effects of intelligence and age.

Results: The study predicts a lasting effect of social disadvantage on children’s language competence from birth to 8 years of age independent of intelligence and age.

Conclusions: The study has implications for further understanding of the pervasive impact of social disadvantage on children’s language development and the subsequent consequences on educational attainment and psycho-social functioning.

Making Sense of Individual Differences in Child Development: The Formulation of Social Policies to Promote Life Chances

Tom King, James Law, Newcastle University, UK; Robert Rush, Queen Margaret University, UK
Children develop differently, and cognitive and other tests are designed to capture these differences. When the differences are associated with other variables, be they gender or socio-economic status, we describe them as inequality. When these inequalities realise differential outcomes, they are better described as inequities. But in policy terms this can typically be framed in terms of differential life chances, with policies being introduced to promote fairness.

The agenda to study ‘what works’ in social policy is not readily transferred to analysis of the social gradient in developmental outcomes. Indeed, all of the interventions aimed at closing the gap in education and cognitive development in children face some problems. Notwithstanding possible genetic influences, environmental factors are already causing the social gradient; and, treatment as usual is also aiming to address the differential. This problem emerges in the context of disputed differences which challenge the existence of inequalities in developmental language outcomes particularly. Models for analysing what is effective must therefore allow for considerable complexity to achieve equipoise in a null hypothesis. Examples are presented: the challenges in identifying the effectiveness and social policy potential of parental joint book reading interventions with children; and, the theory of

stability in age appropriate cognitive development of children within an intervention framework.

Intervention addressing the social gradient must allow for the developmental context such that all children will improve over time. And, that aspects of the mechanism present in the intervention can be differentials present in the underlying population. Yet all of these will depend on what is being measured and how consistent the construct is over time.

F2 GENERAL

Symposium

Policy Evaluation

Convenor: Aisling Murray, Economic and Social Research Institute, Ireland

European National Policies to Promote Child Development: Not Realising Their Potential?

Thomas King, James Law, Newcastle University, UK

In the European context, change in female labour force participation is making demands for early childhood education and care (ECEC) to have a commensurate benefit of family care. Child development has an intrinsic life course character: The notion of 'good development' in health is the counterpart of 'school readiness' in education, which are viewed as foundational to later outcomes. Extensive utilisation of longitudinal social research in developing policy would make sense, given the stated aims.

We review policies across European countries, and guidance from international bodies such as the EU, OECD, UNICEF and WHO. The specific presence of developmental and life course framing in policy, so that children have greater well-being and outcomes is evaluated. And the evidence which is supporting policy is identified, whether items being measured are commensurate and is compared to data which are available from large scale longitudinal studies.

European countries have policies on early years and preschool, but often this does not really engage with the first three years or ECEC. The notions of good development are often side-lined in favour of provision, choice and entitlement and monitored similarly in terms of enrolment. Moreover, quality refers to factors which are not clearly related to children's development and outcomes as opposed to structures, and is not coherently translated through to understanding mechanisms by which quality of provision affects children.

Child development has intrinsically interdisciplinary relations from neonatal health and early schooling through to adolescent social realisation and educational outcomes. Labour force outcomes, e.g. educational attainment and school completion, for three year olds are striking in their presence in contrast to omission of most aspects of well-being and self-efficacy. Thus policy is distorted towards analyses reported from standard surveys and data which are available but we make some recommendations to resolve the mismatch.

Expansion of Childcare Services and Changing Attitudes of Parents

Gundula Zoch, Bamberg Graduate School of Social Sciences, Germany; Pia Schober, University of Tübingen, Germany

This study investigates whether the recent expansion of state-subsidized childcare services in Germany has been associated with individual-level change in attitudes regarding maternal employment and marriage. Research on attitudes has predominantly focused on inter-cohort change and has shown correlations with family policy institutions. To-date little evidence exists as to whether institutional reforms can influence attitudes and preferences only in the long-term or also in the short-term. We extend the literature by providing evidence on short-term impact of family policy institutions on attitude change over the life-course.

By combining longitudinal individual-level information on parents' attitudes with annual administrative records on childcare provision at the county level, we exploit regional and temporal variation in the expansion of formal childcare provision. By investigating the relationship separately for East and West Germany, we are able to examine whether different levels of cultural acceptance of maternal employment, formal childcare, and marriage at the start of the period may moderate the effects. The analysis links the German Family Panel pairfam (2008 to 2013) with annual administrative records on childcare provision at county level and applies fixed-effects panel models. The sample includes 1,814 mothers and 1,379 fathers in West Germany and 1,150 mothers and 890 fathers in East Germany.

Our findings show that the childcare expansion has been associated with a change towards less traditional attitudes regarding maternal employment and marriage for mothers in West Germany and fathers in East Germany. The relationship appears to be non-linear with larger changes in counties with lower starting levels of childcare provision. Differentiated analysis by parental education revealed significantly less traditional gender role attitudes only among college-educated mothers and fathers in East Germany and fathers in West Germany. The results provide evidence that family policy reforms may facilitate attitude change not only across cohorts but also over the life course.

Succeeding Against the Odds: The Influence of Changes in Children's Early Years on Their Educational Outcomes

Chris Taylor, Cardiff University, UK

Research has shown that there are clear and substantial income-related gaps in children's health, social and emotional well-being, and cognitive abilities before they enter. Consequently, there is increasing focus amongst policy-makers to identify and develop interventions targeting the early lives of children from disadvantaged backgrounds to improve their life.

As a result, many Governments have introduced a wide range of interventions in children's early years to mitigate particular features associated with socio-economic disadvantage. These include parenting styles, the home learning environment, maternal health and early childhood care and education.

However, the way many early childhood development is analytically framed and the way policy-makers seek to intervene in early childhood development has led to the privileging of, and focus on, particular background characteristics. In particular, parenting behaviours are

often perceived to provide the most important means of mitigating or alleviating the impact of early childhood disadvantage (Feinstein et al 2004).

Despite the strong associations often found between background characteristics (including parenting behaviours) and child development, there is significantly less clarity with regards to their causal relationships. Using the Millennium Cohort Study this paper attempts to examine change in children's early lives as the basis of a 'natural experiment' – to see what changes they experience are associated with both higher levels in measures of literacy and greater measures of progress in their literacy. The results are very revealing. Not only does the paper highlight the relatively limited impact that such changes can actually have on subsequent educational development it also suggests that prioritising particular aspects of family behaviour (such as the home learning environment), and early years intervention more generally, may be misplaced.

The Effects of a Large Child Care Expansion on Maternal Return to Work Behaviour

Irina Hondralis, Bamberg Graduate School of Social Sciences, Germany

Mobilising non-working mothers to participate in paid employment remains at the top of the political agenda in most OECD countries. Early childcare is considered to be a powerful instrument in promoting mothers' continuous employment and consequently, the European Council set precise targets to increase maternal employment by providing ECEC.

Since 2005, Germany has made notable public investments to meet the European childcare policy targets; however, two questions remain unanswered: How does the recent expansion of ECEC for under-three-year-olds affect mothers' return to work behaviour in Germany and, how do the effects of the policy implementation vary by social background? This article aims at answering these questions and to provide first quasi-experimental evidence on the employment effects of the childcare reform, starting in 2005. In line with economic and sociological theories positive employment effects due to lower childcare costs and reduced inter-role conflicts can be expected. Therefore, we assume the childcare reform to decrease mother's interruption after childbirth and to facilitate a return to work with substantially more working hours with varying effectiveness across different social backgrounds.

We exploit large temporal and regional variation across districts in childcare availability to investigate the relationship of the expansion of childcare services and return behaviour of mothers. Taking different starting levels for East and West Germany as well as different cultural norms into account, we examine the policy effect separately for East and West Germany. The analysis links the German Socioeconomic Panel study (GSOEP, 2005-2013) and the associated study "Families in Deutschland" (FiD, 2010-2012) with annual administrative records on state subsidized childcare provision on the district level and applies survival analyses with a difference-in-difference approach. Our preliminary results suggest that the increase in public childcare services for under-three-year-olds is associated with shorter interruption durations after childbirth.

Parallel Session 3

A3 EDUCATION 1

Paper Session: *Primary and Secondary Schooling*

Ethnic Group Differences in Educational Progress in Queensland, Australia

Harvey Goldstein, University of Bristol, UK; Joy Cumming, Australian Catholic University, Australia

The Australian national student testing system (NAPLAN) provides data that allows us to study the relative progress of indigenous and non-indigenous students in primary school. Test item level data has been used to estimate test score reliabilities and these have been applied in a series of models using recent methodology that incorporates these. It is shown how adjusting for these reliabilities modifies inferences in important ways. Results will be presented for progress in numeracy and literacy and how ethnic status interacts with gender and prior achievement.

Influence of Private Primary School Attendance on the Cognitive Progress of Young Children: Evidence From Three Generations of Children in Britain Born in 1958, 1970 and 2000/1

Samantha Parsons, UCL Institute of Education, UK

Much has been made of the academic success of children who have attended independent private secondary schools, but little research has been carried out on whether there are similar benefits from attending an independent primary school. Using data from three British birth cohorts – born in 1958, 1970 and 2000/1 – this paper compares the academic progress through the early school years of children at private primary schools with their peers attending state primary schools.

Linear regression and propensity score matching techniques were applied to cognitive outcomes when cohort members were age 10/11 and a range of personal, family and school characteristics available across the three studies were controlled for. We found a positive association between attendance at private primary school and cognitive progress and that this relationship was evident for children in all three cohorts, despite the different times and changed socio-economic profiles of the families of the children in the three studies.

By focusing on matching data, the analyses were restricted to information that was available across the three cohorts. To see if the significant association between private education and cognitive progress could be accounted for, we re-ran the analysis for the 1970 cohort and included richer information on the learning environment and practices in the school.

To assess the robustness of the results, methods that seek to obtain an estimate on how strong the selection on unobserved variables would have to be relative to selection on the observed variables to attribute the entire estimated effect to selection bias were also applied (Altonji et al, 2005; Oster, 2014). The positive association early private education and cognitive progress is discussed with reference to these techniques. The analyses are based on the children with complete data in each cohort.

The Intergenerational Use of Te Reo Māori: Evidence From Growing Up in New Zealand

Polly Atatoa Carr, Sarah Berry (Presenting), University of Waikato, New Zealand

Growing Up in New Zealand, a longitudinal study of more than six thousand New Zealand children, collected information about the use of the New Zealand indigenous population's (Māori) language (te reo Māori) during the early pre-school years. The future of Māori language is dependent on te reo Māori being spoken in homes during infancy as well within other settings, such as within the education sector. Also important is New Zealand's attitude to the value of Māori culture and the recognition of te reo Māori as a treasure, attention to the importance of te reo Māori by the New Zealand government, and evaluation on the state of the language. At two years of age, 12% of children are described as understanding at least some te reo Māori. A greater proportion of children are described as understanding te reo Māori at age two years than the proportion of their parents that used te reo Māori in their own childhood, or that spoke conversational te reo Māori as adults. A minority (20% or fewer) of Māori parents of the new generation of New Zealand children describe they are able to understand spoken te reo Māori, or able to speak te reo Māori, well or very well. Ongoing attention to supporting te reo Māori within families and communities is required, and the longitudinal data set from Growing Up in New Zealand is able to contribute critical evidence to this key area of development in our country.

The Connection Between Residential Moves and Early School Leaving in the 1987 Finnish Birth Cohort

Aino Lappi, National Institute for Health and Welfare, Finland

Background: Education is closely tied to a person's health and well-being, as well as financial circumstances in adulthood. Problems in well-being are closely connected to lack of secondary level education and mental health- and financial problems tend to accumulate particularly to those without secondary level education (Paananen, 2013). The causes for early school leaving are complex and interrelated, and most previous research indicates that there is no single factor, but rather a complex combination of factors that lead to early school leaving. Recent North American studies have suggested that frequent relocations in childhood have a detrimental effect on development outcomes, including education. These studies have, however, not always controlled for all relevant intervening factors, nor considered the timing of the move.

The aim of the study: This study aims to identify how moving during childhood and school years is connected to early school leaving, while controlling for known risk factors and considering the timing of the relocation.

Data and method: The 1987 Finnish Birth Cohort –study follows all, approximately 60 000, persons born in Finland in 1987, from the prenatal period through the year 2012 and includes information about the place of residence and educational attainment of the cohort members as well information about the cohort members parents.

Sequence analysis was used to identify the typical relocation patterns among the cohort members, and the cluster solutions were brought to a multinomial regression analysis to investigate the association of the relocation to early school leaving, while controlling for parental education and family finances.

Results: The results show that there is statistically significant connection between the number of moves and secondary level school completion. Young adults with frequent relocations and only short term residencies throughout the follow up had the highest risk on early school leaving (OR 2,2).

B3 EDUCATION 2

Symposium

How Do Unequal Careers Evolve? The Influences of Opportunity Structure on Students' Educational and Occupational Aspirations

Convenor: Corinna Kleinert, Leibniz Institute for Educational Trajectories (LifBi), Germany

Summary: In welfare states such as Germany, Austria or Switzerland occupations are the central structural foundation connecting the educational system and the labor market. Their educational systems are characterized by a strong vocational orientation. Standardized, widely recognized certificates, which are attained in vocational training, contribute to the social closure of occupations and to a low degree of occupational mobility over the life course. For youths, this means they have to decide at a comparatively young age upon a highly specialized training occupation, and this decision is objectively and subjectively more consequential for their later careers and life courses than in other countries. Additionally, these systems are characterized by early tracking in secondary education and relatively rigid pathways from these school tracks into different sectors of post-school education. Occupational and educational decisions are therefore very closely linked. In the light of these institutional features, the question arises: how do youths in these systems adapt their career aspirations to the expectations of their close surroundings and to the restrictions of the vocational training market? Most of the studies so far examine the educational and career choices of young adults from a micro perspective and overlook the prominent role of structural features of the educational system as well as the training and job market and the influence of significant others such as parents, teachers, and peers. The contributions of this symposium take this highly stratified opportunity structure into account and examine its consequences with regard to the educational and career aspirations of students on the threshold from school to vocational training in Germany. From a sociological viewpoint two questions are particularly important: first, which mechanisms can explain such influences, and second, how they contribute to the emergence and reproduction of social inequality of educational and occupational decisions.

Selection or Aspiration? Effects of School Type on Educational Decisions at the End of Grade 9 and 10

Gwendolin Blossfeld, Corinna Kleinert, Leibniz Institute for Educational Trajectories (LifBi), Germany

In Germany, the educational system sorts students into different educational secondary school tracks at a very young age. Traditionally, this system dictated the possible school degrees these students could reach and shaped their educational and employment options in later life. In recent years, however, school forms and degrees have diverged: youths increasingly tend to earn a higher school degree after receiving a first one and in most federal states lower and medium secondary schools (Haupt-/Realschulen) have been pooled into multi-branching schools. This raises the question to what extent the type of school influences students' realistic educational aspirations and which mechanism may explain this effect. We assume that schools are not only cognitive but also social learning environments and thus contribute in multiple ways to the reproduction of social inequality: (1) Since different school forms prepare students for diverse tasks and professions, they teach different values, orientations and aspiration levels. (2) In the highly stratified German school system, students select themselves into different tracks by socio-economic background, which results in distinct social networks within schools. Since significant others (peers, teachers, family), influence the level of educational aspirations, both mechanisms may contribute to the fact that students in multi-branching schools develop higher aspirations than students in lower secondary schools. To test these assumptions, we apply multilevel logit models, which are based on data from the German National Educational Panel Study (NEPS), starting cohort grade 9 (SC4). First results show that the aspired school degree of students in multi-branching schools is higher than that of students in lower or medium secondary schools, even when controlling for social background, competences, grades, and self-concept. Further analyses will show whether this result remains stable when also considering social composition of students and if students in different school tracks benefit similarly from multi-branching schools.

School Context and the Formation of Gender-Typical Occupational Career Plans

Alexandra Wicht, Matthias Siembab, University of Siegen, Germany

Western labor markets are characterized by a high degree of horizontal gender segregation that drives vertical gender inequalities, such as pay gaps. In this context, occupational orientations function as crucial mediators in the process of career development. Previous research attempts to explain gender specific self-selection processes by examining individual characteristics and youths' family context only. Analyses that additionally consider the institutional school context are rare. However, in countries with a highly stratified school system and early tracking, schools are of particular importance in shaping youths' career plans. In our contribution, we put self-selection processes of students into context and investigate whether—and, if so, in which ways—characteristics of schools have an impact on students' gender-typical occupational orientations in Germany. We follow two arguments: (1) The connection between the educational system and the labor market. While different school types prepare students for different occupational fields—that are associated with different social positions—, gender-segregated occupations can particularly be found in the low-qualified labor market segment. Therefore, students' gender-typical occupational orientations correspond to an artifact of their expected opportunity structure. And, (2) the role of schools as places of secondary socialization. Schools shape students' occupational

expectations by way of “normative climate”, i.e., gender-typical occupational preferences and interests prevailing in school.

Using data on 9th graders from the German National Educational Panel Study (NEPS), we conduct an analysis of direct and indirect school effects on gender-typical occupational expectations by means of multilevel structural equation models. Our results show that the school context is much more important for girls than for boys in explaining students’ occupational expectations. Girls expect a gender-specific “closure” of the labor market towards low-qualified labor. However, the normative climate in schools plays a mediating role in students’ gender-specific occupational socialization.

Changing Career Aspirations During the Search for an Apprenticeship Before Finishing Schooling

Brigitte Schels, Friedrich Alexander University, Germany

This article addresses the question whether—and if so, along which dimensions—youths adjust their career aspirations to their apprenticeship search experiences during their final year of schooling. Although there are multiple studies on youth’s career choices and their transition into vocational training, very little is known about their search process during the last year of schooling. When applying for an apprenticeship, students enter a highly competitive apprenticeship search market and start to apply for apprenticeships that fit their idealistic career aspirations most. If students are unsuccessful with their applications for their preferred professions, they will have to adjust their aspirations and apply for less attractive jobs in order to find an apprenticeship. Against this background, this study looks at the changing career aspirations of students in response to the feedback that students receive from vocational schools and companies that take on trainees. Therefore, the following research questions will be answered: Do students change their career aspirations when they receive negative feedback (no invitations for interviews) on their job applications? Along which occupational dimensions (socioeconomic status, prestige etc.) do youths adjust their career aspirations? Are there differences by social background in this adjustment process? Based on the search theory model of adaptive learning, we describe the sequential application process in theoretical terms. To test our assumptions, we are using data on students from lower secondary and middle school in their final year of schooling from Nuremberg collected for the DFG project “Youth’s adaption of career aspirations”. The students (N=1,000) were interviewed several times from the beginning of the school year 2011/12 to autumn 2012. For detailed information on their application behavior, students had to document each application behavior in a standardized “diary”.

Educational Aspirations of Immigrant Families in Germany: The Role of Host Country Specific Knowledge

Gisela Will, Melanie Olczyk, Leibniz Institute for Educational Trajectories (LifBi), Germany

Various studies have found that immigrant families have relatively high aspirations to receive higher education despite the weaker school performance of immigrants and their descendants. To explain these ambitions, our contribution focuses on the immigrants’ knowledge about the educational system in Germany. Applying the rational choice approach, this study demonstrates how this knowledge is linked to theoretical parameters such as costs, motivation, and opportunities. Lacking experience with the educational system of the host country may influence educational aspirations on the advanced secondary level, the focus of

this study, via two possible pathways: (1) The Abitur and subsequent higher education may be perceived as the only option when familiarity with the German vocational training system and the subsequent job opportunities is lacking. (2) The benefit of Abitur is overestimated while it is underestimated for alternative (lower) educational degrees when knowledge is missing that certain (prestigious) jobs may be obtained via Hauptschule or Realschule as well.

Furthermore, it is assumed that the knowledge about the educational system varies depending to the country in which school was attended as well as the cultural proximity to the host country. As a consequence, these differences in knowledge may account for differences in educational aspirations between specific generations as well as origin groups. This analysis is based on the German National Educational Panel Study (NEPS). Focusing on eighth graders (Starting Cohort 3), it is possible to link realistic educational aspirations of parents and youth with objective measurements of knowledge about the educational system. The results of logistic regression models are presented as average marginal effects.

C3 HEALTH 1

Paper Session: *SES and Health*

Association of Socioeconomic Status and Physical Functioning Among Chinese Elderly

Lei Yang, University of Helsinki, Finland

Background: Socioeconomic advantage in health may cumulate over the life course. Association of socioeconomic status and physical functioning has been widely studied in Western societies. However, it is still unclear whether higher socioeconomic status slows down the rate of physical functional decline in ageing in non-Western populations.

Objective: We aim to examine this association using a large population-based longitudinal survey of Chinese elderly. The objective of this study is to examine whether and how socioeconomic status of the elderly is associated with the baseline level and the rate of change of physical functioning during the follow-up.

Methods: We use four waves of Chinese Longitudinal Healthy Longevity Survey from the years 2002 to 2011 (N=15,798 at baseline aged 65+). Physical functioning was assessed by activities of daily living (ADL) and instrumental activities of daily living (IADL) measures. Socioeconomic status was assessed using educational attainment and household income per capita. Latent growth curve and selection models were utilised to assess the effect of socioeconomic status on physical functioning while allowing for non-random missingness and attrition.

Results: At baseline, women, older participants and urban residents had lower ADL and IADL scores. Higher education was not associated with the baseline level or the rate of change in the ADL score but was related to a lower IADL score at baseline and a borderline significant lower rate of change in IADL. Higher income predicted higher IADL scores but had no effect on the rate of change in either ADL or IADL during the follow-up.

Conclusion: This study provides no support for the cumulative advantage hypotheses of physical functioning change. Elderly individuals in the highest household income quartile had better IADL functioning as compared with those in lower income quartiles, and this gap

persisted over ageing. Increasing incomes, especially in lower social classes, may help to improve the overall level of physical functioning of the elderly in the future.

Intergenerational Social Mobility and Leisure-Time Physical Activity in Adulthood: A Systematic Review

Ahmed Elhakeem, David Bann (Presenting), Rebecca Hardy, et al., University College London, UK

Background: It is important to identify factors from across life which may influence participation in leisure-time physical activity (LTPA). Two recent systematic reviews have reported associations between lower socioeconomic position (SEP) in childhood and less LTPA in adulthood. Building on these findings, we aimed to systematically review all studies examining associations between intergenerational social mobility and LTPA in adulthood, in order to test the hypothesis that transitioning from lower to higher SEP across life may favourably influence subsequent LTPA.

Methods: This systematic review was registered with PROSPERO (CRD42016036538) and carried out according to PRISMA guidelines. Studies were identified by searching MEDLINE, Embase and PsycINFO in October 2015 and from reference lists. Eligible studies examined associations between any indicator of social mobility, derived based on at least one measure of parental SEP and one measure of own adult SEP, and LTPA in adulthood. Reviewers carried out independent screening, data extraction and quality assessment. Heterogeneity in social mobility and LTPA measures used precluded meta-analysis.

Results: Fifteen studies of >47,000 participants from the UK, Denmark, Finland, Sweden, Australia, US and Brazil were included. Participants were aged 16-70 years and from population-based surveys, occupational cohorts and primary care and twin registries. Most studies (n=11) used occupational class trajectories to derive social mobility; education (n=5) and income (n=1) were also used. Intergenerational social mobility was associated with LTPA in most studies (13/15). Those in stable high and stable low socioeconomic groups reported the highest and lowest levels of LTPA respectively while socially mobile groups reported LTPA levels between these stable groups.

Conclusions: When compared with low parental and adult SEP, upward intergenerational social mobility was associated with higher LTPA in adulthood. Thus a potential benefit of policies that promote upward social mobility may be an increase in LTPA levels in adults from socioeconomically disadvantaged backgrounds.

Ageing and Social Inequalities in Musculoskeletal Pain, Psychological Distress and Oral Health From 1968 to 2011: Longitudinal Analysis

Roger Keller Celeste, Department of Preventive and Social Dentistry, Brazil

Background: Social conditions have been considered fundamental cause of disease, as several chronic diseases have been associated with it in a social gradient. It has been reported a decline in socioeconomic gap at old age, mostly for mortality, but many studies on morbidity showed it remained wide. Mortality selection has been suggested as one explanation for decrease of the gap.

Objectives: To report absolute and relative inequalities in musculoskeletal pain, oral health and psychological distress over the life course and assess the influence of mortality selection.

Methods: We used combined data from two Swedish representative surveys, the LNU and the SWEOLD for five cohorts: 1906-15 (n=899), 1925-34 (n=906), 1944-53 (n=1154), 1957-66 (n=923), 1970-81 (n=1199). Individuals were followed up to six waves (1968-1974-1981-1991/92-2000/02-2010/11). Three self-reported outcomes were measured as dichotomous variables: teeth not in good conditions, psychological distress, and musculoskeletal pain. The income groups, based on a cash-margin question, were: a) never poor and b) poor at least once in life. The relationship between age and the outcomes was smoothed using LOWESS for graphical purposes. The relative and absolute gaps were calculated, respectively, with logistic and linear regression from generalized estimating equations (GEE).

Results: for all outcomes were significantly associated with aging, birth cohort effect, sex and being poor at least once in life. There was an interaction between age and being poor. The socioeconomic gap increased since the age category 15-24 up to 45-54, then it decreased. This interaction was significant for absolute differences, but not for relative differences, that remained stable throughout the life course. Despite decreasing, the gap was still significant for the group >85 year. Imputing the last observed value for those who deceased did not change the results. The socioeconomic gap was greater for current poverty than being poor at least once in life.

Conclusions: Inequalities persist into very old age, though they are more salient in mid-life for all three outcomes observed.

Could Increasing Population Physical Activity Levels Reduce Inequalities in Adult Disability Risk? Findings From the 1958 British Birth Cohort Study (NCDS)

David Bann, Brian Dodgeon, Mark Hamer et al., University College London, UK

Background: Childhood socioeconomic disadvantage has persisting detrimental associations with increased adult disability risk, yet there is a lack of evidence on the factors in adulthood which could reduce these inequalities. We examined the extent to which increases in adult leisure time physical activity (LTPA) participation could eliminate the detrimental effects of childhood disadvantage on reported disability status in midlife.

Methods: Data were from 5575 participants from the 1958 British birth cohort study (NCDS) with valid data for relative childhood socioeconomic disadvantage (manual paternal occupational class at 7y), LTPA at 33, 42, 46, and 50y (categorised as either active (participated \geq once per week) or inactive (<once per week), and reported disability status at 55y (Equality

Act, 2010). Associations between socioeconomic disadvantage and disability were examined using sex-adjusted logistic regression, and the extent to which these relationships could be eliminated if the entire population was physically active at all ages was estimated using the potential outcomes framework (i.e. a comparison of ‘total’ and ‘controlled direct’ effects).

Results: Childhood socioeconomic disadvantage was associated with increased adult disability risk (OR: 1.2; 95% CI: 1.1-1.4). Childhood disadvantage was also associated with lower LTPA at all ages, while higher LTPA at all ages was related to a lower disability risk ($P < 0.05$). The proportion of the childhood disadvantage and disability risk relationship which could be eliminated if all participants were physically active at all ages was estimated to be 15.1%.

Conclusions: Initial results suggest that improving LTPA levels in the population could have a modest role in reducing the detrimental effects of childhood disadvantage on midlife disability risk. Further work will consider the robustness of these findings and evaluate the importance of other modifiable factors.

Collective Victimization Trajectories During the Period of the Wars in Ex-Yugoslavia and Well-Being

Dario Spini, University of Lausanne, Switzerland

The dissolution of the Yugoslav Federation during the nineties created a particularly tense environment in which individuals and communities were shaken by wars, conflicts and socio-economic precariousness to various degrees. Using retrospective data issued from the research program TRACES (see Spini, Elcheroth, & Biruski, 2014), we analysed data from 1’900 young adults living in ex-Yugoslavia, this study aimed at two goals: 1) analysing victimisation trajectories taking into account socio-economic precariousness and socio-political exclusion episodes; 2) relating these different victimisation trajectories to well-being. Data were collected in 2006 in Bosnia-Herzegovina, Croatia, Former Yugoslavian Republic of Macedonia, Kosovo, Montenegro, Serbia, and Slovenia using a stratified design covering all former Yugoslavia.

D3 HEALTH 2

Paper Session: *Health Issues*

Determinants of Sedentary Behaviour in Older Adults: Evidence From Three Scottish Cohorts

Richard Shaw, Geoff Der, University of Glasgow, UK; Iva Čukić, Ian Deary, Catharine Gale, University of Edinburgh, UK

There is increasing recognition that sedentary behaviour (defined as waking activity with an energy expenditure ≤ 1.5 METs in a seated or reclining posture) is a risk factor for poor health. However, current research into the determinants of older people’s sedentary behaviour is limited.

Participants were drawn from 1930s and 1950s birth cohorts of the West of Scotland Twenty-07 study and the Lothian Birth Cohort 1936 (LBC1936). Data are available for around 300 people in their mid-60s, 300 in their late 70s, and 150 in their mid-80s. Sedentary behaviour is operationalised as the percentage waking time spent sedentary, recorded over a week, using the activPALTM accelerometer which is worn fixed to the participant’s mid-thigh. Risk

factors include objective neighbourhood measures linked to residential areas and indicators of the social environment from longitudinal data for Twenty-07 (1987-2008) and LBC1936 (2004-2011).

Interim results from Twenty-07 indicate that the oldest cohort spent a higher proportion of their time sedentary than the youngest cohort. For people in their mid-60s there were mixed relationships between measures of social isolation and socio-economic position and sedentary behaviour. For example, manual compared to non-manual parental social class was associated with 4.2% (95% CI 1.3 to 7.2%) more sedentary time, but for own social class the difference was only 1.0% (95% CI: 2.5 to 4.5%). For the oldest cohort there were fewer associations. The challenges of research studying cohorts with possible survival biases will be discussed.

Age at First Birth and Cardiovascular Risk Factors in the 1958 British Birth Cohort

Rebecca Lacey, Amanda Sacker, Anne McMunn, University College London, UK; Meena Kumari, University of Essex, UK

Background: Age at first birth has been associated with differential health risk in later life. However, little is known about why this is the case. The aim of this study was to assess the relationship between age at first birth and cardiovascular risk factors in a large, longitudinal study of British men and women. By assessing associations for both men and women we were able to explore biological vs social explanations.

Methods: Multiply-imputed data on >7,600 participants of the National Child Development Study (1958 British birth cohort) were used. Cardiovascular risk factors (at age 44/45) investigated were body mass index, waist:hip ratio, blood pressure, cholesterol, triglycerides, glycated haemoglobin, C-reactive protein, von Willebrand factor and fibrinogen. Regression models accounted for early life confounders, and adult social and behavioural factors. Early life factors included indicators of socioeconomic position and health. Adult social and behavioural factors included health behaviours, indicators of socioeconomic position, work and partnership status, and number of children.

Results: Being younger than 20 years of age at time of first birth was associated with a more risky cardiovascular profile by mid-life. Conversely, older parents had lower cardiovascular risk, as captured by lower body mass index, waist:hip ratio, blood pressure, high and low density lipoprotein cholesterol, triglycerides, glycated haemoglobin, C-reactive protein and fibrinogen. The relationship between age at first birth and cardiovascular risk factors was graded. Few differences between men and women were observed. Associations remained largely unchanged after adjustment for early life factors but were partially mediated through adult social and behavioural mechanisms.

Conclusions: Age at first birth is associated with cardiovascular risk factors in mid-life in a large prospective birth cohort. Our results point toward a social and behavioural, rather than biological, explanation.

Pathways of Transition to Adulthood and Health

Mike Vuolo, The Ohio State University, USA

Many behavioral patterns are established during the transition to adulthood, with lasting consequences for life trajectories. Recent research documents distinct transition pathways, subgroup variations, and effects on adult identity. Little is known, however, about the ways that the timing and sequencing of acquisition of adult role markers influence health. One intriguing line of research suggests that individuals adhering to more “normative” scripts in the passage to adulthood (e.g., educational completion before parenthood) have better long-run health (Miech et al., 2015, *J. Health & Social Behavior*). If “off-time” patterns are stressful, they could initiate poor health habits and produce subsequent deficits in health. Using data from the Youth Development Study archive (initiated in 1988 with a random sample of 1010 Minnesota teenagers, followed to their late thirties), we examine associations between five pathways of transition to adulthood, identified via multilevel latent class analysis (Eliason et al., 2015, *Social Psychology Quarterly*), and adult health. We find clear gradients in two health habits (eating breakfast, smoking) and two subjective health assessments (physical pain, mental health), linked to the five latent pathways of school to work transition, marriage, and parenthood.

Youth who transitioned from school to work with negligible family formation (up to age 30) manifested more beneficial health outcomes; those who transitioned to work, married and became parents in their mid-to-late 20’s were in between; and those in two early parenting pathways evinced the least healthy outcomes (most likely to smoke, least likely to eat breakfast, more pain, more need for help with mental health issues). A similar pattern of significant differences between groups persisted despite controls for social origins (parental education, family income, family structure, race, gender), high school grades, prior psychological orientations (e.g., aspirations, self-esteem, depressed mood, internal control), adult educational attainment, and marital status.

Childbirth and Mental Well-Being: Linking the Life-Course Approach and Gender Perspectives on Motherhood

Marco Giesselmann, DIW Berlin, Germany; Marina Hagen, Reinhard Schunck, University of Bielefeld, Germany

Short-term and long-term effects of entering motherhood on subjective well-being are well examined in sociology and related disciplines: using standardized items on general life-satisfaction, economists, sociologists and demographers have shown a significant increase in women’s life-satisfaction immediately after first childbirth, followed by a relatively fast and stable adaptation to the base level (e.g. Clark et al. 2008, Clark/Georgellis 2013, Frijters et al. 2011, Myrskylä/Margolis 2014). Such results are regularly regarded as evidence on positive short-term and no long-term consequences of motherhood on subjective well-being in modern societies. In spite of the empirical evidence from different disciplinary angles, this article seeks to challenge these findings and their interpretation. We argue that the concept of general life-satisfaction is a simplifying (or even misleading) indicator of mothers’ well-being.

Our doubts are rooted in research, which elaborates the psycho-emotional consequences of motherhood from a gender perspective. Respective scholars emphasize the predominant impact of norms and societal models of motherhood on mothers’ well-being. Based on such

theoretical concerns, qualitative empirical research has unravelled the problematic dimensions of life quality associated with motherhood: stress, anxiety, depression and detraction. We owe these insights in particular to the study of Donath (2015), who developed a pattern of categories on the detrimental impacts of motherhood on the basis of qualitative interviews. As relevant dimensions of suffering from (or, rather, *regretting*) motherhood, she identified loss of autonomy as well as psycho-emotional stress, both induced by ambivalent norms related to motherhood on the contextual level. Complementary, Henderson et al. (2015) and Rizzo et al. (2013) find that detrimental mental-health effects of motherhood in modern societies stem from social expectations related to ideologies of motherhood. Such ideologies establish norms of acceptance, readiness to make sacrifices and immaculacy on mothers and consequently induce stress, anger and guilt for not meeting merely unreachable standards (Warner 2005, Douglas/Michaels 2004, Guenduozi 2006).

These studies on the detrimental effects of motherhood raised a wide echo and are heavily debated in press and public, mostly in Germany. Starting from a wide discussion on twitter (#regrettingmotherhood) where opinions on feelings of regret towards motherhood were posted, most German media took this topic into account (see, for example, Göbel 2015; Sadigh 2015; Carrol 2016; Schultz 2015).

The contribution of existing *quantitative* studies to this discourse is, however, limited: On the one hand, studies in the tradition of the life course approach usually do not mode the dimensions of well-being identified as relevant in the gender studies. As said above, such studies usually refer to broad concept of “general life satisfaction” as indicator of well-being. Therefore, they are employing a concept, which does not accurately capture the problems associated with motherhood in modern societies—mental health and psycho-emotional stress. Furthermore, general life satisfaction largely reflects a normative aspect in societies that glorify motherhood and expect mothers to be delighted and fulfilled. Therefore, it is subject to a desirability bias for mothers. On the other hand, the scarce body of quantitative literature referring to the connection between motherhood and accurate indicators of mental well-being has methodological limitations. Studies conducted in psychology or medical science are either *a)* cross-sectional and therefore subject to a selection bias (e.g. Engelhardt/Schreyer 2014, Holton et al. 2010, Evenson/Simon 2005), *b)* carried out on the basis of non-random samples and therefore not representative (e.g. Nickel et al. 2001), or *c)* limited to a few measurements on the individual level and therefore not able to differentiate between different phases of motherhood (e.g. Nomaguchie/Milkie 2003). Our aim is to address these shortcomings and consequently to integrate the gender perspective on detrimental effects of motherhood in a quantitative life-course design. In our study, we focus on Germany, as it offers appropriate large-scale survey data for accurately operationalizing mental well-being in a longitudinal perspective. Furthermore, Germany is usually regarded as prototypical example of a modernized male breadwinner regime (Pfau-Effinger 2005, Daly 2011) and considered as a context with strong and prototypical motherhood ideologies (Klabunde/Korn 2010). Concretely, we employ a longitudinal empirical designs based on prospective biographical and panel data from the German socio-economic panel study (SOEP). We use an indicator of mental well-being stemming from the so called SF-12 survey module. This instrument has originally been developed for clinical diagnostics as a measure of stress, and is strongly linked to the categories of mothers’ mental well-being identified as relevant in gender studies. By using pre-birth measurements as reference, we control for selection into

motherhood. To control for general trends, we contrast our findings to the development of mental health in several reference groups of non-mothers. To construct these groups, we employ a CEM-based matching approach.

Prenatal Stress and Atopic Diseases in Childhood: A Longitudinal Analysis of Growing Up in Ireland

Michelle Kelly-Irving, INSERM, France

Background: Paediatric atopic conditions are some of the most common diseases of childhood. They are a significant individual and public health burden and can have consequences for adult health. Recent research suggests that early onset atopic disease may be linked to in utero environment. Methods: Data on 11,134 children at three points in time from the Growing Up in Ireland Cohort Study are used to examine the association between the extent of maternal stress in pregnancy and the child's subsequent risk of asthma and eczema. Random effects logistic regression models adjust for time-constant and time-varying confounders allowing for the accurate estimation of the association with stress in pregnancy. Results: Prevalence of eczema falls between 9 months and five years from 13% to 4% whilst prevalence of asthma doubles from 4% to 8%. Probability of asthma is strongly associated with early preterm birth (OR 3.73, $P < 0.001$) relative to full-term and lower levels of breastfeeding. Adjusting for a large number of other factors including current parenting stress, we find a dose response relationship between the odds of both eczema and asthma and maternal reported stress in pregnancy.

Maternal report of 'a great deal' of stress in pregnancy was associated with an OR of 1.7 ($P = 0.001$) for eczema and 2.17 ($P < 0.001$) for asthma. Conclusions: This paper provides plausible evidence an association between in utero environment and atopic diseases in childhood. If confirmed, this would add more evidence to the growing literature linking child health and development to the prenatal environment.

E3 CHILDREN & FAMILY

Paper Session: *Family Formation/Learning*

The Intergenerational Patterns of Early Family Formation in Sweden

Sara Kalucza, Umeå University, Sweden

Findings in the field of early family formation research indicate that individuals whose parents entered parenthood when they were very young are likely to reproduce such family formation pattern by having their first child at a young age (Balbo et al., 2013, Sipsma, Biello, Cole-Lewis, & Kershaw, 2010). The connection between early family formation and subsequent accumulation of adverse outcomes, such as low educational attainment, is well known but its causal logic is debated (e.g., Lawlor & Shaw, 2002). Intergenerational transmissions of family forms are not unique to the phenomenon of early family formation, but are rather extensive among contemporary fertility patterns. In order to further knowledge on intergenerational transmission of family forms, and improve our understanding of the links with social disadvantage, an approach that embeds single events such as young parenthood in the context of the entire family trajectory is needed.

Novel methodological approaches studying complete trajectories instead of single events allow the examination of joint family formation trajectories of parents-child dyads, using extensions of the analysis of sequence data to assess regularities in the sequences of dyads. Recent findings applying this approach suggest that family long-term biographies, and not just fertility events, are transmitted over generations (e.g., Liefbroer & Elzinga, 2012). We contribute to this strand of literature by examining under-researched dimensions on the evolution of contemporary family life courses during the teenage and the early young adulthood, and its transmission over generations, with the help of Swedish register data from Umeå SIMSAM lab. The goal of this paper is to study both, (i) the patterns and (ii) the correlates, of intergenerational transmissions of early family formation in Sweden.

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Is There a Private School Dividend in Britain Through Assortative Mating?

Francis Green, Golo Henseke, Sam Parsons et al., UCL Institute of Education, UK

The private school system in Britain is highly elite, and is widely considered to be associated with relatively high inequality and low social mobility. It is supported largely through fees combined with historical endowments, which mostly ensure that the pupils are drawn from upper-middle classes and above. The schools are consequently able to deliver through small classes a highly academic education supplemented by a broad range of additional cultural and sporting activities. Several studies have demonstrated the educational and employment benefits. Scholarly studies using longitudinal data that can control for known social background characteristics have traced the private school impact through university and later into employment. Little is known, however, beyond casual empiricism, about the effects of private schooling on social class formation through marriage/partnerships. If a private education also affords access to social networks that lead to high-income partnerships, the individual returns to private education will underestimate the true returns from the investment.

This paper examines whether attendance at a British private school (as compared with a state school) is associated with an economically beneficial marriage or partnership. We use two data sources: The British Household Panel Study (together with its successor the Understanding Society study), and the 1970 Birth Cohort Study (deploying the age-42 wave). We find that private schooling makes it more likely that one's spouse will have been privately

educated, have a high-status job, and earn high pay. We also study the "dividend" of a private education through household income and wealth.

Family Formation, Education and Later Life Working

Mai Stafford, Emily Murray, Ewan Carr, Paola Zaninotto, University College London, UK

Studies indicate that timing of parenthood and timing of retirement are linked. It is unclear whether family background or other childhood characteristics, or the financial and employment consequences of parenthood, can entirely explain these relationships.

The MRC National Survey of Health and Development provided information on 2750 men and women followed from birth and with employment data at age 53. Paid work status at age 53 was regressed on number and timing of children coded as: childless, single child early (< 26 years for men/<24 years for women), single child late, 2-3 children early (the normative group in this cohort), 2-3 children late, and 4+ children. Adjustment was made for: i) selection into parenthood according to childhood material disadvantage and illness, ii) educational attainment and adult socioeconomic pathways, iii) job satisfaction and other work characteristics through adulthood. Childless men were less likely to be in paid work at age 53 (OR 0.36 95% CI 0.24,0.54) compared with the normative group. Selection into childlessness by childhood social class or illness did not explain this, nor did adjustment for potential mediators including education, mid-adulthood financial difficulties, promotion prospects and job satisfaction.

Among women, those who had 2-3 children late (but not those who had 1 child late or 4+ children) were more likely to be in paid work at age 53 (OR 1.61 95% CI 1.20,2.17) compared with the normative group. Women from lower social class backgrounds and those who experienced childhood illness were less likely to have 2-3 children late and less likely to be in paid work at age 53, but these selection factors did not explain the link between parenthood and later work. Educational attainment was positively associated with working at age 53 and with having children late and explained the parenthood–later life work participation link.

"Boomerang Kids" in Germany: When and Why Do Young Adults Return to the Parental Home?

Anne Berngruber, German Youth Institute (DJI), Germany

In western societies, living separately from the family of origin is understood as an important developmental step in a young person's autonomy. In life course theory, leaving home is usually considered as one of the five classical transition markers – next to finishing school, beginning a job, marriage and childbirth – in the status passage from youth to adulthood. In quantitative empirical research, spatial detachment from the family of origin is mostly confined to analysing the first time of leaving home, whereas leaving home can be a process. Young people can move out of home, can return and then move out again until they live permanently independent of their parents. For Germany, timing, frequency and reasons why young adults decided to return to the parents' home is still an under-researched topic.

My analyses are based on retrospective questions of the 2nd wave from the survey data "Growing Up in Germany: AID:A" of the German Youth Institute (DJI), which was conducted in 2014/15. The sample size contains over 5000 young adults aged 18 to 32 years who already experienced a first move-out of their parents' home and were asked if, how often and when

they returned again. The focus of the analysis is about the linkage between economic and social transition markers (e.g. vocational training, employment, cohabitation) and the timing to return for the first time. Besides, it will be controlled for several socio-demographic factors like family constellation (e.g. siblings, separated parents), gender, birth region and timing of moving out for the first time as well. I will present some results based on event analysis. The results will be discussed in the context of recent comparative research.

F3 GENERAL

Symposium

Translational Research

Convenor: Aisling Murray, Economic and Social Research Institute, Ireland

Panel discussion with contributions from researchers in a range of disciplines on communicating research results to practitioners and policy-makers, incorporating a paper ‘*The Necessity and Success of Communicating With Stakeholders of a Large-Scale Study*’ by Götz Lechner, Julia Göpel, Kathrin Erbacher, Leibniz Institute for Educational Trajectories (LIfBi), Germany

Keynote Presentation

Higher Education, School-to-Work Transition, and Future Prospects: Converging Challenges in the U.S. and Germany?

Jeylan Mortimer, University of Minnesota, USA; Jasper Tjaden, University of Bamberg, Germany

For many years, the German dual system has been touted as an exemplar of clear school-to-work bridges, while the United States is distinctive in its lack of institutionalized pathways. Most German youth enter the labor force with occupational certification; most Americans enter with general degrees. While German school-leavers transition to work relatively smoothly, the American transition is characterized by “floundering,” which lengthens dependence on parents and threatens transition to adult roles.

Despite persistent cross-societal variation, we find evidence for intriguing convergences. The U.S. “College for All” mentality has become increasingly controversial in the face of high college attrition, skilled labor shortages, and stagnant economic growth. There is growing popularity of community colleges and interest in “intermediate” educational credentials. Recent pressures on the German dual system (rapid technological change, economic restructuring), higher education reforms (the Bologna Accord), and rising educational aspirations have led to growing enrollment in universities, whose graduates, not part of the dual system, are at risk of American-style “floundering.”

Despite these trends, little is known about the prospects of U.S. school-leavers who obtain “intermediate” post-secondary credentials. Findings from the longitudinal *Youth Development Study* reveal considerable benefit. In the German context, we note increasing university enrollments, growing attrition, and changes in the dual system. We point to needed longitudinal research on emergent educational trajectories, labor market prospects, and aspirations in both societies.

Poster Presentations

Alcohol Drinking and Subsequent Psychotropic Medication

Aino Salonsalmi, Ossi Rahkonen, Jouni Lahti, University of Helsinki, Finland

Background: Mental health problems are prevalent among ageing employees. Heavy alcohol drinking is also common and might contribute to mental health. We examined the associations between weekly average drinking and problem drinking with psychotropic medication.

Methods: The survey data were collected in 2000-02 by postal questionnaires among employees of Helsinki City aged 40- to 60 years (n=8960, response rate 67%). These data were linked with prospective register data on prescribed psychotropic medication (ATC-codes N05 and N06, except N06D) among those consenting to (74 %) the linkage. The study includes 5185 women and 1421 men. Alcohol drinking was measured by weekly average drinking and problem drinking assessed by the CAGE-scale. Cox regression was used in the analysis.

Results: After adjusting for age, socioeconomic position, marital status and prior psychotropic medication heavy drinkers (women: HR 1.56, 95% CI 1.24-1.98/ men: 1.50, 1.10-2.04) and problem drinkers (women: 1.53, 95% 1.37-1.71/ men: 1.43, 1.15-1.77) had higher risk of psychotropic medication. The associations were somewhat stronger for antidepressants than for anxiolytics.

Conclusions: Alcohol drinking predicts the use of psychotropic medication and should be assessed when treating patients suffering from mental health problems.

Parental Investment in Switzerland: Main Determinants and the Impact of Migration Status

Aurore Moullet, University of Lausanne, Switzerland

Some immigrant children have better educational outcomes than natives, at equal socio-economic status (SES), while others do not reach their native peers achievement. These variations in educational achievement independent of the SES show that there may be other elements in the family that have an influence on children's outcome. Parental investment is one of these elements that could act as a mediator of the SES. Investment is concerned with the strategies that parents use in order for their children to meet parents' aspirations with given resources. Using data from The Swiss Survey on Children and Youth (COCON), a study led by the University of Zurich, this paper explores parental investment in Switzerland with a focus on parents' migration status. We hypothesize that immigrant mothers have a higher evaluation of the usefulness of a good education, which reflects on the educational aspirations for their children. We also hypothesize that mothers that have higher aspirations use strategies that are directed towards achievement such as the child's participation in an extra-curricular activity and family practice of cultural activities. Results on aspirations show that immigrant mothers aspire to an academic diploma for their children rather, and in lower measures aspire to no precise kind of diploma, than to a vocational training, even after controlling for SES. Having a positive evaluation of the usefulness of a good education is correlated to migration status and to aspire to a high diploma. Results on strategies indicate that mothers who have high educational aspirations for their child tend to practice more often cultural activities in family. However, it appears that it is children of mothers who aspire to

no precise diploma that tend to be more engaged in extra-curricular activities. Migration status does not seem to have an impact on the indicators of strategies explored in this paper.

Helping Marginalised Girls to Stay in School: A Longitudinal Analysis of Attendance Patterns in Rural Tanzania

Ben Alcott, Ricardo Sabates, Stuart Johnson, Jose Liht, Cambridge University, UK

Summary: In the context of educational opportunities, irregular attendance is a precursor to unequal outcomes. With longitudinal data, we examine the extent to which household conditions, early learning, attitudes and well-being influence attendance patterns among the most marginalized girls in Tanzania.

The challenge: School dropout, teen pregnancy and HIV rates all serve to reinforce the marginalisation of women in Tanzania, but each is especially acute in the poorest rural households. Besides the sheer challenge of poverty, these girls are likely to face multiple other pressures to leave school to work and raise children, including the death of a parent, long-term illness and disability among family members, and abuse at school.

The data: The NGO Camfed runs a multi-year programme aiming to support marginalised girls with both the financial costs of schooling and the wider social and economic pressures that they face. Camfed collect longitudinal data both on programme participants and a matched comparison group across 10 districts, giving a total sample of 7,796 girls. The data provide information on girls' attendance across seven school terms, as well as baseline and endline information on household conditions, learning assessments, attitudes and well-being.

Methods: With longitudinal data on our outcome variable of interest (attendance), we will estimate a discrete-time hazard model to explore patterns in attendance over time. By incorporating regression methods, we will be able to parse out whether household conditions, learning, attitudes and well-being, conditional on one another, influence girls' attendance.

Implications: This study can inform efforts to improve opportunities for some of the most marginalised children globally. By improving our ability to identify those girls most at risk of dropping out and the key determinants for them doing so, it will help practitioners with the targeting and nature of future interventions aiming to tackle educational inequalities.

Exploring Ear'oles Education: An Investigation of the School-Level Educational Outcomes of 'Working Class' Pupils in Contemporary Scotland

Chris Playford, University of Edinburgh, UK

Despite changes in the British education system the qualifications that are gained at school remain important for young people's educational pathways and ultimately their employment trajectories. In Britain the structure and organisation of school-level qualifications is convoluted. Data relating to individual pupil's outcomes are usually messy, and this makes analyses very challenging. This paper is an element of a wider on-going programme of theoretically informed empirical analyses, which examine young people's contemporary educational outcomes. It is original because it uses newly linked administrative data from the Scottish Qualifications Authority that is held as part of the Scottish Longitudinal Study.

There has been longstanding interest in the performance of ‘working class’ pupils in British schools. The title of the paper borrows from Willis’ classic sociological study (which identifies the ‘lads’ and the ‘ear’oles’ as distinctive groups of working class pupils). The focus of the analyses are the outcomes of ‘working class pupils’.

We construct a series of alternative parental socioeconomic measures to explore the contemporary relationship between parental social class and filial (i.e. a pupil’s) educational outcomes. After controlling for other factors the theorised association between parental social class and filial educational outcomes is observed. Pupils from more advantaged social class backgrounds on average have better educational outcomes. The statistical modelling results uncover a more nuanced set of findings, and they indicated surprising and important differences and similarities between pupils from adjacent social classes. The results also provide new insights into performance difference within social classes.

The Involvement of Grandparents in the Early Years: A Geographical Comparison

Chris Taylor, Cardiff University, UK

With an ageing population and increasing dual working households the role of grandparents in the early lives of children is of growing importance. Furthermore, most involvement tends to come in the early years of a child’s life. Recent analysis estimates that 44% of children received informal childcare from grandparents prior to starting school.

Simultaneously there has been growing attention on the importance of the first few years of a child’s life on later educational and social experiences. But despite the introduction of a number of significant policy interventions in children’s early years little emphasis has been given to the role of grandparents. Policies such as Sure Start in England and Flying Start in Wales tend to focus attention on parents of young children.

This poster explores the influence of grandparents on the early years of a child’s life. It utilises two key large-scale secondary data sets from the UK (the Millennium Cohort Study and Understanding Society) to undertake detailed analysis of what impact grandparents have on their grandchildren’s cognitive, social and emotional development. It also examines geographical variations in the role and impact grandparents appear to play – by region of the UK, urban-rural, and levels of neighbourhood deprivation.

Childhood and Adulthood Socio-Economic Position and Health-Related Behaviour Clustering in Two British Cohort Studies

Claire Mawditt, Noriko Cable (Presenting), University College London, UK

Research findings indicate that that health-related behaviours (HRBs) cluster and that these clusters are socially patterned. Disadvantaged socio-economic position is associated with an increased likelihood of risky HRB clustering (i.e. smoking, heavy alcohol consumption, low consumption of fruit and vegetables, low levels of physical activity). However, little consideration has been given to the origins of adulthood HRB clustering. We use path analysis to investigate whether childhood socio-economic position influences adulthood HRB clustering directly and/or indirectly via adulthood socio-economic position.

Data in pre-adolescence (age 10/11) and mid-adulthood (age 33/34) from two British cohorts born in 1958 and 1970 was used. Structural Equation Models were run separately for men

and women in each cohort. The latent dependent variable contained three HRB clusters: 'Risky', 'Moderate Smokers' and 'Mainstream' (HRBs being less risky in the 'Mainstream' cluster compared to the other two) and was dichotomised into 'Mainstream' and 'Non-Mainstream'. Confirmatory Factor Analysis was used to derive latent constructs for childhood and adulthood socio-economic position.

Preliminary models suggest that for both cohorts and genders there is a significant total influence of childhood socio-economic position on adulthood HRB clustering. Disadvantaged childhood socio-economic position is associated with a decreased likelihood of membership to the 'Mainstream' cluster. In both genders, the influence of childhood socio-economic position on adulthood HRB clustering is largely indirect via adulthood socio-economic position. Amongst men, there is a small significant ($p < 0.05$) direct influence of childhood socio-economic position on adulthood HRB clustering, likely due to a non-linear interaction between childhood and adulthood socio-economic position.

Preliminary results suggest a significant influence of childhood socio-economic position on adult HRB clustering which is mediated by adulthood socio-economic position. This research highlights the role of childhood social circumstances in shaping adulthood HRB clustering and can contribute to the development of person-centred policies and interventions intended to improve adulthood HRBs.

Stratification of Education Systems Towards a Shared Definition

Claudia Traini, University of Bamberg, Germany

This paper aims to generate a new, theoretically driven, index of stratification of education systems. Comparative literature analyzing the effect of stratification on either social inequality in educational attainment (OE) or the educational gradient in occupational attainment (ED) suffers from two pitfalls. First, it lacks a clear and detailed definition of what stratification means. For each study, ad hoc definitions are employed, often developed on the basis of the specific countries analysed. Considering micro-level theories, I address this shortcoming by identifying 4 characteristics of stratification that are supposed to affect OE and ED associations. On this basis, I provide a new definition of stratification of education systems.

Second, empirical analyses reveal weak relationships between theoretical concepts and empirical indicators. More precisely, the indicators chosen do not perfectly mirror the initial definition. A second point on which this paper makes a step further is an improvement of the operationalization of theoretically derived characteristics of educational stratification. These indicators are supposed to empirically measure the level of stratification in a given country, thus the main research question of the paper is do these indicators belong to the same underlying factor?

The Role of Extracurricular Activities in the Decision to Drop Out of High School Among At-Risk Students: A Different Look at a Critical Turning Point

Eric Dion, Université du Québec à Montréal, Canada; Éliane Thouin, Julie McCabe, Véronique Dupéré, Université de Montréal, Canada

The decision to leave school without a diploma is a fateful one with long-lasting consequences on the employment and health trajectories of young women and men. Using data from an ongoing longitudinal study conducted in 12 high schools (Montreal, Quebec), we adopt an ecological perspective to determine why participation in extracurricular activities (ex.: playing on the football team) protect at-risk adolescents from dropping out in some schools but not in others. Interviews with recent drop outs and matched persevering at-risk students (N = 366) and coordinators of extracurricular activities (N = 12) show between-school differences in the efforts invested by schools to include at-risk students in the extracurricular activities.

Our findings also suggest the existence of a curvilinear relation between the extent to which these activities protect at-risk students from dropping out and the participation of these students: extracurricular activities play a protective role when at-risk students are actively encouraged to participate but stop playing such a role when not enough non-at-risk students also participate in the extra-curricular activities. Our findings demonstrate the importance of taking into account the context in which turning points occur.

Growing Up in New Zealand: Bacterial Colonization in an Ethnically Diverse Birth Cohort

Sarah Berry, University of Auckland, New Zealand

This poster presents the biological sampling undertaken as part of Growing Up in New Zealand, as well as results of the bacterial colonization (n=15,000 swab samples) and microbiome sequencing data (n=90 throat swab samples). Growing Up in New Zealand is unique for its inclusion of significant numbers of Māori, Pacific and Asian children as well as New Zealand European and other New Zealand children. The biological sampling undertaken during the pre-school data collection wave included the collection of child genomic DNA, the assessment of *Streptococcus pyogenes* and *Staphylococcus aureus* colonisation from three anatomical sites, and the collection of microbial swabs to allow measures of the microbiome, all of which sit alongside a wealth of detailed phenotypic data gathered at multiple time points since the antenatal period form a unique and valuable resource. These samples are enabling investigation of the genetic, epigenetic and microbial variation that exists within our cohort and whether this is associated with, for example, the susceptibility of children to infectious diseases such as rheumatic fever, for which New Zealand has an unacceptably high and inequitable burden. Consent rates of more than 90% were obtained for each of NZ European, Māori, Pacific and Asian ethnicities. Bacterial colonization by *Staphylococcus aureus* or *Streptococcus pyogenes* was observed in approximately half of the children. This bacterial colonization (n=15,000 swab samples) will be presented in the context of detailed environmental measures, allowing a discussion of biological and environmental interactions. Microbiome sequencing data describing how microbial diversity of throat swabs (n=90) differs with *Staphylococcus aureus* or *Streptococcus pyogenes* colonization will also be presented.

An (Auto)Ethnographic Account of Longitudinal Researching: A Case of Iran

Ebrahim Talaei, Tarbiat Modares University, Iran

The paper aims to provide an (auto)ethnographic account of designing, conducting, analysing, reporting and maintaining longitudinal research studies with a contextual focus on Iranian research community and policy context. It is argued that longitudinal studies, similar to other research approaches, are in fact social creation of knowledge, but particular to longitudinal studies, they are the outcome of a complex arrays of interactions, in a longer period, among three entities. These entities were explored using Cole's and Engestrom's cultural-historical activity theory (CHAT). Subject: the researchers, Object: the research, Mediating tools: the research instruments, the application letters, request letters for interview or tests, covering letters, justification and rational documents, meetings, etc. These three entities were all in complex relationships for the Activity of research. The historical context of Iranian research and policy community in regard to longitudinal versus cross-sectional studies (or long term projects vs. short term ones) was discussed using research evidence from two ongoing longitudinal research studies in Iran.

The Co-Development of Effort and Perseverance Dispositions Between Childhood and Adolescence and Its Significance for Mid-Adolescent Educational Attainment

Emily Murphy, Annekatrin Steinhoff, Marlis Buchmann, University of Zurich, Switzerland

The strong impact that socio-economic background has on adolescent educational attainment in stratified schooling systems is well documented. Less is known about how personal development from childhood through to adolescence affects educational achievement. A diversity of aspirations and resources that adolescents exhibit, and demands regularly encountered in school, suggests that educational attainment results from an ongoing development of interlinked motivations and competencies. These co-developmental processes are an oft neglected area in studies of skill trajectories and educational outcomes. The current study addresses ways children and adolescents' school-related 'soft skills' evolve in tandem to conjointly determine education levels achieved in mid-adolescence. Our theoretical frame places intensity of effort and perseverance dispositions into categories explaining the 'why' and the 'how' of academic commitment and attainment; our focus is the dynamic interplay between willingness to exert effort in school ('why') and an inclination to persevere in school tasks ('how').

Our analyses are based on 1,128 respondents of the representative longitudinal study of Swiss children and youth COCON (www.cocon.uzh.ch). Information collected between 2009 and 2016 is used to estimate structural equation models. We employ latent curve and latent change models, and estimate cross-lagged effects. Willingness to exert effort and perseverance are measured at ages 9, 12, and 15 using self-assessed multi-item scales. Educational attainment is assessed at age 16, and binary variables distinguish higher levels (tracks towards tertiary education) from lower levels (not having transitioned to upper-secondary education by age 16). We find a close interplay of motivation and competencies development. Parallel trajectories and varying lagged effects are shown across the two concepts, willingness to exert effort and perseverance. The predictive effects of personal development on educational attainment fluctuate over time, suggesting an age-specific significance of effort motivations in particular. Findings are discussed in light of unequal demands on adolescents' academic commitment at different stages of their educational life-course.

The Effect of School Violence on Students' Social Development

Etta Roland Daru, University of Buea, Cameroon

Research Problem: What effect does school violence have on student's social development? Most academics acknowledge that school violence has an impact on students' social development but the extent to that has been an open debate. To add few studies have focused on qualifying violence associated with social development and academic achievement. School violence is a dynamic concept and cannot easily be measured because it covers a wide scope of activities (whether in belief or values, ceremonies).

The present research has objectives to address the following issues; causes of violence in schools in Cameroon, student's perception of school violence, how violence in school affects the social development of students and their academic achievements.

Theoretical Framework: School violence exerts an influence on social development of students and on their academic achievement. Although schools are to be "safe heaven" for school going children. School violence in secondary schools in Buea influences emotional expression, relationship formation, how they handle query and their academic performance.

It is speculated that socialization in different school atmosphere and their environs conveys values and beliefs that may be unique in different schools. As such in secondary schools in Buea sub division various students will interpret emotions differently and form relationships differently.

Research Method: The visit comprises of focus group discussion sequence, observation, interview and responding to questionnaire concerning the interpretation and meaning of school violence, its causes and perception and how it influences social relationships.

Results: Analyzing the open ended questions and focus group discussions from the field, the expectations appear to be confirmed; there is an increased occurrence of violence in schools and also affirms perceived effect of violence and social development and academic achievement.

Conclusion: In light of the facts researched the interpretation of violence in school settings on students' social development show a correlation student-student and teacher-student relation and on the academic achievement.

It summarized that school violence does have an influence on social development and academic achievement of students.

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Interview

The Spillover Influence of Partner's Education on Myocardial Infarction Incidence and Survival

Fanny Kilpi, University of Helsinki, Finland

Education is believed to have positive spill-over effects across network connections. Partner's education may be an important resource preventing the incidence of disease and helping patients cope with illness. We examined how partner's education predicted myocardial infarction (MI) incidence and survival net of own education and other socioeconomic resources. A sample of Finnish adults aged 40-69 at baseline in 1990 was followed up for MI incidence and mortality during the period of 1991-2007 (n=354,100) with longitudinal register-based data. Higher own and partner's education both contributed to lowering the risk of MI incidence in women and men. The partner's education had a stronger association with survival in women. There was little evidence for status incongruity effects in either sex (i.e. adverse health effects from being married to a partner with discordant educational attainment). The highest risks of MI incidence and fatality were in those without a partner, whereas the most favorable outcomes were in households where both partners had a tertiary level of education. Accounting for spousal education improves our understanding of the disparities in MI incidence and survival, and demonstrates how health-enhancing resources accumulate to some households. Marital homogamy may therefore contribute to the widening of educational differences in MI incidence and survival.

The Labour Market Integration: Does Ethnic Origin Matter?

Florence Rossignon, University of Lausanne, Switzerland

The aim of this paper is to examine whether the labour market integration of second-generation immigrants differs from that of children of natives, even though both were born or, at least, have spent most of their life in Switzerland. Another objective is to determine whether second-generation immigrants with different ethnic origins benefit from the same opportunities in the labour market. Using retrospective data from the LIVES Cohort survey, a panel survey of 1691 respondents whose first wave was conducted from early autumn 2013 to the end of June 2014 in Switzerland, a competing risk analysis model has been developed. This approach examines the effects of ethnic origin on the position young adults occupy when they first integrate the labour market. The results show that second-generation immigrants from Eastern Europe have a lower probability of working as unqualified non-manual or manual workers. There is also some evidence that children of migrants from Eastern Europe are less likely to have a high or intermediate position in the labour market or to be a self-employed worker than children of Swiss people, even though this relationship disappears when control variables are integrated into the model. Concerning second-generation immigrants from Northern Europe, it appears that their likelihood to be a qualified non-manual or manual worker is lower than that of Swiss natives. As most of these occupations result from an apprenticeship or a professional formation, these results may indicate that these aforementioned trainings are less frequent among children of Northern Europeans. Accordingly, it is not surprising to see that the relationship between being a Northern European and the probability of occupying a qualified non-manual or manual position disappears when control variables are integrated into the model. Lastly, it has been demonstrated that second-generation immigrants from other continents have a greater tendency to enter the labour market with an unqualified non-manual or manual position.

Family Structure Change in Four Nations: An Examination of the Patterns of Family Transitions

Jonathan Jarvis, Brigham Young University, USA

Research has found that changes in family structure are associated with a number of important outcomes for children, from academic and behavioral outcomes to family formation and health concerns (McLanahan and Sandefur 1994; Wen 2008; Kim 2011; Dufur et al. 2013; Carballo et al. 2013). However, family structural changes are most often considered from the perspective of a single nation and discussed as though the patterns of change and formation are consistent across cultures and nations. To understand the impact and effects of these family changes across differing nations, it is of considerable importance to first understand how the patterns of family formation and family structure change differ across countries, including transitions in and out of family structures. Using data from the UK Millennium Cohort Study (First, Second, Third and Fourth Sweeps 2000-2008), the US Early Childhood Longitudinal Study-Birth Cohort (First, Second, Third, and Fourth Waves 2001-2007), the German National Educational Panel Study (Starting Cohort 3, First and Second Waves 2010-2011), and the Korean Youth Panel Survey (Waves 1-5 2004-2008), we examine the prevalence and patterns of changes in family structures across nations and over time to identify patterns of change and difference in family structure and transitions across these four nations.

Differences in Health Between East and West Germans: The "Long Arm of Childhood" Under Divergent Political Regimes in Germany

Katharina Loter, Oliver Arránz Becker, Martin Luther University of Halle-Wittenberg, Germany
The aim of our study is to investigate the “long arm of childhood” under two divergent political regimes in Germany. Children of the former socialist German Democratic Republic (GDR) grew up in a regime with full-time working mothers and around the clock child care services – in a regime that differed significantly from the German Federal Republic (FRG, also West Germany). GDR, year 1980: Almost 60% children aged 0-3 attend nurseries and more than 90% children aged 3-6 attend all-day kindergartens. In contrast, the respective percentages in the FRG are 1% for nurseries and 65% for predominantly part-time kindergartens. Thus, a great majority of children born and raised in the GDR experienced “equal” educational and nutritional conditions during early childhood regarded as a critical period of development, irrespective of their families’ socio-economic situation. Within few years after the German unification health care in East Germany came up to the level of West Germany, nonetheless, for the “former children of the GDR” early childhood influences may continue to affect their adult health in a specific way. Our research question is: Does the childhood experience under a socialist regime play a role in explaining health at subsequent stages of the life course? First, we hypothesize that spending childhood in the GDR, unlike in the FRG, might have an adverse long-term effect on health. Second, we assume that “equal” GDR childhood conditions might attenuate the long-term impact of parental socio-economic status on adult health. To examine these hypotheses, we use data from the German Socio-Economic Panel (SOEP) for birth cohorts 1950-1980 and apply latent growth curve analyses. Our preliminary results provide evidence of health disparities according to the kind of socialization. Further, we observe different patterns in the social health gradient for East and West Germans.

Job Loss and the Concern About Immigration in East and West Germany: A Longitudinal Study

Kathrin Stief, GESIS, Germany

Empirical findings consistently show that East Germans report strikingly higher levels of negative sentiments toward immigration than those reported by West Germans. Studies that try to explain this finding almost always use the smaller opportunities of contact with foreigners in the East of Germany due to the smaller proportion of foreigners as explanation.

Another possible explanation could be the large labor market differences between the two former states. Thus, one of the outcomes of immigrants' entry into the local labor market is the rising concern among the local population about increasing competition on vacant jobs. This study will investigate the consequences of perceived threat, triggered by job loss, to levels of concern about immigration of East and West Germans.

The study relies on the group conflict theory, which maintains that competition over scarce resources, can lead to the emergence of conflict and prejudice. Empirical evidence indicates accordingly that individuals, who are economically disadvantaged, such as unemployed or low-income individuals, show more negative attitudes toward immigrants and immigration.

The group conflict theory was mostly tested with cross-sectional data. However, in the current study I adopt a process-dynamic perspective to analyze the effect of job loss – measured as the transition from the state "employed" to the status "unemployed" – on individual concern about immigration using the German Socio-Economic Panel for the years 1999 to 2013, taking into account explicitly the different contexts of East and West Germany.

While some evidence exist to the link between job loss and individual concern about immigration to Germany, the unique East West context and its role in this association remains to date understudied. This study seeks to narrow this gap.

Neonatal and Infant Readmissions for Late Preterm and Early Term Babies in Ontario and England: A Cohort Study Using Linked Population-Level Healthcare Data

Katie Harron, London School of Hygiene and Tropical Medicine, UK

Background: Babies born late preterm (34-36 weeks gestation) or early term (37-38 weeks) have worse long-term outcomes and an increased risk of unplanned hospital admissions compared with their full-term peers. We examined differences in neonatal and infant outcomes using data linkage of longitudinal maternal and baby hospital records in England and Ontario.

Methods: Linked maternity-baby hospitalisation data were extracted from two universal healthcare systems, Ontario (n=702,565; 2005-2013) and England (n=1,165,375; 2011-2013). We modelled rates of unplanned readmissions within 30-days post-discharge of delivery, and readmissions, emergency department (ED) visits, deaths and total inpatient days within 12-months post-discharge, adjusting for neonatal, maternal and delivery factors.

Results: The median newborn length of stay was 4 and 5 days in Ontario and England respectively for late preterm babies, and 2 days in both countries for early term babies. Early neonatal readmissions were lower in Ontario: 4.8% of early term and 7.2% of late preterm

babies compared with 8.3% and 11.4% respectively in England ($p < 0.05$). Within 12-months post-discharge, 9.6% of early term and 13.5% of late preterm babies were readmitted in Ontario compared with 24.0% and 30.5% in England ($p < 0.05$); total inpatient days per 100 babies were 36.5 for early term and 61.9 for late preterm (Ontario) compared with 62.7 and 107.6 (England). Infant mortality (0.1-0.4%) and ED visits (40-44%) were similar between countries.

Implications: Unplanned readmissions and total inpatient stay are significantly higher in England than Ontario for early term and late preterm babies, despite similar ED attendances and lengths of newborn stay. Further investigation of differences in healthcare practices between countries should evaluate access to paediatric primary care and thresholds for admission and evaluate how differences in long-term outcomes for these babies are related to early provision of care.

The Effect of Fathers' and Mothers' Educational Level on Adult Oral Health in Japan

Keiko Murakami, Teikyo University, Japan

Objectives: Our objective was to examine the effects of fathers' and mothers' educational level on oral health in adulthood.

Methods: A questionnaire survey was conducted for community-dwelling adults aged 25 to 50 years. A total of 4385 agreed to participate and complete the survey. Self-rated oral health was used to evaluate current oral health. We conducted multiple logistic regression analyses to determine if the fathers' or mothers' education was associated with current oral health after adjusting for the respondents' own education, current income, and childhood economic status.

Results: Among respondents, 29.7% of men and 23.0% of women reported their own oral health as fair or poor. Among men, both the fathers' and mothers' education were significantly associated with oral health after adjusting for other socioeconomic indicators. After entering the fathers' and mothers' education into the model simultaneously, a significant association remained only for the mothers' education. Among women, neither the fathers' nor mothers' education was associated with oral health.

Conclusions: Parental education was associated with adult oral health only among men. Among men, the association was stronger for the mothers' education than for the fathers' education.

Twenty Shades of Red: Life Course Pathways to Undergraduate Social Justice Activism

Ken Kowalski, Columbia University, USA

The rise of Occupy Wall Street, Fight for \$15, Black Lives Matter, and other popular social justice movements to the forefront of American politics heralds a resurgence of left-wing activism occurring partly or wholly outside the confines of the Democratic Party and mainstream liberal organizations. Furthermore, the competitive candidacy of self-described democratic socialist Bernie Sanders for the Democratic presidential nomination has sparked a rigorous debate about the traditionally centrist party's policy goals and tactics, in addition to the very meaning of ideological labels. Despite these major developments, the existing literature on American social movements and political socialization has largely failed to

distinguish between activism aligned with centrist liberalism and that which is motivated by more radical ideologies of the left. Likewise, many studies do not delve into the nuances of individual activists' political beliefs and engagement, often neglecting the complexities of participation in multiple groups espousing different causes and tactical approaches to achieving social change.

Understanding the rise of far-left and social democratic popular movements in relation to traditional organs of liberal politics demands detailed study of activists' ideological development and their reasons for political mobilization in particular. This study conceptualizes the question of activist motivation as an interactive, developmental process across the life course, with a focus on the formation and evolution of ideological beliefs and political identity. I am conducting in-depth interviews with 20 undergraduates enrolled at Columbia University and Barnard College who participate in one or more social justice organizations. Interviews will highlight their lived experiences within three dynamic contexts derived from existing research on political socialization and mobilization: neighborhoods and community spaces, institutions of education, and families. Qualitative data coding will highlight similarities and differences between the structured sequences of conditions, life events, and choices that culminate in each individual's particular forms of activist engagement.

Short Term and Long Term Effects of Social Capital in the Transition to Vocational Training in Germany

Kerstin Hoenig, Leibniz Institute for Educational Trajectories (LifBi), Germany

The German educational system places a strong emphasis on vocational education and training (VET). For those who leave secondary school after nine or ten years of schooling, obtaining a VET position is crucial for their future occupational career. While systematic research on the role of social networks in the transition to VET is scarce, we can assume from labour market research that network resources play an important role in the allocation of VET positions.

Using data from the National Educational Panel Study, Starting Cohort 4, I take a closer look at the support that youths who left secondary school after grade 9 and 10 received from their social network in the transition to VET. I focus on two network resources: information about potential VET positions, and network contacts' personal involvement in getting a VET position. Multinomial logistic regression and propensity score models show that having access to information is positively linked to making a successful transition to VET in the year after graduation, but results for personal involvement are mixed. This is probably due to reverse causality: network contacts are more likely to get involved when youths are unable to find a VET position on their own. However, when looking at the subset of respondents who did not transition to VET immediately after leaving secondary school, both the personal involvement reported in the first year and the second year after leaving school has a significant positive effect on finding a VET position in the second year. Thus, continued personal network involvement is an important resource for the most vulnerable subset of youths.

Divergent Trajectories: Labour Market Entry Sequences of School Leavers in Germany

Kerstin Jahn, Juliane Achatz, Brigitte Schels, Institute for Employment Research (IAB), Germany

Vocational training is a key element for a successful school-to-work transition in Germany. In addition to company-based or school-based vocational training routes, a parallel system of transition alternatives was institutionalised to improve trainability of low-educated youth. The significance of alternative routes for the school-to-work trajectories of young adults is a controversial issue. While programmes intend to improve prospects on the training and labour market, critics point out risks of resulting in long-term subsidized careers or discontinuous employment trajectories in subsequent years.

This study explores transition patterns aiming at achieving a richer understanding of labour market related trajectories of individuals during five years after ending compulsory school. By applying explorative methods of optimal matching and cluster analysis on administrative data from 2008 to 2013, individual trajectories of youth under the age of 21 have been grouped. The sample is restricted to youth with an at most intermediate school-leaving certificate who made initially use of vocational guidance of the federal employment agency in 2008. We identify a small number of at-risk trajectories that raise concerns about an institutional based polarisation of the transition from school to work.

Families in Systems of Social Support: Perception and Longitudinal Development

Laura Kassel, Zentrum für Kinder- und Jugendforschung, Germany

Research questions: The main focus of the PhD project is the long term perspective and the subjective view of families concerning their systems of support.

1. Description of the situation: How are the situations of the families and how are the families supported?
2. Perception and Representation: How are the supporting relationships perceived, what are the main factors for succeeding/failing?
3. Change: How do the supporting systems of families change on a long term perspective?
4. External perspective: How do the supporting professionals perceive the relationship with the families?

Method: In a qualitative design, families (n= approx. 20) will be interviewed every six months over three years. The semi-structured interviews with one member of the family are accompanied by a structural mapping technique. Depending on the consent of the families, supporting professionals will be interviewed as well.

Expected results: The project aims to gain insight to supporting systems of deprived families, to develop first strategies how supporting processes can be improved and how negative impacts of support can be reduced.

The PhD Project is part of the project “Prevention Network Ortenaukreis” at the Center for Childhood and Adolescence Research at the Protestant University of Applied Science Freiburg.

Collecting Data From 'Fathers' of the Growing Up in New Zealand Cohort Using an Online Questionnaire

Lisa Underwood, University of Auckland, Australia

We live in a digital world that enables researchers to make use of participants' access to computers/devices and the Internet. This presentation describes the advantages and disadvantages of using an online methodology to collect data compared with face-to-face interviews. It explores whether online surveys are cost-effective when the aim is to maximise participation among a specific cohort and collect considerable amounts of high-quality data. Issues of inequitable access to Internet-enabled devices and what this means for retention, bias and generalisability will be discussed.

The 'Who are Today's Dads?' project explores the role of fathers in the lives of almost 7000 school-aged children who are taking part in the longitudinal Growing Up in New Zealand cohort study. Initial data were collected from 4401 participants during the third trimester of their partner's pregnancy using face-to-face computer assisted personal interviews (CAPI). This cohort has been successfully retained for two further data collection waves, using CAPI, when the Growing Up in New Zealand children were nine months and two years old (93% and 86% participation, respectively).

Our participants (mothers and fathers) told us that they would prefer to complete questionnaires online rather than in person. As such, for the 'Who are Today's Dads?' project we used an online survey software tool to approach participants and collect questionnaire data.

We obtained contact details for fathers of the Growing Up in New Zealand children from the mothers of the cohort. An invitation to take part in the study and a link to the online questionnaire were sent to these fathers from August 2015 to March 2016. We had a response rate of 77% and over 4000 participants completed the questionnaire. However, for many participants, completion was only achieved through follow-up emails, SMS, phone calls and in some cases home visits.

Educational Inequalities in Chile: A Multilevel Accelerated Longitudinal Study of Primary School Children's Achievement Trajectories

Lorena Ortega, University of Oxford, UK

The present study investigates primary students' achievement trajectories in Chile: a context of particular interest, given its socially stratified and segregated schooling system. By means of linking several sources of secondary data rich longitudinal data on student achievement in language (Spanish) and mathematics were obtained. The resulting sample features an accelerated longitudinal design comprising of participants in 4 overlapping cohorts, together spanning Grades 3 to 8 (N = 19,704 students, and 851 language and 812 mathematics teachers, in 156 schools).

Educational inequalities in the school system are investigated using a series of multilevel growth models. The main findings indicate that individual students differ substantially in both their achievement status and their rate of development over time. In language, a gender gap favouring girls that remains stable across primary school was found. In mathematics, in turn, the gender gap reverses in favour of boys and increases from 3rd to 8th grade. An

achievement gap between high- and low-socioeconomic status (SES) students is also present from 3rd grade, and remains fairly constant over the course of the primary school years.

Evidence of school compositional effects was found, as school achievement mean predicted achievement status on both subjects. Also, in language, the school's SES composition was found to have effects on achievement outcomes over and above the individual student's SES, supporting the double jeopardy hypothesis. In both subjects, schools were found to be differentially effective across students from different socioeconomic status. In language, schools also showed differential effects associated with student gender.

This study contributes to the literature by 1) exploring educational inequalities in the context of an emerging economy from a longitudinal perspective and 2) demonstrating the combined use of accelerated longitudinal designs and growth curve approaches.

Occupational and Earnings Mobility After Separation for British Men and Women

Maïke van Damme, LISER, Luxembourg

We examine changes in occupational status and earnings after divorce for men and women. We hypothesize to find a divorce penalty for men and a divorce premium for women. Possible explanations for gender differences are sought in a change in gender roles after divorce, which are reflected in the diminished relevance of gender role specialization of paid and unpaid work, gender differences in the loss of social capital, and gender dissimilarities in emotional stress experienced after divorce. Difference-in-difference models using the British Household Panel Survey (BHPS) and Understanding Society (US) show small, insignificant gender differences in changes in ISEI scores and earnings in the years after separation.

Although not significant, we tried to explain some of the gender differences and found that for longer-term earnings changes the share of housework hours changes occurring around separation mattered. Other gender differences were too small and therefore it was irrelevant to explain them with the mechanisms suggested above.

Observable Characteristics Associated With Suspected or Diagnosed Autism Spectrum Disorders (ASD) in a Longitudinal, Representative Sample of Infants

Martha Neary, Northwestern University, USA

Early identification and diagnosis of autism spectrum disorders (ASD) can improve long-term outcomes for children and optimize opportunities for effective intervention. Results from early intervention studies are promising, and consequentially, emphasis has been placed on the notion of 'the earlier, the better' when it comes to diagnosis. Although a large proportion of parents report recognition of ASD symptoms during infancy, few studies have attempted to identify predictors of ASD in a child's first year. Furthermore, studies which indicate the presence of signs of ASD early in childhood have been largely retrospective. This paper will aim to identify observable characteristics at 9 months of age which predict diagnosed or suspected ASD in early childhood, using prospective data from the Growing Up in Ireland Infant Cohort. The overall objective of the paper is to contribute to an awareness among parents and practitioners of a number of signs and symptoms which may appear during infancy, which may aid in the early identification of ASD.

Social Class Differences in Biomarkers Across the Adult Age Span. Findings From Understanding Society (The UK Household Longitudinal Study)

Meena Kumari, Amanda Hughes, Michaela Benzeval, University of Essex, UK; David Blane, University College London, UK

It is well established that there are differences in health and mortality by social position, however the mechanisms by which these differences occur and when they emerge in the adult lifespan is yet to be fully established. We will report social class differences in a range of biomarkers measured in Understanding Society: the UK Household Longitudinal Study (UKHLS) using the UK National Statistics Socio-Economic Classification (NS-SEC). We will describe social class differences in biomarkers that reflect a variety of physiological systems. We will describe when these social class differences emerge in the adult life span and whether these vary by gender. Further, we will investigate whether material, psychosocial and behavioural factors differentially influence social class differences in biomarker levels by life-stage and gender. As far as we are aware, these will be the first such results in a large, nationally representative population sample.

(Re)Partnering Mothers: Doing Family After the Transition to Lone Parenthood

Ornella Larenza, University of Lausanne, Switzerland

Current research has mainly attempted to disclose lone mothers' patterns of (re)partnering in relation to their demographic and socio-economic characteristics. However, the complexity around such a personal choice and the motivations for any subsequent adjustment is overlooked especially in the case of non-normative forms of (re)partnering, such as LAT. Furthermore, little is known about how lone mothers "do family" in the context of the new relationship and what kind of support they receive from new partners, including the extent to which they take up parenting tasks.

This work aims at exploring meanings and practices of re-partnering in lone mothers' families in French speaking Switzerland, both in the case of co-resident and distant new partners (LAT relationships). Two waves of semi-structured interviews were conducted in 2012/2013 and 2015 with a group 38 lone mothers living in the Cantons of Vaud and Geneva. The mothers in the sample have various socio-economic backgrounds and were either alone since the beginning of their transition to parenthood or became so consequent to separation, divorce or widowhood.

This research shows that (re)partnering may have one of these three meanings: sharing everyday life and creating a new parenting couple; sharing everyday life without creating a new parenting couple or just having a new lover. These meanings are meant to translate into specific combinations of new partners' roles and residential arrangements (co-habitant and LAT) although sometimes – due to specific circumstances - (re)partnering patterns and meanings attached to them can be discordant. This work also illustrates that: first, parenting trajectories and partnering trajectories do not necessarily evolve simultaneously; second, lone mothers do not necessarily want to recreate the traditional family as a LAT relationship can be a long-term partnership option; finally, it is also important to look at new and former partners' life courses to understand (re)partnering patterns.

Health Management Across the Life Course: The Role of Education

Rebecca Woodward, Mai Stafford, Diana Kuh, University College London, UK

Higher educational attainment has been associated with timely access to access to health care services, effective health self-management practices and positive health behaviours, however previous research is largely cross-sectional or utilises retrospective data. Using prospective data from the MRC National Survey of Health and Development, this project aimed to explore associations between educational attainment and individuals' management of particular health challenges experienced at different stages during the life course: somatic and psychological symptoms in earlier adulthood, women's symptoms and general health during the menopausal transition and age-related health concerns. Using methodological approaches including logistic, multinomial and poisson regression, results showed that higher educational attainment was associated with taking a proactive approach, either by accessing professional health care services or using self-management behaviours, for non-menopausal symptoms in midlife in women, women's general health at age 54 and attending more health checks at age 68 (sex-adjusted OR=1.03 (95% CI, 1.01-1.06)). The findings from the study suggest that individuals with higher levels of education are more likely to take a proactive approach to managing health consistently throughout adulthood and into later life.

Divergence Between Places, Groups and Over Time: Looking at Changes in Mathematics Test Scores in India

Rhiannon Moore, Bridget Azubuiké, University of Oxford, UK

This presentation uses data from the Young Lives longitudinal study in India to analyse the ways in which the mathematics learning achievement of the sample children has changed over time. It looks at changes within one cohort of children, and between two cohorts (of similar ages but seven years apart), and explores some potential determinants for these.

Existing analysis of Young Lives mathematics test data from India has revealed that the learning levels of 12-year-olds in the study declined by 14 percentage points between 2006 and 2013. This aligns with findings from other studies in India (for example ASER, 2015) which show a similar downward trend in learning achievement. Using household and community level data for sites within two states in India, we find that wealth, attending a private school, being male and being in a higher grade are some of the factors positively associated with higher achievement in mathematics for 12-year-olds in 2013. We then explore how these differ between the two cohorts of children.

The presentation then focuses in greater detail on two of the districts surveyed between 2009 and 2013, where mean mathematics test scores of one cohort of children diverged. From a lower starting point in 2009, one of these districts experienced a significant increase in the mean test scores over this period, whilst the other, starting with a relatively higher average score in 2009, experienced a significant decline in mean scores. We present analysis of potential observable contributors to this divergence, such as changes in the local environment and in the educational opportunities available, made possible by the longitudinal nature of the data, along with a discussion of other possible explanations such as the distribution of test scores within each district.

Accentuation and Attenuation: The Effects of Aging on the Education-Health Relationship in a Cross-National, Comparative Perspective

Ross Macmillan, Bocconi University, Italy

Education is a key indicator of socioeconomic stratification and consequently educational attainment is routinely described as a “fundamental cause” of health and health disparities. Studies over time and across countries routinely report that those with more education enjoy better health. At the same time, there is considerable evidence of heterogeneity in education’s effects and this is particularly the case with respect to aging. How and why this happens is less understood. While life course social science has been particularly poignant in suggesting that the relationship between education and health is not static over the life span, important theoretical traditions offer competing expectations on what aging means for the relationship between educational attainment and health. From one perspective, aging exacerbates the relationship with educational gradients expanding over the life course. From another perspective, aging attenuates the relationship with gradients diminishing with advancing age. To date, evidence is mixed. In this paper, we argue that work needs to consider educational attainment beyond a human capital framework and recognize its role in socialization dynamics that bond people, socially and ideologically, to cultural frames. This implies that the “meaning” of educational attainment for health should vary depending upon the social and cultural context in which it exists. This issue is investigated using high quality survey data for over 90 countries and multilevel models to further investigate. The specific thesis tested is that accentuation or attenuation is dependent upon economic development and cultural context, specifically a greater shift towards a post-materialist orientation. The results suggest the importance of conceptualizing the meaning of education in terms of socialization towards hegemonic norms and values and integration in institutional frameworks. These shape the conditional relationship between aging, educational attainment, and health. Implications for theory, research, and policy are discussed.

Maternal Socioeconomic Status and Risk of Childbirth Intervention in the UK

Sarah Carter, University of Southampton, UK

The World Health Organization recommends that rates of caesarean section do not exceed 10%. As the rate of caesarean section in the United Kingdom has risen well above this recommendation, concerns over the maternal and infant health implications of operative deliveries have increased and caesarean reduction and prevention have become goals in UK hospitals. In addition, links between maternal socioeconomic status (SES) and maternal and infant health make research into the impact of the socioeconomic gradient on childbirth imperative. This paper explores the relationship between SES and risk of caesarean section in the United Kingdom by examining labour induction, the beginning of the “cascade of interventions” that can lead to increased caesarean section rates. Logistic regression analyses were conducted using the first sweep of the Millennium Cohort Study, with models utilizing indicators of SES such as maternal educational attainment, electoral ward deprivation, household income, housing tenure, and marital status. Final models controlled for maternal health mediators that have been linked to labour induction in previous research, such as BMI and illness in pregnancy. After controlling for maternal health, the relationships between labour induction and two markers of SES – fewer educational qualifications and living in disadvantaged places – remained important. Housing tenure, household income, and marital status were not significant predictors in the final model.

The results for maternal education and location could imply that younger, less advantaged women are at higher risk of induction, suggesting a relationship between SES and induction. A link between SES and labour induction could identify women at higher risk of entering the cascade of interventions leading to operative deliveries, and may help enhance caesarean prevention programs.

Examining the Psychometric Properties of the Persian Early Childhood Environment Rating Scale-Revised (ECERS-R) Using Rasch Rating Scale

Shima Aminipour, Ali Asgari, University of Tehran, Iran

A number of longitudinal studies emphasized on the crucial role quality of early childhood education and care in children's development outcomes. Early Childhood Environment Rating Scale (ECERS-R) is a predictable and observational instrument used largely in variety of longitudinal studies. As the most popular instrument for measuring early childhood education and care in different cultural and educational context, Psychometric characteristics of ECERS-R have mostly been studied by Classical Test Theory (CTT) while Rasch modeling approach to scaling, based on item-response theory, is a valuable alternative to CTT. The purpose of this study is to examine psychometric characteristics of ECERS-R by using Rasch modeling approach. This study is a part of Longitudinal study of Iranian Children (LSIC) that is a nationwide longitudinal study of Iranian children started in 2012. Results from a sample of 62 preschools showed the high group estimate of reliability such as person separation of 3.76, person reliability of .93, item separation of 3.57, and item reliability of .93. Except Items 9 and 39, all of the Persian ECERS Items fit the Rasch model. Moreover, the items of this scale represent a unidimensional construct as a single latent trait being able to account for the performance on items. Variance explained by measures and unexplained variance in 1st contrast were 64.8% and 3.9% respectively. Findings of this study support that Persian ECERS-R instrument is a reliable and valid instrument to be used in different kind of studies.

No Apparent Benefit From Social Capital in a Community of German Origins Living in an Area of Italian Alps Since the Beginning of the Second Millennium. A Life-Long Cohort Study Based on Electronic Health Archives

Lorenzo Simonato, Paola Anello, Cristina Canova, University of Padova, Italy

At the beginning of the Second Millennium a population from southern part of Germany migrated to the mountains area between the towns of Trento and Vicenza, then called "Reggenza dei Sette Comuni" (the kingdom of the seven cities). This community managed to survive through centuries, wars, epidemics, radical political changes, etc. keeping its original language, which is a kind of German dialect, its cultural and social identity, and an elevated degree of interpersonal cohesion, Factors which are well known to strength the social capital of a population which is usually associated with better health conditions.

Using the electronic health archives of the National Health System (NHS) we selected all residents in the area from the year 2006 to 2013 and matched them to mortality certificates, hospital discharges, drugs prescriptions, co-payment records and cancer registry. Twenty-three thousands seven hundreds forty-six individuals have been enrolled in the dynamic e-cohort from 01.01.2006 and 31.12.2013 accounting for 162,540 person-years. A total of 2,198,511 electronic health records have been cross linked to the members of the cohort and several mortality, incidence and prevalence parameters of the major diseases have been computed. The results have been compared to the health profiles of other selected

populations living in the metropolitan areas of North-East of Italy, for which similar standardized parameters were available, showing no major differences. The main finding from the preliminary results of this study is that members of a community with high social potential living in a non-polluted environment do not seem to benefit from the more favorable living conditions.

We are continuing the follow up of this particular population investigating the possible explanations of these contradictory findings.

On Time for the Future: A Qualitative Analysis of the Impact of Dual Enrollment Programs on Students' Perceptions of Educational Aspirations and Future Selves

Terese Jones, Oregon University, USA

College educated adults have higher lifetime earnings and experience greater periods of economic and employment stability, and are less likely to live in poverty (Hout, 2012; Bozick and Deluca, 2005). They achieve better overall health outcomes (Dupre, 2007; Friedan, 2010). Children of college graduates are more likely to attend college themselves (Folger, et. al., 2004; Ashburn, 2007). Delaying college enrollment by even a short period of two years significantly decreases the likelihood of ever completing a college degree (Karp, 2007; Bozick and Deluca, 2005). Dual enrollment partnerships have become an increasingly utilized strategy for improving higher education attainment rates; iterations of these programs between high school and community colleges are now present, in some form, in all 50 states (Allen, 2010). The growth in these programs has generated substantial interest in their contribution to student college enrollment and retention to degree completion. The study "Student Perceptions of Dual-Enrollment Program Participation," explored the benefits of dual-enrollment partnerships between Linn-Benton Community College (LBCC) and area high school students. Through a series of focus groups, students provided perspectives on the benefits of participation in dual enrollment.

Analysis utilized a Life Course perspective to inform an understanding of the students' perceptions as it relates to three key areas: 1) being institutionally "on-time" to maximize educational benefits; 2) the influence of linked lives in the formation of a college student identity; and 3) the impact of cumulative advantage on the perception of accessibility of college. Results indicate that students believe the dual-enrollment programs created an opportunity for college that would otherwise not have been available, reduced the delay in college enrollment and increased the likelihood of persisting to a four-year degree.

Using Glasses and Hearing Aid and Social Support Among Elderly Japanese People

Tomoo Nakata, Hokusei Gakuen University, Japan

The purpose of this study is to examine the relationship between use of glasses and hearing aid and social support and other individual attributes using panel data. Using aids is one of the responses to weakening of the body that occur with ageing. However, there are individual differences in whether to use it or not. In this study, the existence of social support is verified in the sense of influences from others. This study utilized the National Survey of the Japanese Elderly, from wave I (1987) to wave VI (2002). As dependent variables, the study included the fact concerning whether the respondents were using glasses, as well as whether they were using hearing aid. Also, independent variables consisted of emotional support and tangible support that they received and other basic attributes. The results of the analysis using the

panel regression model, education and emotional support for glasses and gender for hearing aid are significant. Interestingly, respondents' age did not become significant. In addition, emotional support became significant, while the number of friends was not. This fact may indicate the characteristics of social support.

Day 2 Friday 7 October 2016

Parallel Session 4

A4 EDUCATION 1

Paper Session: *Higher Education Trajectories I*

School Quality and Access to Higher Education for Socially Disadvantaged Students. Do Secondary Schools Actually Matter?

Rodrigo Torres, UCL Institute of Education, UK

In this paper we assess the importance of school quality and other institutional factors explaining students' access to higher education, with an emphasis on those students from disadvantaged backgrounds. We make use of administrative data to follow a cohort of around 270,000 students from the end of primary education to higher education, developing a stratified analysis for around 2,400 schools from 5 defined socioeconomic status, in a very socially segregated educational system such as the Chilean, where there is a high proportion of private subsidized schools. Our results show that students attending high performing secondary schools are much more likely to attend higher education, even after taking into account their past achievement in primary schools. Interestingly, we find no systematic association between class size or school type and higher chances of entering tertiary studies after controlling for academic achievement in secondary education. On the other hand, those students taking the vocational track are 9% less likely to continue with further studies in low SES schools and 3% in middle SES schools when compared to their peers taking the academic track. We also find that students from low SES schools are especially sensitive to access to public funding. Those eligible for public funds are 9% more likely to attend higher education in those schools. All in all, secondary schools make a big difference for lower and lower-middle SES students, as opposed to those from better off backgrounds who tend to attend higher education in a bigger proportion, despite their individual academic performance and school characteristics.

From Undergraduate to Graduate Programmes: Transitions From German Bachelor Graduates in Higher Education

Saskia Klüver, DZHW, Germany

With the Bologna Process the German higher education system experienced a fundamental change by establishing a two-level-structure with bachelor and master degrees. From a life course perspective this reform adds another selection process within the education system. Research results have already shown that the educational attainment in higher education depends much on social origin (e.g. Becker & Hecken, 2008; Breen, Luijkx, Müller, & Pollak, 2010; Neugebauer, 2015). While much is known about the social inequalities in school-to-higher-education-transition, there is a lack of knowledge about the transition from the first-level to the second-level degree in higher education.

In this paper we examine the transition from undergraduate to graduate programmes in tertiary education in Germany with regard to social origin, gender and study background. Using longitudinal data from a German graduate panel, we apply Event History Analysis to

compare the transitions from Bachelor to Master programmes. This data provides the opportunity to analyse the key determinants of the decision for a second level programme not only directly after graduation but in a long term perspective up to five years later.

We find that most first-level graduates attend a master programme in the first months after graduation. If someone overcome the selectivity mechanism and starts a first-level-study the social origin does not affect the transition inside the higher education system. Rather individual aspects and choices like the field of study, the type of university and gender influence the change from undergraduate to graduate programmes.

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Social Origins, Academic Strength of School Curriculum and Access to Selective Higher Education Institutions: Evidence From Scotland and the U.S.

Brian An, University of Iowa, USA; Adriana Duta (Presenting), Cristina Iannelli, University of Edinburgh, UK

As participation in education increases, qualitative distinctions (e.g. types of school curriculum and higher education institution) are expected to become more salient in explaining social inequalities in education and the labour market (Lucas, 2001; Jacob et al., 2015). This paper aims to analyse the extent to which secondary-school curriculum explains social-origin differences in access to prestigious universities in the US and Scotland. In both education systems an important criterion for entering prestigious institutions is the academic strength of the curriculum studied in secondary school (NACAC, 2013; Russell Group, 2011). However, applications to enter university are not discipline-specific in the US as in Scotland where students apply to both a university and college major. This leads us to hypothesise that different aspects of school curriculum will be important to explain social inequalities in access to prestigious institutions in the two countries. In particular, we examine three components measuring the academic strength of curriculum: number of advanced/university preparatory courses taken in secondary school (Advanced Placements in the US and Advanced Highers in Scotland), the specific subjects studied in these courses and the obtained grade from these courses. Our study uses data from the 2002 Scottish School Leavers Survey (N= 3,231) and the 2002 US Education Longitudinal Study (N=11,830) which provide rich information about the subjects studied in secondary school including the level and the obtained grades and the tertiary institution entered. Nested multinomial logistic regression analyses were carried out, followed by the estimation of average marginal effects. Preliminary findings show substantive social inequalities in access to selective tertiary institutions in Scotland and the US, with the US displaying larger inequalities. Moreover, the curriculum studied by those who entered

more selective universities displays a higher concentration of traditional academic subjects than their counterparts who entered less selective HE institutions in both countries.

Gender, Educational Background and the Transition to Individual and Structured Doctorates in Germany

Susanne de Vogel, DZHW, Germany

The likelihood of starting a PhD strongly depends on gender (Leemann 2002) and educational background (Jaksztat 2014). Traditionally, doctorates in Germany are pursued individually, i.e. within a research assistant position at the supervisor's institute, or as an external doctoral candidate. In recent years, however, a great number of structured doctoral programs have been established. In contrast to individual doctorates, structured doctoral programs are characterized by formalized recruiting processes, aiming on the reduction of social selectivity in the transition into doctoral studies. Since appropriate data have not been available so far, it remains unclear whether this objective has been achieved. To fill this research gap, this paper addresses the following questions:

1. Are the effects of gender and educational background on entering into a structured doctoral program lower than those on starting an individual doctorate?
2. What are the underlying mechanisms that may account for gender and educational background differences in beginning individual and structured doctorates?

The research questions are answered using logistic decomposition analyses based on data from the DZHW graduate panel studies.

Findings confirm that the effects of gender and educational background on entering a structured doctoral program or grant program are mostly lower than those found on transition to individual doctorates. For external doctoral candidates, differences by gender and educational background are largely caused by subject choices. For doctorates pursued within a research assistant position, working experiences with student assistant jobs also explain a big part of the effects. Regarding structured doctoral programs and grant programs, performance differences mainly account for educational background differences, but not for gender effects.

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B4 EDUCATION 2

Paper Session: Lifelong Learning

Seniors' Lifelong Learning and Austerity in Europe: Unequal Educational Opportunities After Working Life

Vera Gallistl, Anna Wanka, University of Vienna, Austria

Background: The main focus of this paper is if and how austerity politics affect late-life learning and social participation among older adults in Europe. With the financial crisis that hit Europe from 2008 onwards and resulting austerity politics, the 'left hand' of the state – accounting inter alia for education, public health care, social security - has gradually been superseded by its 'right hand' – calling for self-responsibility. This demand turns out to be increasingly problematic for disadvantaged groups in general and older adults in particular. Challenges of old age are being framed as individual problems that must be encountered autonomously. One key resource for encountering challenges in neoliberal societies is lifelong learning. Against this backdrop, lifelong learning has become increasingly important for seniors' social inclusion and well-being in times of austerity. Simultaneously, participation in lifelong learning after the working life is profoundly influenced by educational opportunities over the life-course.

Methods: Analysing two waves of the European Adult Education Survey (2007-2011), this empirical paper examines changes in seniors' participation in, motivation for and barriers to lifelong learning and social participation in Europe. Seniors' participation patterns in formal and non-formal education, social participation and informal learning between 2007 and 2011 are compared and set into context by analysing the determinant effect of educational opportunities in earlier stages of life on participation in later life in different welfare state regimes.

Results: The analysed data suggests that rates of learning and participation in later life decrease in times of crisis, and senior citizens of states that have adopted particularly harsh austerity politics are most affected. Social inequalities, especially unequal educational opportunities and access to learning and participation persist or increase in later life. At the same time, however, times of austerity also open the possibility for new forms of active citizenship.

The Meaning of Parental Education for Mastery in Older Adults

Frances Harkness, University College London, UK

Background: Mastery reflects an individual's perception about the control they have over their own life. The current view is that mastery is greater among individuals who grew up in high socio-economic position (SEP) households. However, this literature uses parental education and occupational class synonymously, when they may mean different things for mastery. Educated parents may role model to their children how to process and solve challenges, regardless of financial resources.

In this cohort breadwinners are primarily only fathers, thus providing an opportunity through mothers to tease out the gain parental education confers independently on mastery. A relationship between paternal education and mastery may indicate a material structure,

being related to income. Isolated associations with maternal education may suggest that a cognitively enriched childhood home is key.

Aim: To test for differential effects of maternal and paternal education on mastery in older adults.

Method: The Medical Research Council National Survey of Health and Development (NSHD) is a representative British sample of 5362 births during a week in March 1946. Participants were (n=1,936) study members followed for 70 years. Multivariable regression was used to test the association between maternal and paternal education and personal mastery aged 68, adjusting for participant education, occupation, and gender.

Results: Controlling for own education, occupation and gender, there was no evidence of an association between paternal education and mastery in later life. In contrast there was evidence of a negative linear association between maternal education and study members' mastery.

Conclusion: This surprising negative trend may reflect the limitations placed on women in the 1950s. Despite education, mothers did not have equal opportunities, and their sense of frustration may have been internalised by their children. The lack of association of paternal education suggests that childhood household SEP may not matter for sense of control in later life.

Is Career Development Influenced by Further Education? Evidence for Higher Education Graduates

Kolja Briedis, DZHW, Germany

Lifelong learning and further education are seen as important factors for succeeding in a changing working environment (OECD 2008). Also for professional success it seems crucial – participation in further education has positive effects on wages (Evertsson 2004, Leuze/Strauß 2011) and on employment security (Bassanini 2006).

Theoretically, positive effects of further education could be explained by three different theories: the human capital theory (Becker 1993), the signaling theory (Arrow 1973, Spence 1973 & 1974), or the theory of internal labor markets (Becker/Hecken 2005). According to these approaches further education should increase the probability of gaining leadership positions, long activities should have more positive effects than rather short training measures, and training initiated by the employer should be more advantageous than privately initiated activities.

Thus, almost all graduates from higher education participate in further education. But because participation rates in further education among highly qualified people are quite high, it is questionable that further education also has positive impacts on their careers.

This leads to following questions: Can we find a positive effect of further education on the promotion into leadership positions for higher education graduates? Are there differences between long and short activities? And does it matter whether further education is initiated by the employer or by the individuals?

The careers of higher education graduates will be analyzed by using panel data from a German graduate study with a perspective up to ten years after graduation (conducted by the DZHW). The results confirm the correlation between participation in further education and career advancements to a leadership position. Especially long activities which are initiated by the employer have positive influence on promotions. But this effect very much depends on the graduate's gender – and the impact is time-delayed.

Path-Dependent Spill-Over? Different Pathways Through Post-Secondary Education and the Relation to Continuous Education During Adulthood and Labour Market Success in Canada

Judith Offerhaus, University of Cologne, Germany

It has long been acknowledged by life course researchers that life paths of young adults have become more complex, non-linear and dynamic. At the same time, life courses are known to be highly path-dependent; advantages at early life stages translate into advantages later in life and also in other life domains.

This paper takes this very classical life course approach and examines life histories over 22 years from a Canadian sample of high school graduates (Paths on Life's Way, n = 584). In particular, we take a close look at (1) how post-secondary education trajectories from late adolescence into middle age adulthood are dependent on social background and initial education, (2) how these translate into continued educational participation in any form of education during adulthood, and (3) how all of them are linked to and interrelated with employment histories.

In order to uncover and appropriately describe these dynamics and complexities we use techniques of sequence and cluster analysis and proceed in two stages. First, we employ the detailed information on post-secondary institutions attended. We show different patterns of educational trajectories through the highly diversified Canadian post-secondary education system, thus identifying six distinct clusters of educational participation, which differ considerably in terms of socio-economic background. In the second step, we use these clusters to show differences in terms of employment participation (full-time, part-time), unemployment experience and further educational attendance later during adulthood. Findings are in line with the life course concepts of path-dependency and cumulative (dis-)advantage; differences in initial education are reproduced in patterns of lifelong learning and differential labour market success.

The Paper is Just a Palimpsest: An Illustrated Practical Guide on Undertaking and Presenting Reproducible Work in Educational and Life Course Research

Vernon Gayle, University of Edinburgh, UK

There is now an unprecedented amount of social science data suitable for studying education and the life course. In reality it is impossible to 'reproduce' the results of most of the analyses that are published using these data. Most readers will have a happy, or possibly even a terrifying, early educational memory of being told to "show their working out". Somewhere between elementary school and grad school this requirement has evaporated. Conventional research publications should, at best, be regarded as a palimpsest of the work undertaken within the data analytical process.

In this paper I make an appeal for researchers to routinely provide enough information so that others can check that results are accurate, and that correct inferences and conclusions are reported in published work. This transparency will also allow others to test the robustness of the original piece of research, for example by employing new or additional data and alternative methods. I provide an illustrated practical guide to undertaking and presenting reproducible work in educational and life course research. Using a genuine example of an attempt to reproduce the analyses in a published educational research paper, I highlight the obstacles that are commonly encountered and provide some practicable solutions for rendering research 'reproducible'.

Drawing on insights from computer science and other disciplines that have been engaged in e-Research I illustrate how the use of repositories can provide a useable and effective aid to making social science research more easily reproducible. I propose a set of guidelines which educational and life course researchers should follow in order to enhance the reproducibility of their research. I conclude by suggesting a set of benchmarks against which a project or paper's reproducibility can be tested.

C4 HEALTH 1

Paper Session: *Mortality*

Volunteering and Mortality Risk: A Partner-Controlled Quasi-Experimental Design

Dermot O'Reilly, Queen's University Belfast, UK

Background: The consensus that volunteering is associated with a lower mortality risk is derived from a body of observational studies and therefore vulnerable to uncontrolled or residual confounding. This is likely to be particularly problematic for subject group who, by definition, are self-selected and known to be significantly different from non-volunteers across a range of factors associated with better survival.

Methods: This is a census-based record linkage study of 308,733 married couples aged 25 and over, including 100,571 volunteers with mortality follow-up for thirty-three months. Both volunteering status and all attributes of the cohort members were derived from the 2011 Census. We used a standard Cox model to examine if mortality risk in the partners of volunteers was influenced by volunteering status of their partner - something expected if the effects on mortality risk were due to shared household or behavioural characteristics.

Results: Volunteers were general more affluent, better educated and more religious than their non-volunteering peers; they also had a lower mortality risk (HRadj=0.78: 95%CI=0.71, 0.85 for males and HRadj=0.77: 95%CI=0.68, 0.88 for females). However, for non-caregiving cohort members, having a partner who was a volunteer was not associated with a mortality advantage (HRadj=1.01: 95%CI=0.92, 1.11 for men and HRadj=1.00: 95%CI=0.88, 1.13 women).

Conclusions: This study provides strong evidence that the lower mortality associated with volunteering is not due to health selection or to residual confounding arising from unmeasured selection effects within households. It therefore increases the plausibility of a direct causal effect.

Educational Inequalities in Mortality in Ireland

Anne Nolan, Economic and Social Research Institute, Ireland

The presence of pronounced inequalities in mortality across income, education and social groups is now well established. Research across a large number of countries, including Ireland, has shown that those with fewer resources, less education or a lower occupational class have higher mortality rates than more advantaged individuals. In addition, there is evidence that socioeconomic inequalities in mortality have been widening in recent decades in many countries (Mackenbach et al., 2015). Indeed, analysis of Irish mortality differentials for men over the period 1984-2008 using unlinked census-mortality data shows that the ratio of standardised mortality ratios (SMRs) in the professional to the unskilled manual groups increased from 1.96 in the 1980s to 2.41 in the 2000s (Layte et al., 2015). However, the use of unlinked census-mortality data gives rise to the possibility of ‘numerator-denominator’ bias, in which different criteria may be used to record socio-economic status (SES) on census and death certificate records. In this paper, we exploit the availability of linked census-mortality data from the Irish Central Statistics Office (CSO) for 2006 to investigate SES inequalities in mortality in Ireland using additional indicators of SES, including education level, social class and area-level deprivation. The findings will quantify the extent of ‘numerator-denominator’ bias associated with the use of unlinked census-mortality data, as well as provide insights into how SES inequalities may vary depending on the measure of SES employed.

Mortality by Different Dimensions of Stratification: A Comparison of Education, Class, Status and Income With Finnish Register Data

Rasmus Hoffmann, European University Institute, Italy

This study compares the relation of education, class, status and income with mortality in Finland. It contributes to the ongoing discussion of how to measure social stratification for studies on health inequality. We compare which social dimensions are associated with mortality across gender, age groups, periods and countries. We compare our results to a similar study for Sweden (Torssander/Erikson 2010 in ESR). This will contribute to a better theoretical knowledge and better empirical lifecourse research related to health and mortality.

We use a 11% random sample from the Finnish population in 1990 with an 80% oversampling of all people who died in the period 1990-2007. Our data includes information on education, occupational class, social status (a Finnish metric developed in the CAMSIS project and based on the Cambridge scale), individual taxable income in quintiles, and mortality in a follow-up from 1991-1997. We do the same analysis ten years later with 2000 as baseline year and a follow-up from 2001-2007 to observe changes in the predictors of mortality over time.

We conduct separate analysis for men and women using Cox regression survival models to calculate relative risks of dying in models for each social indicator separately and combined. From the unique quantity and quality of the data we expect significant results on the relation between multiple dimensions of stratification and mortality. This will include differences between gender, ages (35-59 and 60-85), the 1990s and the 2000s, and between Finland and Swedish results by Torssander/Erikson. Our results will provide important new evidence on the measurement of social status for studies of health inequalities and will reveal rather universal risk factors and those that differ between groups and contexts. The question of

measurement is crucial for exploring the mechanisms between social status and health that are part of many longitudinal and lifecourse studies.

The Association of Cardiovascular Specific Biomarkers, Doctor's Diagnoses and Mortality: Are There Differences by Education?

Hannes Kröger, European University Institute, Italy

The increased objectivity that is gained by using biomarkers in surveys compared to self-reported diagnosis is the bases for two opposing hypotheses about heterogeneous association of risk factors with mortality by educational groups. The first hypothesis states that differences in predictive power of mortality between educational groups should be lower for biomarker than for self-reported conditions like doctor's diagnoses, because diagnoses are socially filtered through the use of medical advice and through the correct reporting of a diagnosis in a survey. The opposing hypothesis states that educational heterogeneity in the association of risk factors and mortality is stronger for biomarkers, because a clear diagnosis by a doctor gives both high and low educated individuals the chance to change their lifestyle while a more latent measure of risk biomarkers could be more likely perceived and reacted to by high educated individuals.

In our study we estimate the predictive power of cardiovascular related doctor's diagnoses for all-cause and CVD-specific mortality separately for educational groups and compare this moderation effect to the moderation of high risk values on seven biomarkers.

We use data from the English Longitudinal Study of Ageing (ELSA, n= 5,851) and the Health and Retirement Study (HRS, n= 10,166). The doctor's diagnoses in the studies we use are stroke, heart attack, high blood pressure, and diabetes. The biomarkers we use are Cystatin C, C-reactive Protein, hbA1c, cholesterol, low HDL cholesterol, and systolic and diastolic blood pressure.

First results show that predictive power of biomarkers is very similar across educational groups. There are only slight differences in the predictive power of stroke and heart attack for more mortality. The results also reveal that high risk values for the biomarkers are more strongly associated with mortality for men, the predictive power of stroke and heart attack is stronger for women.

The Education-Mortality Gradient and the Role of Health and Cognitive Ability Early in Life

Govert Bijwaard, NIDI, Netherlands

A large literature documents a strong correlation between education and mortality. However, whether this association reflects causality is still debated. It is difficult to establish a causal effect of education on mortality because confounding factors, such as parental background, cognitive ability and health endowments, may affect both education and mortality. Understanding the role of these confounding factors in generating observed differences in mortality by education is relevant for designing health policies.

It has been found that better health early in life is associated with higher educational attainment and that more educated individuals have lower mortality later in life. However, the exact mechanisms behind this relation are still unclear. As educational attainment, cognitive ability and, health early in life are highly interrelated, appropriate methods are

required to disentangle their separate effects. Much of the literature in epidemiology and public health ignores the fact that people make educational choices on the basis of factors that also influence health behaviors. In the economics literature compulsory schooling changes are used to instrument education choice. But these changes affect only a small part of the education choice.

We address the issue of endogenous education choice and health development by formulating a structural framework that takes into account that cognitive ability simultaneously affects education choice, health and mortality, that early health affects education and later life mortality and that mortality may differ by education. Based on the estimation results of this model we can disentangle the causality from selection effects.

Our estimates are based on administrative data, on men born in 1944-1947 who were examined for military service in the Netherlands between 1961-1965, linked to national death records up till 2014. We have detailed information on health measurements and on a battery of intelligence-tests conducted at the military examination.

D4 HEALTH 2

Paper Session: *Children's Health*

"You Can't Leave Your Background at the School Gate": Inequalities in the Development of Mental Health Difficulties Over the First Six Years of School

Louise Marryat, University of Glasgow, UK

Children's mental well-being is vital to enable effective learning in the classroom and to ultimately maximise children's educational attainment. Mental ill-health, whether at a clinical or sub-clinical level, can have a dramatic effect on an individual's learning, as well as on the educational experience of other children in the classroom and the demands placed on teachers.

However, results suggest that some children are disadvantaged in their social, emotional and behavioural development from the start. A unique collaborative project in Glasgow City – the Child Mental Well-Being in Education (ChiME) project – between the University of Glasgow, Glasgow City Council Education Services and NHS Greater Glasgow and Clyde, has measured children's social, emotional and behavioural difficulties as part of routine data collection in schools at preschool (age 4-5), P3 (age 7-8) and P6 (age 10-11) for the whole population. The Strengths and Difficulties Questionnaire is rated by teachers and, at P6, by children themselves and linked with administrative data held by education services and other sources.

This paper will discuss results following a cohort of children over their first six years of school from 2010 to 2016. Early analyses suggest that children from more disadvantaged backgrounds start with high levels of mental health difficulties and that these are exacerbated over time, leading to a dramatic increase in mental health inequalities between the poorest and most affluent children. Models suggest that schools have a role to play in this, with some schools appearing to have children who are developing better than others. Data linkage allows exploration of some of the factors which may play a role in this, such as school size and overall affluence of the school.

Child Health and Early Childhood Family Environments in Fragile Families

Lisbeth Trille G. Loft, University of Copenhagen, Denmark

To address barriers to children's development and families' social mobility, scholarship on social inequality has increasingly paid attention to the importance of child health. In this study we simultaneously consider implications of social disadvantage and children's health disparities. We use American data from the Fragile Families and Child Well-being Study to: 1) examine variation in poverty and family structure during their early childhood years (age one through five), and 2) determine if children born in poor health are more likely to spend their early childhood years in family environments typified by poverty and fragile family structures. Using sequence analysis and multinomial regression, we demonstrate that not only are children in poor health more likely to be born into poor fragile families relative to their healthy peers, they also are more likely to remain in these types of families throughout early childhood.

Can Evidence From Siblings Data Shed Light on The Impact of Family Structure on Child Mental Health?

Tarek Mostafa, Ludovica Gambaro, Heather Joshi, UCL Institute of Education, UK

One consequence of family change is an increasing minority of children not living with both natural parents. It is widely feared that living apart from a natural parent affects children's well-being. While associations have been found between non-traditional family structure and adverse outcomes, the underlying mechanisms are unclear. Is family structure responsible for these outcomes through absent parents, step parents, siblings not sharing both parents - or is the relationship confounded by other factors?

This paper investigates the effect of parental and sibling structure on children's externalising and internalising difficulties by addressing the following questions:

- 1- Do children who live with both natural parents show fewer problems than those with single or step parents?
- 2- Does the presence of half or step siblings affect children's mental health differently than that of full siblings, and can any effect be distinguished from that of the presence of a non-natural parent?
- 3- Do these associations persist when control variables, family and child fixed effects are included?
- 4- Do these associations vary with the age and gender of the child?

The data come from three- and five-year-olds in the UK Millennium Cohort Study and their older siblings at those surveys, forming a two-period panel of families with two or three children observed. We estimate fixed effects models at the family and child levels. There are 7,510 MCS children with 9,878 older siblings and 34,786 data points. In 69 percent of these cases the child is living with both natural parents and only full siblings.

Results show that children in single parent families are faring worse than children in step parent or two natural parent families even after controlling for family and child heterogeneity. This effect is magnified if the children are not all full siblings.

A Good Start Into Life: Effects of Maternal Socioeconomic Status on Perinatal Outcomes

Claudia Schmiedeberg, Laura Castiglioni, University of Munich, Germany

Hints can be found in the literature that perinatal outcomes such as delivery by cesarean section, preterm birth and low birth weight, but also breastfeeding, have long-term effects on child development such as childhood obesity and cognitive and behavioral outcomes. A number of studies have documented socioeconomic inequalities in perinatal outcomes even in countries with easy access to health care. Hence, maternal socioeconomic status may be associated with perinatal outcomes and breastfeeding due to of inequality in work and living conditions but also because more educated mothers may be more able to gather and process information about health behavior during pregnancy and the positive effects of breastfeeding. For instance, medical research has showed an association between smoking, obesity, stress, or unhealthy diet and negative perinatal outcomes. These factors tend to be associated with a lower socioeconomic status.

We investigate if mothers with a low socioeconomic status have an increased risk of adverse perinatal outcomes and are less likely to breastfeed their children. For our analysis we draw on data of the first seven waves of the German Family Panel (pairfam), a randomly sampled panel study of initially more than 12,000 individuals of the three birth cohorts 1991-1993, 1981-1983, and 1971-1973. About 2,000 children were born during the observation period 2008-2014. We focus on mode of delivery, preterm birth, birth weight and if the child was breastfed. In addition to mothers' education, occupation, and income as measures of socioeconomic status we include a number of control variables capturing mothers' situation and behavior during pregnancy. Our analyses reveal significant effects of socioeconomic status on outcome variables.

E4 CHILDREN & FAMILY

Symposium

Risky Behaviour in Danish Longitudinal Survey of Children in Denmark (DALSC)

Convenor: Mette Lausten

Summary: SFI - Danish National Centre for Social Research have a long history of collecting surveys for social research. This symposium will demonstrate our unique survey across an entire childhood including six waves. The Danish Longitudinal Survey of Children born in 1995 (DALSC) is the first longitudinal study in Denmark aiming to monitor children from birth to adulthood, allowing research into the relationship between living conditions in childhood and subsequent life as an adult. DALSC consists of three subsamples: (1) 6,000 children of Danish mothers; (2) 1,120 children born in Denmark by non-Danish citizenship mothers; and (3) 1,650 children who are or have at one time been placed in out-of-home care environments. Six waves of data collections have been carried out since 1996. Newest wave is collected in spring 2014 at age 18. Mothers and other caregivers are used as respondents in the first three waves through standardized face-to-face interviews. From age 11 the children have been face-to-face interviewed or have answered self-completed web-based questionnaires.

This symposium contains an introductory overview of the data, and 3 specific themes linked to growing up in Denmark.

Neighbourhood Quality and Juvenile Delinquency

Rikke Fuglsang Olsen, Lajla Knudsen, SFI – Danish National Centre for Social Research, Denmark

This paper provides novel evidence on the effects of neighbourhood quality on juvenile delinquency in a Scandinavian context. Using the DALSC and register data we employ 3 analytic methods to adjust for selection bias: OLS regression, a lagged dependent model, and a fixed effect model. Our preliminary results suggest that perceived neighbourhood quality net of individual and family characteristics has an effect on whether or not adolescents engage in criminal behaviour. The results thus suggest that interventions aimed at improving neighbourhood quality such as creating places and implementing activities in the neighbourhood for adolescents. Furthermore, initiatives that strengthen the collective efficacy and the adolescent residents' feelings of security in the neighbourhood could also reduce juvenile delinquency.

The Causal Effect of Age of First Drink and First Intoxication on Young People's Subsequent Cannabis Use: A Test of the Gateway Theory?

Jeanette Østergaard, Stine Vernstrøm Østergaard, Anders Holm, SFI – Danish National Centre for Social Research, Denmark

This paper examines how early use of legal substances, such as alcohol, is causing later use of illegal substances, such as cannabis. At age 18 almost all young Danes have been drinking and most of them to intoxication. By that time about half of them have also tried to smoke cannabis. In this paper we test the gateway theory: that a lower drug stage actually determines initiation of the use of a drug at a higher stage (Kandel, 2002). We do so by analysing whether the age of first drink and age of first intoxication have a causal effect on the likelihood of onset of subsequent cannabis use.

Methods: We use a timing-of-event model, developed to measure causal effects of the onset of one event on the likelihood of onset of another event (Abbring and van der Berg 2003, 2004). This method is applied on data from 'The Danish Longitudinal Study of Children born in 1995' (DALSC), a cohort survey study of 6,000 children born in 1995 and linked with administrative data.

Results: Our analysis supports the gateway hypothesis claim that onset of drinking and age of first intoxication causally affects the likelihood of onset of cannabis use. First drink increases the chance smoking cannabis by three times whereas age of first intoxication increases the chance of smoking cannabis by almost 11 times.

Conclusion: Our findings suggest that public measurements aimed at preventing young people from using illegal drugs such as cannabis should take into account how age of first intoxication is greater risk factor than age of first drink.

Mental Health Issues at 18: Pathways From Childhood to Adult Life Among Danish Youth

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

Using The Danish Longitudinal Survey on Children born in 1995 (DALSC), the purpose of this paper is to analyse the impact of poor early life course conditions on the prevalence of mental health problems in different groups of 18-year-olds. Consisting of three subsamples: (1) Children of Danish mothers; (2) Children with ethnic minority background; and (3) Children living in out-of-home care environments, data leaves great opportunity to analyse specific early life course events on different groups of teenagers. In this paper I will look closer at the prevalence of mental health problems at age 18, specifically looking at the DAWBA subscale on depressive symptoms, the Rosenberg Self-Esteem scale, Big5, and some specific ICD-10 diagnoses from the National Research Register of Psychiatric Diagnoses. Preliminary results show a huge correlation between early life course events and being diagnosed with mental health problems as teenager. But factors as high SDQ scores at age 11, being bullied through childhood, the feeling of loneliness at age 15, and several risk behaviours such as self-harm, drinking and smoking cannabis are not equally distributed among the three subsamples.

F4 GENERAL

Paper Session: *Employment and the Life Course*

The Role of Higher Education in Achieving Social and Economic Success for Graduates on “New” Career Pathways

Bozena Wielgoszewska, University of St. Andrews, UK

In the “traditional” careers, where higher education is typically followed by full-time paid employment, one’s investment of time, money and effort into a higher education degree is a guarantee of social and economic success in later life. More recently, a shift from “traditional” to “new” careers have been observed. Among the “new” careers, “entrepreneurial”, “work-life” and “non-standard” careers can be distinguished. The benefits of human capital, acquired via higher education qualifications, are less straightforward for graduates on these “new” pathways. While higher education is not a requirement for some well-paid jobs, for others the bare qualification is insufficient and the quality of the qualification becomes increasingly important. In this research information about 1623 university graduates are extracted from the 1970 British Cohort Study.

Intra-generational social mobility and change in labour market productivity are incorporated as measures of social and economic success. Visual tools from sequence analysis were used to build the career pathways typology and cumulative logistic regressions were used to examine the role of characteristics of the degree and characteristics of periods of education in achieving social and economic success, for graduates on different types of career pathways. The results indicate that differences in the degree subjects are important for achieving intra-generational social mobility, especially for people on “non-standard” careers. However, while frequency of educational spells and the quality of the awarding institution play a significant role in achieving economic productivity, it is mainly driven by gender differences. This implies that higher education might not be the most effective route to success for some individuals and points to the importance of alternative forms of capital and ways in which it is acquired.

Does Contextual Unemployment Matter for Health Across the Life Course? A Longitudinal Multilevel Study Exploring the Link Between Neighbourhood Unemployment, Individual Unemployment and Functional Somatic Symptoms

Anna Brydsten, Umeå University, Sweden

Individual health is not only affected by one's individual life conditions but also by the context in which individuals live, interact and develop. Research shows that living in a neighbourhood with high unemployment levels might affect residents' health, at least partially independent of own labour market status. However, how such contextual-individual transactions play out across the life course is unknown. The present study aims: i) to examine if neighbourhood unemployment is related to health status across the life course independently of the individual employment position; and ii) to analyse whether this relationship is observable at four specific life course periods from adolescence to middle-age (age 16, 21, 30 and 42).

Methods: A 26-year prospective Swedish cohort (N=992), linked to register data on neighbourhood unemployment. Neighbourhood unemployment was measured as the proportion of unemployed among the working aged residents in each neighbourhood. Individual unemployment and functional somatic symptoms (FSS) were measured by self-reported questionnaire data, with covariates such as socioeconomic status, previous health and social adversity. Two models of hierarchical linear regressions were built; a longitudinal three-level analysis, and a set of age-specific cross-sectional two-level analyses at age 16, 21, 30 and 42 years.

Results: The longitudinal analysis showed a modest but independent contribution of neighbourhood and individual unemployment on overall levels of FSS across the life course. The cross-sectional analysis showed an association between neighbourhood unemployment and FSS at age 30 when accounting for individual unemployment but no association was found at age 21 and 42.

Conclusion: These findings shows that unemployment in the neighbourhood have an overall importance for the FSS across the life course regardless of the own labour market status. The findings also suggest an age-specific pattern where contextual unemployment may have stronger implications at various stages across the life course.

Labor Market Attachment in Early Adulthood: A Trajectory Analysis Approach

Janne Salonen, Tapio Nummi, Antti Saloniemi, Pekka Virtanen, University of Tampere, Finland
The study concentrates on the life course in early adulthood from viewpoint of the entry to the labour market. Our special concern is in the young people with difficulties in attaining the studies and the employment. In that sense, the study is related to the NEET-debates as well.

We utilize individual-level register of the Finnish Centre for Pensions, which includes data about working and studying and payment of unemployment and other social benefits. The cohort includes all citizens born in Finland in 1987 (n= 51 131) they are followed up from 2005 (age 18) to 2013 (age 26).

Our statistical method is a multivariate version of trajectory analysis that applies finite mixture modelling to longitudinal data. We have modelled the information about four labour market outcomes (at work, studying, unemployed, social security) as a binary year level

dependent variable, and thus we apply a multivariate logistic regression model. Males and females are studied separately, as their life courses are assumed to differ.

The analysis revealed ten trajectories in both genders. In men, three of the trajectories depicted serious labour market problems, a total of 11 % of men belonged to these groups characterised as 'the sick', 'the long-term unemployed' and the 'excluded'. Among women, there were two trajectories where suboptimal employment was not explained by education: one reflecting maternal and parental and illness related leaves and another (<5% of the cohort) indicating possible 'exclusion'. Both men and women with labour market problems were relatively commonly living alone and in non-urban areas.

The effects of the difficulties of integrating in the labour market in early adulthood are not only temporary (unemployment, poverty) but detrimental as well from the point of the future life course: already before the age of 30, the amount of the accumulated working years, and correspondently the accrual of the earnings-related pension, is remarkably small.

Socio-Economic Differences in the Intensity and Quality of Student Employment: Evidence From Germany

Mila Staneva, DIW Berlin, Germany

A large body of literature deals with the persisting social inequality in the access to higher education in Germany. The research interest in social inequalities taking place during higher education is much weaker. The present article investigates potential horizontal inequalities in higher education stemming from the labor market participation of students. Using longitudinal data from a large survey on German undergraduates first enrolled in the winter term of 2010, I study the impact of social origin on the intensity of student employment as well as on the quality of work, assessed by four types of work experience – study-related work, higher and lower qualified non-study-related work and internships. By drawing on theoretical arguments from classical sociological approaches on education, it is argued that students from privileged social backgrounds would work less intensively during the semester and pursue the most rewarding student jobs in order to maintain their educational and social advantages. From a longitudinal perspective the article investigates whether such mechanisms of inequality shift between the semesters and the semester breaks.

The expectation is that during semester breaks the workload of lower SES students increases even more due to financial constraints, whereas higher SES students are more likely to use the time for acquiring valuable work experience through voluntary internships. The empirical results indicate that higher SES students are less likely to work during the studies, and if they do so, they work less hours and have higher chances for a qualified job. However, there is no evidence of socio-economic differences with respect to internships during the semester breaks. Further important questions are what factors mediate the link between socio-economic background and students' work experience and whether inequalities in the labor market participation of students diminish or expand in the course of their studies.

Parallel Session 5

A5 EDUCATION 1

Symposium

Differences in Educational Resources and the Intergenerational Transmission in the Life Course

Convenor: Wolfgang Lauterbach, University of Potsdam, Germany

Summary: Each individual's movement through life is affected by different personal life domains as well as generational family structures. The social and the economic domains are most important because they both unfold their influence over decades. Even more persisting are effects of the generational family structure, because the individual is embedded in this structure for the whole life. This domain extends from growing up in the parental home, to raising a family, watching one's parents getting older and finally becoming aware of the own aging process. However, life in middle adulthood is typically influenced by the generational family structure as well as resources which are acquired in childhood and adolescence. Thus, cultural and economic resources of the family, the educational and vocational level of the adolescent himself, the personal and social competences, the values and beliefs of the generational family structure, as well as institutional structures of labor market influence the social and economic position in middle adulthood influence the intergenerational transmission of values.

With this in view, it is our goal to shed some light on the life course paradigm. We question, to which extent the life course is an endogenous causal sequence of life patterns and transmissions of intergenerational values. First, our analysis covers different levels and variations in intergenerational transmission of values and practices. Second, we also consider the intergenerational stability in the social and economic development from late childhood to middle adulthood (age 45).

Thus, the three symposia investigate the persistence of interweaving intra- and intergenerationally transmitted preconditions over a life span of 33 years.

In symposium I, we address social inequality in the allocation of educational resources and its impact on different status and income positions in middle adulthood. The second symposium analyses the development of life courses in relationships, general life satisfaction and contentment in partnerships.

Furthermore - based on different educational levels - effects of those variables on the marital quality in middle adulthood as well as aspects of the participant's and its parents personality are investigated. Symposium III addresses the question of how educational practices, beliefs and political values are influenced by the parental family.

To address our objectives, we use data from the study *Pathways from Late Childhood to Adulthood. Context and Development in Adolescence as Predictors of Productive Life-Courses (Life)* (Lauterbach/Fend/Gläßer 2016). The Life study is a cohort study in which 1830 sixth-graders born in the years 1966/67 were first sampled in the years 1979 to 1983 (age 12 to

16). In two follow-up studies, they were interviewed again at the age of 35 (2002) and 45 (2012). We use regression analysis, mobility tables, path analysis, and structural equation modelling to address our research questions. Each presentation in one of the three symposiums not only presents new findings from the life study, but also compares those to results of comparable research.

Intergenerational Transmission of Parenting Beliefs

Urs Grob, University of Zurich, Switzerland; Fred Berger, University of Innsbruck, Austria
Parenting beliefs and parenting practices are both known to be intergenerationally transmitted, with the former generally receiving less attention in research. This paper presentation takes a close look at the parent-child transmission of means-ends beliefs about authoritarian principles in parenting. It draws on Social Learning Theory which provides a conceptual explanation for the basic transmission process. In order to explain moderation by gender and quality of the parent-child relation in youth, however, aspects of gendered socialization as well as personality psychology have to be considered, too. Using a measurement equivalent SEM-model it can be shown that the parents' beliefs about parenting when their child was 15 in fact have an effect on their child's beliefs at age 35 and even 45. Moderation effects by parent-child relationship in youth are present at age 35 and even stronger ten years later. On the other hand, the child's gender makes a difference only on the long run with the 45 years old females no longer being influenced by their parents beliefs 30 years before while the 45 year old males still show the same level of congruence with their parents beliefs as at age 35. In order to identify the causes behind the higher level of change of females in mid adulthood further mediational and moderational analyses are being presented.

Intergenerational Transmission of Parenting Practices

Fred Berger, Andrea Umhauer, University of Innsbruck, Austria
Past research has documented that present-day parents tend to use similar parenting practices that they themselves received in their childhood. A noticeable trend from this research was its predominant attention to the intergenerational continuity of abusive or harsh parenting and its reliance on retrospective reports. In contrast, this study investigates the intergenerational transmission of *constructive* parenting using a German longitudinal data set that spans three decades, obtaining adolescents' contemporaneous reports on their parents' parenting behavior in the early 1980ies and in 2012 (N = 566). Data are analyzed using a series of *structural equation models with multiple group* methods.

Consistent with earlier research, the results suggest that positive parenting in G1 predicts similar behavior in G2. However, after such a long time interval the size of the total effect of the intergenerational transmission of constructive parenting is only moderate. The study provides important new evidence regarding the developmental mediators and moderators that seem involved in the intergenerational transmission of constructive parenting.

Results indicate that personal resources of G2 mediate the relationship in positive parenting between the generations. The association between G1 and G2 parenting appears to be a function of the personal resources and competencies promoted by child rearing that is supportive and involved. Further, the quality of the parent-child relationship in adolescence proves to be an important moderator for the intergenerational continuity. A warm and

supportive parent-child relationship in adolescence corresponds with a stronger intergenerational continuity of constructive parenting. Findings are robust after the introduction of a variety of control variables. Several gender differences in the intergenerational transmission of constructive parenting practices are identified.

Intergenerational Transmission of Political Orientations

Urs Grob, University of Zurich, Switzerland

The family of origin is the first and, in a sense, primary place for the acquisition of politically relevant orientations in life. Parents find themselves in a powerful role and they have, in fact, a long lasting impact on the politics related values and preferences of their children. This paper presentation highlights the short, medium and long term intergenerational transmission (G1 to G2; G2 at ages 15, 35, and 45) of interest in politics and of political values – including transmission over two generations (G1 to G3). Special attention is given to the role of theoretically potential moderators such as intensity of verbal exchange, quality of the parent-child relationship in youth, and gender. Results show only low transmission rates of political interest but moderate ones for political values. With regard to the latter, there is even substantial transmission from grandparents to grandchildren. These effects remain even when taking into account the socio-economic status of the family of origin and of the offspring. Moderational effects, however impressive they are in youth, are fading out over time and on the long run only tendencies remain.

Intergenerational Transmission of Academic Values: A Look Into Dyad-Compositions

Burkhard Gniewosz, University of Munich, Germany; Peter Noack, University of Jena, Germany

Parents seem to socialize their offspring's academic values through social learning processes. Here, it is important to distinguish parent-child dyad compositions, because value transmissions should be more likely in same-gender dyads. This study investigates the transmission of academic values in the domains math and German language in a two-wave longitudinal sample (one-year time lag), comprising 1019 German 5th graders (at T1) and their parents (874 mothers, 730 fathers). Students and parents reported on their intrinsic, attainment, and utility values in the academic domains math and German. Moreover, students reported on their perceptions of their parents values. Multi-group (by gender) structural equation models tested longitudinal mediations of the actual parental value effects on the students' values as mediated through the students' perceptions. For German language, in all dyad compositions, significant indirect effects pointed to social learning processes. For math, a gendered pattern emerged. Boys were not indirectly affected by their fathers, while girls showed no significant indirect impact by their mothers. Moreover, boys generally perceived their mothers more accurately than girls did. The results will be discussed in terms of their implications for social learning processes as mechanism for academic socialization.

B5 EDUCATION 2**Paper Session: *Well-Being and Education******Timing and Sequence of Youth-Adult Transitions and Midlife Subjective Well-Being: A 25 Year Longitudinal Study***

Harvey Krahn, Nancy Galambos, Matt Johnson, University of Alberta, Canada; Angela Chow, Indiana University, USA

Thirty years ago, in an early and influential life course study, Rindfuss et al. (1987) addressed two questions – “how common [is “disorder in the life course”] and does it matter?” – by documenting impacts of “disorderly” (non-traditional) school-work transitions on transitions into parenthood. Since then, a growing body of research has shown how youth-adult transitions are taking longer than in the past and becoming even more disorderly. One or more of “five core transitions – leaving home, completing school, entering the workforce, getting married, and having children” (Setterberg and Ray, 2010) have typically been examined, frequently with longitudinal data. But most studies have not extended far beyond early adulthood. Hence, conclusions about transition patterns, and their outcomes, may be premature since some transitions may not be complete until closer to midlife.

This paper examines the timing and sequence of the five core transitions, along with a sixth (transition to home ownership), using a unique Canadian longitudinal study – the Edmonton Transitions Study (ETS), which tracked Canadian high school seniors for 25 years, from age 18 (1985) to age 43 (2010). In 2010, the 405 remaining study participants were asked in what year they last lived with their parents, completed their highest level of education, began their first full-time (non-student) job, were first married, first became a parent, and purchased their first home. Gender and SES differences in the timing and sequence of these transitions will be analyzed, along with the impact of (late adolescence) attitudes about the most appropriate sequences (e.g., completing education before getting married). The study will conclude by asking whether disorderly transitions really matter: do different patterns (timing and sequencing) of youth-adult transitions shape subjective well-being (e.g., happiness, and also satisfaction with family life, careers, and life in general) in midlife?

Flourishing at School in France: Creativity and Well-Being in Flux in Preadolescence?

Janine Jongbloed, Université Bourgogne Franche-Comté, France

In this study, we consider the education-work-well-being nexus over adulthood using data from the Paths on Life’s Way Project, a 28-year longitudinal study of the high school graduating class of 1988 in British Columbia, Canada. Our research investigates the consequences of educational trajectories and attainment for later job quality and personal well-being through path models. Although multiple lines of influence are considered, we focus on the way in which education impacts well-being both directly and indirectly through job quality. Guided by previous research (Hellgren et al., 2003; Huppert & So, 2011; Kompier & Ybema, 2009; Tausig, 2013), robust, multi-dimensional measures of both job quality and personal well-being, attuned to both subjective and objective dimensions of these life course markers, will be constructed and tested. Additionally, we examine the way outcomes shift by gender by exploring the impact of education on both characteristics of employment and well-being and how this differs for women and men.

The Paths project offers a unique perspective on the education-work-well-being nexus as it incorporates both survey methods and semi-structured interviews collected at six points in time: 1989, 1993, 1998, 2003, 2010, and 2016 (currently in process). The questionnaires and interviews were designed to explore the educational, career, and life course trajectories and accomplishments of students after high school graduation, as well as connected choices, beliefs, and expectations, and satisfaction, happiness, and well-being over time. Our research uses previously unexamined aspects of job quality and well-being by integrating dynamic indicators collected across time, while building on previous work done with this dataset (Andres & Grayson, 2003; Andres & Wyn, 2010; Andres, 2009).

Long Term Effects of Education on Life Satisfaction

Alexander Patzina, Institute for Employment Research, Germany

Meanwhile empirical evidence has shown that life satisfaction does not only depend on genetic factors but also on individual choices (among others: Easterlin 2003; Diener et al. 2006; Lucas 2007). But the impact of the educational decision on life satisfaction has barely been investigated. In recent years research began to scrutinize the relation between education and life satisfaction (Chen 2012; Cuñado/Gracia 2012; Del Mar et al. 2011; Michalos 2008). However, our literature review reveals a lack of longitudinal results on long term effects of education on happiness. But it is obvious that the returns to education may change over the life course and differ between educational groups.

In this vein, we address the following research question: How does life satisfaction of different educational groups develop over the life course and which mechanisms explain happiness differentials of different educational groups?

Regarding the question how the individual educational level affects life satisfaction over the life course we test three competing hypotheses (Yang 2008):

- (i) The cumulative advantage/disadvantage hypothesis which states that happiness differentials increase with age.
- (ii) An opposing reasoning claims that negative life events act as an equalizer. Hence, happiness differentials decrease over the life course.
- (iii) Personality traits cause stable, unmediatable differentials.

Using GSOEP data (1984-2012) and employing random effects growth curve models (we model the age effect using a flexible dummy variable approach) our results show strong effects of education on well-being over the life course that increase with age. This pattern is consistent with the general mechanism of cumulative (dis-)advantage. The impact of education on well-being seems to be mostly mediated by employment, income and health. While good employment and income seem to be causal mechanisms that are a result of education, the health pattern is rather consistent with a selection explanation.

Paternal Depression During Pregnancy and After Childbirth: Evidence From Growing Up in New Zealand

Lisa Underwood, Auckland University, New Zealand

Background: There is evidence that men whose partners are pregnant or have recently given birth are at risk of developing depression symptoms, especially if their partner experiences perinatal depression.

Aim: This study aimed to identify risk factors for antenatal and postnatal paternal depression.

Methods: An ethnically and socioeconomically diverse sample of 3528 men living in New Zealand completed interviews during their partner's pregnancy and nine months after childbirth. Depression symptoms were measured using the Edinburgh Depression Scale (EDS) and the 9-item Patient Health Questionnaire (PHQ-9).

Results: Antenatal paternal depression symptoms (EDS>12) affected 2.3% of fathers and were associated with paternal perceived stress (OR=1.4, 95%CI 1.3 to 1.5) and fair to poor paternal health (OR=2, 95%CI 1.1 to 3.5) during their partner's pregnancy. Postnatal paternal depression symptoms (PHQ-9>9) affected 4.3% of fathers and were associated with paternal perceived stress in pregnancy (OR=1.12, 95%CI 1.1 to 1.2), relationship status at nine months after childbirth (OR=5.6, 95%CI 2 to 15.7), fair to poor health at nine months (OR=3.3, 95%CI 2 to 5.1), employment status at nine months (OR=1.8, 95%CI 1.1 to 3.1) and a past history of depression (OR=2.8, 95%CI 1.7 to 4.7).

Conclusions: Expectant fathers are at risk of depression symptoms if they feel stressed or are in poor health. In this study, rates of depression were higher during the postpartum period and were associated with adverse social and relationship factors. Paternal depression was not associated with maternal depression when other factors were taken into account. Identifying who is most at-risk of paternal depression will help inform interventions to help men and their families.

C5 HEALTH 1

Symposium

Mental Health Across the Lifecourse: New Insights and Analyses From the Birth Cohort Studies

Convenor: Praveetha Patalay, UCL Institute of Education, UK

Summary: In this symposium we present three studies that use data from the national British cohort studies (1946, 1958, 1970 and Millennium) to investigate lifecourse development, earlylife predictors and cohort differences in mental health outcomes. Mental health outcomes are broadly defined and not only include symptoms of psychopathology or mental disorders but also well-being and quality of life.

In the first paper, Ploubidis et al. present lifetime trajectories from childhood into adulthood of anxiety and depressive symptoms in the three older cohorts (1946, 1950 and 1970) and demonstrate the cohort differences in the extent and lifetime distribution of mental ill-health of these cohorts.

The second paper, Wiggins et al., focuses on unpacking the childhood predictors of a range of outcomes (symptoms of mental disorder, quality of life, well-being, overall self-reported health and cognitive outcomes) and aims to untangling the differential impacts of early life factors on a range of mental health and related outcomes at an age where the 1958 cohort begin their journey into old age. The final paper turns the focus to childhood and uses data from the Millennium Cohort study. In this paper, Patalay et al., investigate a novel approach to identifying typologies in symptom development through childhood that are jointly based on emotional and behavioural symptoms simultaneously. Early life predictors of these typologies will be investigated to assess if there are differential predictors of these cross-domain developmental typologies through childhood.

Depression and Anxiety Over the Life Course in the UK: Evidence From the 1946, 1958 and 1970 Birth Cohorts

George Ploubidis, Praveetha Patalay, Bilal Nasim, Alissa Goodman, Marcus Richards, University College London, UK

While the huge costs to society and to the economy of poor mental health are undisputed, the idea that the experience of symptoms of anxiety and depression in adulthood is increasing across generations has not been much discussed, and yet if true, is of major societal and population health significance. Younger cohorts in the UK have gained years of life expectancy, but if the added years are to be lived healthily, a necessary condition is that they are healthier compared to older cohorts. This paper addresses the level of symptoms of anxiety and depression experienced from childhood to adult life in men and women born in 1946, 1958 and 1970. Comparing these cohorts, we ask whether experiencing symptoms of anxiety and depression has increased, whether this increase is homogenous to all stages of the life course and if there are between cohort differences in the age distribution of these symptoms. Latent variable measurement models were employed to derive dimensions of depressive and anxious symptoms and growth curve models to obtain their population average trajectory over the life course. Our findings suggest that men and women born in 1970 report more depression and anxiety symptoms than those born in 1946 and 1958 and that these differences appear to emerge in early adult life. The differences were more pronounced in men resulting in a closing of the gap on women's historically higher levels of psychological distress. Our observation of higher average level of depression and anxiety symptomatology in the 1970 cohort increases the likelihood of expansion of mental health related morbidity, assuming that the observed difference will persist in the future. This finding has important implications for public health policy in the UK, considering population ageing and that depression is a leading cause of Disability Adjusted Life Years.

Does Childhood Have a Legacy for What Makes You Healthy and Well at Age 50 Years? Evidence From the 1958 British Birth Cohort

Dick Wiggins, Praveetha Patalay, Brian Dodgeon, George Ploubidis, University College London, UK

In this paper we examine the extent to which childhood influences an individual's health and well-being using a broad range of health and well-being outcomes at age 50 years from the National Child Development Study (1958 birth cohort). Our analysis focuses on symptoms of mental disorder, quality of life, well-being, overall self-reported health and cognitive outcomes as measured at age 50 years.

Well-known validated outcome measures included in this exploratory study are the Warwick-Edinburgh Mental Well-Being Scale (well-being), CASP (quality of life), SF-36 (self-rated health), the Malaise Inventory (psychological distress) and cognitive assessments (including word recall, delayed recall, vocabulary and letter cancellation assessments). Data were available for 8,600 participants with available outcomes at age 50 years. A range of early life predictors (from birth to age 16 years) including parental education, social class, birthweight, family size and structure, parental working, maternal smoking during pregnancy and mental health are included in analysis. Our analytical strategy conditions on a common set of early life circumstances across a range of important indicators of health and well-being at age 50 years. Separate multivariate regression models for each outcome will reveal the extent to which childhood matters for early old age health and well-being. The analysis will allow a comparison of the early life predictors on these range of outcomes at age 50 years, thus allowing us to map out the relative importance of the childhood factors for the different outcomes. The analysis presents a novel way of untangling the differential impacts of early life factors on a range of mental health and related outcomes at an age where the cohort begin their journey into old age. Testable mechanisms in early adulthood through which these early life predictors impact on age 50 outcomes will be presented.

Typologies in the Development of Emotional and Behavioural Problems Through Childhood

Praveetha Patalay, George Ploubidis, Alissa Goodman, University College London, UK

Developmental typologies of emotional (or internalising) and behavioural (or externalising) symptoms have been investigated for almost 2 decades now, however, they are always investigated separately with little consideration of the moderate-high correlations between these two domains in childhood. There is increasing evidence supporting the high concurrent and sequential co-morbidities between these two domains through childhood. In light of their high co-occurrence, studies attempting to understand typologies based on development in these two domains might benefit from considering typologies based on development across the two domains jointly, rather than considering them separately. Data from the first 5 sweeps of the MCS are analysed in this paper to identify the typologies of symptom development across both these domains of childhood mental health and understand their early life predictors. Participants with data at least two sweeps are included in the models (n=15,444). Latent class analysis were conducted with internalising and externalising symptoms to identify a meaningful typology with the best fit to the data. As expected, most children have low levels of externalising and internalising symptoms (59%). A fifth demonstrate low internalising but moderate externalising over childhood, 11% demonstrate the opposite (low externalising and moderate internalising symptoms) and 4-5% demonstrate high symptoms in each domain with low-moderate symptoms in the other domain. Early life predictors (such

as birthweight, maternal smoking during pregnancy, developmental milestones, cognitive assessment scores, parental warmth etc.) of the different developmental typologies will be investigated using multinomial regression. By considering development in symptomatology jointly across these prevalent domains of mental health, we hope not only to identify more meaningful classification based on symptom development through childhood, but also investigate whether antecedents of differential symptom development are indeed unique.

D5 HEALTH 2

Paper Session: *Long-Term Health Effects of Childhood Conditions*

Sensitivity of UK Adolescent Health and Behaviour to Income Status Throughout Childhood: Total, Direct and Indirect Effects

Michael Green, University of Glasgow, UK

Adolescents from low income households tend to have worse health and health behaviours. However, it is not clear whether income matters most at early ages or more proximally to adolescence. Household income was obtained annually from birth to age 16, for 16 year olds surveyed in the British Household Panel Survey and UK Household Longitudinal Survey from 2007-2014 (n=1408). Low income was coded as the lowest third of the distribution for a given year (sensitivity analyses with 15% and 50% thresholds produced similar results). Path analyses using probit regression were used to obtain total, direct and indirect effects (via later income) of low income at each age, adjusting for cohort and gender. Outcomes at age 16 were psychiatric distress (GHQ score>3), daily smoking, and whether health limits activities. Household income in childhood was not associated with adolescent psychiatric distress, but each year of low income led to an increase of approximately 0.003 in the probability of adolescent smoking and 0.001 in the probability of health limiting activities ($p<0.05$ for both; base probabilities for those never experiencing low income were 0.153 and 0.057 respectively). Allowing direct effects to vary with the age at which income was measured did not improve model fit in either case; direct effects were consistent in magnitude throughout childhood. However, total effects of income at earlier years were somewhat larger, being mostly constituted of indirect effects via income stability over later years. Low income at birth for example, increased the probability of adolescent smoking by 0.018 and that for health limiting activities by 0.006. Interventions on household income to improve health and behaviours in adolescence may be most effective at birth or during early years, but only if interventions lead to stable income improvements over a number of years.

Household Crowding During Childhood and Long-Term Education Outcomes

Andrew London, Syracuse University, USA

Household crowding, or having more household members than rooms in one's residence, could potentially affect a child's educational attainment directly through a number of mechanisms. We use longitudinal data from the Panel Study of Income Dynamics to derive new measures of childhood crowding and estimate negative associations between crowding during one's high school years and, respectively, high school graduation by age 19 and maximum education at age 25. Specifically, we find a one standard deviation increase in the mean household crowding ratio (HCR) during one's high school years is associated with a 3 percentage point decline in the probability of high school graduation, which is equivalent to

a 4.2 percent decrease. Crowding during other developmental periods does not affect the likelihood of high school graduation.

Similarly, crowding during one's high school years is negatively related to one's completed education by age 25; a one standard deviation increase in crowding during one's high school years is associated with a 0.19-year decline in maximum education by age 25, which translates into a 1.4 percent decline. Again, crowding during other developmental periods is not related statistically to one's educational attainment. These negative relationships persist in multivariate models in which we control for the influence of a variety of factors, including socioeconomic status and housing cost burden, as well as in models in which we use fixed effects to match children based on their per capita family income and crowding in early youth in order to address potential bias due to unobserved socioeconomic factors.

Given the importance of educational attainment for a range of mid- and later-life outcomes, this study suggests that crowding during one's high school years is a distinct engine of cumulative inequality over the life course. Leonard M. Lopoo is the lead author on this paper.

Aspects of Self-Regulation in 3-Year-Olds in Relation to Parenting Routines and Risk for Obesity at Age 11 in the Millennium Cohort Study

Sarah Anderson, The Ohio State University, USA; Amanda Sacker, Yvonne Kelly, University College London, UK

Prior research indicates preschool-aged children with earlier and regular bedtimes, frequent family meals, and limits on screentime have lower risk for obesity. These parenting routines also support children's self-regulation, and difficulties with self-regulation have been linked to obesity. However, how routines relate to aspects of self-regulation in early childhood and predict obesity remains poorly understood.

Through longitudinal analyses of the UK Millennium Cohort Study (MCS), we investigate how children's self-regulation in the domains of emotion and independence relate to parenting routines and predict obesity. We hypothesize that better emotion regulation will predict lower risk for obesity, and function as a mediator between routines and obesity.

The MCS enrolled >18,000 UK children born in 2000-02. At age 3, primary caregivers (99% biological mothers) reported on consistency of children's mealtimes and bedtime, and daily hours of television/video, and completed the Child Social Behavior Questionnaire—10 items in 2 subscales (emotion regulation and independence). Standardized protocols were used to measure height and weight; the prevalence (95% CI) of obesity at age 11, defined based on IOTF guidelines, was 6.2% (5.6, 6.7).

Our analyses (n=10,995) adjust for sampling and non-response. Children with regular bedtimes and mealtimes and less screentime had better emotion regulation, but parenting routines were not consistently associated with independence. Adjusting for covariates, age 11 obesity was related to age 3 emotion regulation (P=0.002), but not to independence (P=0.99); children who had more difficulties regulating emotion (e.g., easily frustrated) had higher prevalence of obesity (odds ratio, 95% CI=1.5, 1.2-2.0). Of the parenting routines examined, having a regular bedtime was most strongly predictive of obesity risk. Preliminary mediation analyses suggest that, in contrast to our hypotheses, poor emotion regulation and

lack of consistent bedtime in early childhood function as independent predictors of later obesity. These complex relationships will be further explored and quantified.

Does Early Life Matter for Health Later in Life? A Global Scale Comparison of SHARE, ELSA, and HRS

Eduwin Pakpahan, European University Institute, Italy

Socioeconomic status (SES) and health during childhood are associated with health in later life. However, the exact pathways of these associations are not fully understood. Key challenges are the multidimensional characteristics of SES and health itself, and taking into account relevant mediators in the lifecourse. Our objective is to disentangle the association between childhood and health in later life: what are direct effects, what are the mediators, and what are important periods in the lifecourse to influence health outcomes?

We use data from the Survey of Health Ageing and Retirement in Europe (SHARE, n=17,230), the English Longitudinal Study of Ageing (ELSA, n~7,855) and the Health and Retirement Study (HRS, n~25,000). All these surveys have current and retrospective data on SES and health during the lifecourse starting in childhood. We measure childhood SES and health circumstances and examine their associations with old-age health and their possible pathways via education, adult SES and behavioural risks. In separate models, we compare different objective and subjective health outcomes including biomarkers. We employ structural equation modelling and present the mechanism of the long lasting impact of childhood SES and the role of mediators. We will add historical information on the social and economic national contexts in childhood to interpret country differences.

At this stage of our analysis, results from SHARE show that childhood SES is substantially associated with old age health but this is almost fully mediated by education and adult SES. Childhood health and behavioural risks have a strong effect on old-age health but they do not mediate the effect of childhood SES. We discuss the notion of long arm of childhood and conclude that it is a long mediated stepwise pathway rather than a direct effect. Policies should focus on childhood, but this is not the only entry point for improving old-age health.

E5 CHILDREN & FAMILY

Paper Session: *Family Relations, Dissolution and Re-Marriage*

The Transmission of Insecurity From the Working Sphere to the Private One. The Consequences of Unemployment on Couple Stability in Germany

Elena Chincarini, University of Bamberg, Germany

With the recent economic crisis, greater attention has been conferred upon the spillover of labour market insecurity on families. While flourishing literature extensively focuses on the impact of unemployment on the union formation processes or on the transition to parenthood, relatively little is known about the possible relation between unemployment and couple dissolution. The few existing empirical evidences show that the job loss of male partner destabilizes the couple, while the female one seems to have rather a protective effect, even in countries where dual earners couples are diffuse. Thus, this paper aims to cast light on the responsible mechanisms which take play in couples following the partners' unemployment. While the male partner's unemployment means the loss of his economic,

sociological and psychological role of provider for suitability of the family, the female partner's one assumes a different meaning for couples according to the division of power within the partners. Furthermore, the effect of accumulation of labour market insecurity is addressed.

Empirically, this paper draws on longitudinal data from German Socio Economic Panel (GSOEP). This choice is both theoretically and empirically driven. On the one hand, German labour market is characterized by general high levels of unemployment rate and a rigid and traditional structure, still dominated by a male bread winner model. On the other hand, GSOEP offers a wide range of representative data, from 1984 until now, both at the individual and the household level about family evolution, labour market and occupational dynamics. Finally, discrete time event history models are used with a couple perspective, which allows to control and merge both partners' characteristics.

Cobbler, Stick to Your Last! Educational Assortative Mating and Remarriage in Germany

Gwendolin Blossfeld, Leibniz Institute for Educational Trajectories (LifBi), Germany

Research has mainly analyzed women's educational assortative mating with regard to their entry into first marriage. An analysis of the effect of the educational match of a first marriage on women's mate selection with regard to remarriage is clearly missing. It is well-known that homogamy in mate choice organizes people in families and determines the characteristics of parents and, thus, has an effect on social inequality. The following consequences can be distinguished as a result of homogamy in couple relationships: (1) social and economic inequality within a generation, (2) social and economic inequality between generations, (3) long-term population changes, and (4) relationship quality and its effect on divorce. This contribution focusses on the social and economic inequality within a generation that can occur as a result of the accumulation of disadvantages/advantages over the life course.

Using life course data from the German National Educational Panel Study (NEPS), we study women's entry into a second marriage by educational match as competing risks with event history models. Based on the NEPS data set, we use information on the education of the ex-spouses at the beginning of first marriage and the spouses at the beginning of women's second marriage. For each partner, we distinguish four educational attainment levels. Based on these four hierarchical levels, we define the following three destination states for women's remarriage: (1) 'Non-Traditional Marriage' for women who married/marry a less educated partner (downward marriage), (2) 'Homogamous Marriage' for women who married/marry a partner with the same level of education, and (3) 'Traditional Marriage' for women who married/marry a more educated partner (upward marriage).

Change in the Educational Gradient of Parental Divorce in Spain and Children's Educational Attainment

Chiara Comolli, Fabrizio Bernardi, European University Institute, Italy

Marital disruption in the last decades has become more and more common, and the literature on its determinants and consequences for children has flourished substantially even though findings are far from conclusive. In this paper we shed light on the heterogeneous socioeconomic determinants and consequences of divorce in Spain. Empirical evidence on determinants of marital dissolution has shown a reversal over time of the educational gradient of divorce in many countries. However, results on Spain show that during the

nineties the gradient was positive or null. In this paper we first verify, using recent data (2013 Encuesta Social General Espanola), whether an educational gradient of divorce exists.

Secondly, we address the heterogeneous effects of parental separation on children's educational outcome, depending on parental background. Empirical evidence is divided between studies showing that socio-economically advantaged families manage to buffer their offspring from the negative consequences of divorce, and studies finding that the divorce penalty is instead smaller among children with a lower socioeconomic origin.

There are theoretical explanations for both results but we are particularly interested in the selection mechanism into divorce that might also explain children educational outcomes.

As a third contribution we link the analysis on the educational gradient of parental separation to the one on the consequences of parental separation on children's educational attainment by parental education. Since divorce is not a random event but it is more likely to occur in troubled families, there might be unobserved characteristics influencing both parental separation and children education. The issue is whether there is selection by parental education on the risk of divorce based on unobserved characteristics that also affect children education.

Using an Heckman selection model for the educational determinants of marital dissolution and consequences for children with divorced parents with different educational levels, we aim at identifying this selection mechanism.

F5 GENERAL

Paper Session: *Longitudinal Surveys*

Age-Sensitive Content and Methodological Solutions in Growing Up in Australia:

The Longitudinal Study of Australian Children

Karena Jessup, Australian Institute of Family Studies, Australia

Growing Up in Australia: The Longitudinal Study of Australian Children (LSAC) is now in its 12th year. Six waves of data have been released, with the seventh wave currently being collected. Across these data collection waves, content has been centered around three key developmental areas: health and physical development; social and emotional functioning; and learning and cognitive ability. The content within these domains has grown with the young people to effectively cover the transition into adolescence and young adulthood. With the Kindergarten Cohort aged 16-17 years of age at Wave 7, the life circumstances of our Study Children may have changed significantly – we have Study Children who have finished school, started work, have moved out of home, and have had children. Some of the new content is highly sensitive in nature and key concerns are protecting informants from the potential harms of asking such questions, how much information to give parents about the sensitive questions, and how to support interviewers. The addition of new content and new life circumstances has had significant flow-on effects regarding the management of various aspects of the study, such as methodology, respondent engagement, respondent protection, communication with Study Children and parents, and interviewer training and procedures. In this paper, issues that have arisen during key developmental phases will be examined,

including those to be faced in future waves of LSAC as the Study Children continue into adulthood. The approaches taken to address these issues will be discussed.

Mixed-Mode Data Collection in the Russian Panel Study ‘Trajectories in Education and Careers’: The Reflection on the Methodological Experience

Valeriya Malik, National Research University Higher School of Economics, Russia; Mariya Ozerova, Institute of Public Opinion Foundation, Russia

This paper provides an outline of experience of mixed-mode data collection in Russian panel study ‘Trajectories in Education and Career’ (TrEC). TrEC national cohort study is a longitudinal follow-up of TIMSS (Trends in Mathematics and Science Study) 2011 8th grades participants which is conducted yearly. The initial sample included 4893 respondents of 210 schools from 42 regions of Russia (see trec.hse.ru for details).

As TIMSS sample is institutionally-based, in the first waves respondents are available for survey in their schools. Later we need to identify respondents’ contact details and place of studying when they reach points educational trajectories change, i.e. after the 9th grade when part of respondents go to vocational schools or after the 11th grade when the rest of respondents leave schools and enter universities or secondary school. In the second and third waves, when respondents were in general schools or vocational schools, f-t-f interview or self-completion questionnaires were the main mode of data collection, the response rates equalled 84% and 87% of the TIMSS sample. In the fourth wave, conducted in 2015, all the respondents left schools, many entered universities, changed addresses etc. This demanded a revise of data collection strategy and Institute of Public Opinion Foundation (survey company) chosen to use online method as the main mode. Three fourth of this wave participants were surveyed online, which resulted in 74% response rate. In the paper we describe implemented field procedures and compare characteristics of those who prefer online and offline modes of interview analyze influence of data collection mode change on attrition.

Building a New Life in Australia: The Longitudinal Study of Humanitarian Migrants - Cohort Overview and Education and Labour Force Participation Following Arrival to Australia

Ben Edwards, Australian Institute of Family Studies, Australia

Humanitarian migrants are fleeing trauma and persecution and the implications of this mass migration into Europe are profound. This presentation outlines a new evidence base for policy development from one of the most successful countries in integrating migrants from overseas, Australia.

The Building a New Life in Australia study is a five-year longitudinal research project that aims to provide a broad evidence base to assist policy development and program improvement and better understand the factors that influence humanitarian migrants settlement processes. More than 1,500 individuals and their families (totalling close to 2,400 respondents) who had been granted a permanent humanitarian visa to live in Australia participated in Wave 1, and 2,009 respondents participated in Wave 2 (84% retention rate). Participants come from diverse cultural and linguistic backgrounds (mostly from Middle East - Iran, Iraq and Afghanistan) and are living in urban and rural areas and in all states of Australia. Most had arrived in Australia between 3 and 6 months prior to the first wave of data collection. The questionnaire was translated into 14 languages.

This paper will describe the methodology and survey design of the first three waves of this ground-breaking study. It will then focus on the education and labour force participation of humanitarian migrants, a key factor in the successful settlement in a new country. Research suggests that humanitarian migrants have a strong motivation to find work in their new country, but may face barriers in securing employment. We will focus on stability and change in the participants' education and employment status over time (at three time points: prior to arrival in Australia, at Wave 1 and at Wave 2). Differences in these key outcomes for male and females, and by visa sub-class, will be explored, along with the factors associated with improvements in rates of employment.

Now We Are "Ready for School": Profiling the Growing Up in New Zealand Cohort at 4 Years of Age

Susan Morton, University of Auckland, New Zealand

Growing Up in New Zealand is the country's largest and most comprehensive longitudinal study, following the lives of nearly 7000 children born in 2009 and 2010 from before they are born until adulthood. This talk will describe the status of these children, who represent the diversity of contemporary NZ pre-schoolers, when they are four and a half years of age and coming to the end of their pre-school days. We will use the longitudinal information available from multiple data collection points to describe their early growth and developmental trajectories and to describe the individual, familial and broader environmental characteristics that are associated with differential patterns of early development for NZ children - including anthropometry (NZ rates of childhood obesity are amongst the worst in the OECD), child behaviour (SDQ has been measured at 2 and 4 years), and cognition. At a cross-sectional level we see many disparities in outcomes within the NZ child population with Maori and Pacific children being much more likely to be doing less well than their NZ European peers across many key developmental domains. However, the cross sectional measures do not help us to understand why we see these disparities and what we need to do to create positive change. The longitudinal view will provide us with new ways to understand the origins of these early life disparities that often translate into lifelong burdens in terms of well-being, educational outcomes and broader engagement in society. The longitudinal analyses will provide us with a much fuller understanding of "what works" in terms of early life environments that lead to resilience in the face of early life disadvantage. This population relevant knowledge can then be applied to help find new solutions to reduce the burden of entrenched health and education inequities within the contemporary NZ child population.

Factors Influencing Attrition of Parents and Children in Growing Up in Australia: The Longitudinal Study of Australian Children

Karena Jessup, Australian Institute of Family Studies, Australia

Growing Up in Australia: The Longitudinal Study of Australian Children was designed to provide data that enables a comprehensive understanding of children's development within Australia's current social, economic and cultural environment. Since 2004, two cohorts of 5,000 children and their families have been interviewed every two years. The "Baby" and "Kinder" cohorts were interviewed for the seventh time in 2016 and were aged 12-13 and 16-17 respectively. Since the beginning of the study, response rates have been declining and new challenges in maintaining respondents are arising as the children move into adulthood. This paper will present the pattern of attrition over the life of the study as well as findings from the analysis of the individual and family characteristics that impact on attrition (e.g.,

age, educational level). Questionnaire data can provide further insights into the time pressures, activities and emotional lives of the respondents, and we will also present findings from the analysis of this data. These analyses can give us a more comprehensive picture of the factors that impact on study participation and allow us to identify effective engagement strategies.

Keynote Presentation

Language and Its Acquisition: Influential Conditions and Impact on Child Development

Sabine Weinert, University of Bamberg, Germany

Language input and language acquisition are highly relevant to child development and school learning. However, the promotion of language is not a trivial endeavor as many studies show. Drawing on theoretical models and empirical results of various longitudinal, experimental, and quasi-experimental studies the focus of the talk will be twofold: On the one hand, empirical evidence will be presented on how language and language acquisition impact cognitive, metacognitive, socio-cognitive, and socio-emotional child development as well as school learning. On the other hand, selected internal and external conditions that affect language acquisition will be discussed based on theoretical assumptions and empirical evidence. Special emphasis will be given to the changing interrelations between language acquisition and progress in other domains of child development as well as to social disparities.

Parallel Session 6

A6 EDUCATION 1

Symposium

Educational Inequality and Social Consequences on the Life Course

Convenor: Wolfgang Lauterbach, University of Potsdam, Germany

Patterns of Social Life Courses

Jana Gläßer, University of Potsdam, Germany

Since the 1960s a pluralization of living forms occurred in the most western societies. In individual life, especially between the age of 20 to 35/40, it is found that individuals marry late and pass through a number of living forms.

Responsible for this development was in general the increasing educational level – especially for women – the liberalization of values connected to the family and the introduction of flexible working arrangements during the entry process in the labor market. These changes have often been analyzed in cross-sectional studies. But to examine the dynamic of individual social life courses, one has to take a longitudinal perspective, which has been neglected by most other studies so far. I will ask: what are the main patterns of living forms throughout the life course and what are the differences between them?

Furthermore, it will be tested whether attitudes in youth concerning the later living arrangements or the personality have any influence on the chosen living form during the life course. I will use sequence analysis to examine the dynamic of individual social life courses

and logistic regression to test whether patterns of living forms are influenced by personality traits and attitudes in the youth.

Unequal Resources in Adolescence and Marital Quality in the Life Course

Andrea Umhauer, Fred Berger, University of Innsbruck, Austria; Helmut Fend, University of Zurich, Switzerland

In this paper, the predictive power of relationships with parents, peers, and romantic partners in adolescence on the marital quality in adulthood is examined. It is hypothesized that relationships in adolescence both inside and outside of the family of origin influence the development of romantic relations later in life. In addition, marital quality in early and middle adulthood is predicted from aspects of the adult life situation.

The paper draws on data from a German longitudinal study that covers more than 30 years of development. It was first conducted in the 1980ies with adolescents aged 12 to 16. In 2002 and 2012 it was resumed, when participants were 35 and 45 years of age, respectively. The sample consists of nearly 700 participants. They reported on their relationships in adolescence as well as on their life situation and marital quality in adulthood. Hierarchical regression analyses were conducted.

Results demonstrate that the quality of the relationship with parents, peers, and romantic partners in adolescence contributes uniquely to the development of romantic relations later in life. For example, a conflict-ridden parent-child relation in adolescence proves to be associated with an elevated risk for conflict and dissatisfaction in the adult love relationship. However, the predictive power of adolescent variables is quite modest, being somewhat stronger for women than for men. Generally, aspects of the adult life situation (e.g. parenthood) have a greater impact on marital quality than early social experiences. Additional analyses will test if the influence of adolescent relationships decreases with increasing age of the participants.

Long Term Effects of Educational Competencies on Overall Satisfaction

Kai Schudel, University of Zurich, Switzerland

Self-worth is the emotional evaluation of the self and serves as a central variable for life satisfaction. It is substantially formed in adolescence and quiet stable across the life course. Thus, three central social contexts in adolescence – parents, teachers and peers – can have a long term influence on life satisfaction. However, this question has not been examined so far. Therefore, long term effects of perceived parental, teacher and peer acceptance at age 15 on self-worth and life satisfaction at age 45 is examined. Longitudinal studies extending over transitions across life stages are rare. With Life Study it is possible to examine long term developmental effects from age 15 in 1982 to age 45 in 2012. The analysis will be conducted by structural equation modeling. Life satisfaction at age 45 serves as criterion. Predictor variables at age 15 are: perceived parental, teacher and peer acceptance. Mediating variables are self-worth at age 15 and age 45. The analysis will be controlled for sex, for educational achievement at age 15 (educational level, verbal intelligence) and for socioeconomic status at age 45 (unemployment, ISEI, household income, parentage). Findings underline the crucial importance of peer acceptance in adolescence even for life satisfaction in middle adulthood. This effect is partially but not totally mediated by self-worth. Parental and teacher acceptance show no long term effects.

The Transition to Adulthood in Europe and China: A Comparative Panel-Analysis of Trajectories in the United States, Germany, China and Taiwan

Bernhard Nauck, University of Chemnitz, Germany

Trajectories to adulthood differ considerably cross-culturally with regard to the prevalence, the timing and the sequencing of events, such as the timing of home leaving, the prevalence of a moratorium between education and employment, or the sequencing of cohabitation, marriage and parenthood. Using panel studies from the United States (National Longitudinal Studies of Youth) Germany (German Family Panel), Taiwan (Taiwan Youth Project) and China (Chinese Family Panel Studies), the interplay of structural effects of the respective institutionalization of school-work transitions, of kinship systems and of welfare state regulations on individual choices in intergenerational housing, on the length of a moratorium between school and work, and on the entry into relationships and parenthood are demonstrated.

B6 EDUCATION 2

Paper Session: School Context and Educational Equality

The Impact of the Comprehensive School Reform in Sweden and the UK on Class Differentials in Educational Attainment

Andreas Hoherz, Stockholm University, Sweden

The degree of intergenerational mobility varies strongly across Europe. The institutional setting is arguably the main determinant of the variation, but the country-specific mobility patterns were not altered by the institutional changes during the 20th century. An exception is Sweden, where relative social mobility increased in the post-war era. Several studies showed that this was mainly due to the comprehensive school reform (CSR), and it is nowadays widely believed that late tracking reduces class differentials in educational attainment. Most evidence comes nevertheless from Nordic countries, as few countries outside Scandinavia reformed their school system on comprehensive lines. One of them is the UK, where cross-sectional and longitudinal findings indicate a zero or even negative reform effect on social fluidity.

The aim of this paper is to compare the CSR effect on class differentials in educational attainment and social fluidity in Sweden and Great Britain directly. The reform was in both countries executed at different pace across school districts. We utilize this regional and temporal variation across 4 birth cohort studies, the NCDS (1958) and BCS (1970) in Britain and the UGU (1949 and 1953) in Sweden, to estimate the reform effect on the transition to different school tracks as well as the class destination. All four cohort studies offer furthermore scores from ability tests before the children entered secondary education. The preliminary diff-in-diff estimations show opposite reform effects, as the CSR increased the probability of entering the academic school track for service class children with low initial abilities in the UK and for working and under class children with high abilities in Sweden. The British findings might be due to the abolishment of the exam-based selection for the academic track (11plus exam), which excluded less able service class children from the necessary pathway for status maintenance.

Educational Inequality at the Transition to the Academic Track in East and West Germany

Pia Blossfeld, University of Oxford, UK

In this paper I am interested to find out whether the effect of social origin has changed at the transition to Gymnasium in the process of educational expansion in East and West Germany. Using new longitudinal data on educational trajectories from the adult cohort of the NEPS, I distinguish three social origin effects, namely parental class, status and education. These three origin indicators represent different kinds of mechanisms and processes of how social origin influences the transition to Gymnasium. My analysis includes birth cohorts from 1944 to 1986. In other words, I am able to examine differences in access to Gymnasium in the former GDR and FRG before 1990 and compare it with the situation afterwards in reunified Germany. I apply a binary logistic regression (dependent variable: making the transition to Gymnasium versus making the transition to the non-academic track). The transition to Gymnasium plays an important role for the later likelihood to attend and complete professional colleges or universities in East and West Germany. My empirical findings show that parental class, status and education play an important role for the transition to Gymnasium in the former GDR and FRG as well as in reunified Germany. The social origin effects are all stable across cohorts in East and West Germany for men. However, for women my empirical findings show that educational inequality declined across birth cohorts.

New Game, New Chance? Alternative Pathways to Higher School Qualifications and Social Inequality in German Secondary Education

Sandra Buchholz, University of Bamberg, Germany

In Germany, research on inequalities in secondary education has concentrated mainly on the unequal allocation of primary school children from various social backgrounds to secondary schools. Undoubtedly, this transition is a very important milestone in individual educational careers. However, the strong focus on this early transition neglects the fact that individuals can correct their original positioning in secondary education by pursuing alternative paths. These alternative paths have been introduced to reduce inequalities by offering children from less favourable social backgrounds a 'second chance' to attain higher secondary education. So far, little is known about the relevance of such atypical paths of secondary education or about the social inequalities they harbour.

Our empirical study addresses this lack of knowledge and complements the picture of social inequalities in German secondary education from a longitudinal perspective by analysing whether individuals choose to upgrade their initial level of secondary education by attaining a higher secondary school qualification later on. Using newly available longitudinal data from the German National Educational Panel Study (NEPS), our results show that the strong focus of existing research on the first allocation of individuals to secondary schooling after primary education provides an only incomplete picture of inequalities in opportunities in secondary education because a significant proportion of individuals (overall, about 25 per cent) are able to upgrade their initial level of secondary education. Hence, the highly stratified German educational system is far more open than many scholars have recognized up to now.

Nonetheless, this openness has not reduced inequalities. Quite the contrary, inequalities are deepened further, because it is especially members of already privileged social groups who use alternative paths in secondary education. Hence, we find an accumulation of educational inequalities across individuals' schooling careers in Germany.

C6 HEALTH 1

Paper Session: *Ageing and Health*

Health and Retirement Age: Investigating Birth Cohort and Gender Differences in Sweden

Harpa Sif Eyjólfsdóttir, Carin Lennartsson, Neda Agahi, Johan Fritzell, University of Stockholm, Sweden

Background: The health status of different cohorts has changed over time. Many countries, including Sweden, are developing policies to encourage older workers to remain longer in the labour market and delay retirement. A key life transformation for most people in adulthood is retirement and it is well-known that poor health is a key predictor for early exit from the labour force. With regard to policies encouraging employees to delay retirement it is crucial to investigate the association between health and retirement age for women and men in different birth cohorts. Are younger cohorts retiring in better health (but at the same age) compared to older cohorts, and is there a difference between men and women?

Aims: To study health before retirement in relation to retirement age for women and men in different birth cohorts in Sweden.

Methods: Repeated cross-sectional data from LNU and SLOSH will be used to study health in the years before retirement. We will analyse gender and cohorts separately to see if there are changes in health and retirement age, and the association between them.

Findings: Yet to be analysed. Conclusions: Yet to be analysed.

Social Exclusion and Health in Older Age

Amanda Sacker, Andy Ross, University College London, UK; Catherine MacLeod, Bangor University, UK, et al.

Social exclusion of the elderly is a key policy focus but evidence on the processes linking health and social exclusion is hampered by the variety of ways that health is used in social exclusion research. We investigated longitudinal associations between health and social exclusion using a theoretical framework that did not mix them. Data came from 4 waves of Understanding Society, the UK Household Panel Survey 2009-2013. The sample comprised all adults who took part in all 4 waves, were 65 years or more in Wave 3, and had complete data on our variables of interest (N = 4169). Social exclusion was measured by an index covering i) Service provision and access; ii) Civic participation; and iii) Social relations and resources. We used linear regression to model the relationship between social exclusion and prior health controlling for ethnicity, UK born, marital status, job status, education, social class and region and logistic regression to model the relationship between social exclusion and subsequent health, conditional on baseline health and control variables. Poor self-rated health (SRH), limiting long-standing illness (LLTI) and psychological distress predicted social exclusion 1-2 years later ($r = 1.04$ 95%CI 0.88, 1.22; 0.94 95%CI 0.73, 1.15; 0.79 95%CI 0.59, 0.98, respectively). Use of a car, mobile phone and the internet moderated the association between poor health and social exclusion. Given health status at baseline, those who were more socially excluded had poorer outcomes on each of the three domains of health (OR SRH 1.17 95%CI 1.11, 1.23; LLTI 1.07 95%CI 1.02, 1.12; distress 1.10 95%CI 1.04, 1.16). Our findings suggest it might be more effective to target the health to exclusion relationship than the exclusion to health

relationship. Internet and technology use protected older adults in poor health from social exclusion, suggesting that age-friendly hardware and software design might have public health benefits.

Do Recent Declines in U.S. Life Expectancy Mean Bad News for Healthy Life Expectancy?

Mark Hayward, University of Texas at Austin, USA

Life expectancy for adult Americans with less than a high school education has fallen in recent years. At the same time, mortality improvements among college-educated Americans have been extraordinary. Less clear, however, is whether these divergent trends in life expectancy by education also reflect divergent trends in healthy life expectancy (HLE). Drawing on the Health and Retirement Survey and Vital Statistics mortality data, this study takes an in-depth look at the implications of recent changes in mortality for changes in HLE where health is referenced in terms of Instrumental Activities of Daily Living (IADLs) and Activities of Daily Living (ADLs). How has HLE changed in recent years and for whom? Given educational attainment's role in identifying where distressed and advantaged mortality regimes have emerged in the American population, we examine changes in life expectancy and HLE for persons with less than a high school degree, high school graduates, some college, and college graduates between 2000 and 2010. Despite a short period of time, substantial losses as well as gains in life expectancy were observed in the American adult population.

Despite decades of mortality improvements in the U.S. population, this no longer appears to be the case for significant segments of the population. Growing inequality in life expectancy and declines in life expectancy among low educated persons point to a reversal in the long-term historical improvement in adult mortality that has heretofore been enjoyed by all segments of the American population. Our study extends this work by documenting whether declines and improvements in life expectancy are accompanied by declines/improvements in healthy life expectancy. Healthy life expectancy is typically a more sensitive marker of the quality of life in the population, suggesting that recent mortality evidence may be understating the growth in both health distress and advantage in the adult American population.

Health as a Predictor of Retirement at Age 63–64 Before and After Introduction of a Flexible Statutory Pension Age in Finland

Taina Leinonen, University of Helsinki, Finland

Little is known of how pension reforms affect the retirement decisions of people with different health statuses, although this is crucial for the understanding of the broader societal impact of pension policies and for future policy development. We assessed how the Finnish statutory pension age reform introduced in 2005 influenced the role of health as a predictor of retirement. We used register-based data and cox regression analysis to examine the association of health (measured by purchases of psychotropic medication, hospitalizations due to circulatory and musculoskeletal diseases, and the number of any prescription medications) with the risk of retirement at age 63–64 among those subject to the old pension system with fixed age limit at 65 (pre-reform group born in 1937–1941) and the new flexible system with 63 as the lower age limit (post-reform group born in 1941–1945) while controlling for socio-demographic factors. Retirement at age 63–64 was more likely among the post- than the pre-reform group (HR=1.50; 95% CI 1.43–1.57). This reform-related increase in retirement was more pronounced among those without a history of psychotropic medication or

hospitalizations due to circulatory and musculoskeletal diseases, as well as among those with below median level medication use. As a result, poor health became a weaker predictor of retirement after the reform. Contrary to the expectations of the Finnish pension reform aimed at extending working lives, offering choice with respect to the timing of retirement may actually encourage healthy workers to choose earlier retirement regardless of the provided economic incentives for continuing in work.

Follow Up of a General Population Born Before the End of WW2 Using Administrative Electronic Health Archives: How Much Disease Can We Recognize?

Lorenzo Simonato, Cristina Canova, Renzo Cestari, et al., University of Padova, Italy

All residents in the Region Friuli, Venezia-Giulia, North east of Italy, born before 31.12.1945 and alive on 01.01.2000 have been enrolled in a cohort and followed up till 31.12.2010. The size of the cohort totaled 428,189 individuals who were subsequently matched through a semi deterministic record-linkage to the electronic health archives (EHA) of the National Health System (NHS) recording casualties, hospital discharges, drugs prescriptions, laboratory data, copayment records, first aid departments, vaccination programs and cancer registry files.

The total amount of electronic records cross linked to the population under study during 15 years of follow up was exceeding 70M-, the majority of which being drugs prescriptions. We applied to the database thus created algorithms available from previous investigations or from the literature on the most relevant diseases affecting western populations (neoplasms, myocardial infarction, ischemic heart disease, cerebrovascular ictus, asthma, respiratory chronic disease, and type II diabetes) in order to investigate what proportion of the electronic records available from the NHS was exploited in order to ascertain cases affected by the selected pathological conditions.

The results of the analysis indicates that only a minority of records have been contributing to the frequency estimates of the major chronic diseases selected. The ratio between used and non-used records was in fact only .13 suggesting the majority of electronic records stored in the database might be related to other diseases, or related to index diseases, but not yet exploited, or unrelated to pathological conditions. Hypotheses concerning the possible meaning of this “silent” information are being tested.

D6 HEALTH 2

Symposium

What Can We Learn About Mental Health, Well-Being and Life Satisfaction From the Cohort Studies?

Convenor & Chair: Morag Henderson, UCL Institute of Education, UK

The expanding literature on the economics of happiness has focussed on a number of factors, including life satisfaction, well-being and mental health. These terms are often used interchangeably, which can lead to confusion and conflation; this symposium seeks to define and explore these different measures. Using the Next Steps longitudinal survey, we look at the relationship between life satisfaction and exercise (Paper 1) and how life satisfaction varies by educational systems and employment transitions in England (Paper 3). We then

move to a consideration of adult mental health and its relationship with educational trajectories in Finland (Paper 2). The final paper considers several well-being measures, but focuses particularly on psychological distress experienced by 14-15 year olds, measured by GHQ12, in a comparison between two English cohorts born nine years apart (Paper 4). This symposium will demonstrate the efficacy of making use of the currently available data including Next Steps and the Longitudinal Study of Young People in England 2 to assess life satisfaction, mental health and well-being.

Health + Exercise = Satisfied Life?

Morag Henderson, Jenny Jackman, UCL Institute of Education, UK

There is an increasing interest understanding life satisfaction and its associated antecedents. Life satisfaction is the way a person evaluates their quality of life and is increasingly used by governments to assess social policies. This paper assesses how differences in self-assessed health and activity influences life satisfaction in young adults. We use Next Steps data to assess variations in patterns of health and activity to explore how these are associated with levels of life satisfaction, taking into account socio-demographic background factors, such as parental education, current activity and gender. The findings indicate that exercise is associated with life satisfaction over and above background characteristics and that physical health is a significant and strong predictor of high levels of life satisfaction. These results confirm the important connection between mind and body (in both directions), implications for these findings are discussed.

The Impact of Educational Tracking on Early Adult Mental Health Outcomes in the 1987 Finnish Birth Cohort

Tiina Ristikari, Mika Gissler, National Institute for Health and Welfare, Finland; Ingrid Schoon, UCL Institute of Education, UK

Background: Previous studies have shown that early adult mental health outcomes vary strongly with regard education tracks; persons leaving the educational system early suffer from adverse mental health outcomes in their adulthood more often than those who go on to obtain secondary level education or more (Paananen, et al 2013). Previous research has, however, not been conclusively ascertain whether there are selection processes underling the association between poor educational attainment and later mental health problems or whether the mental health outcomes are caused by the educational track.

Method: By using a register-based, longitudinal follow up data from the 1987 Finnish Birth Cohort Study (1987 FBC, www.thl.fi/fbc1987) the current study investigates the connection between early childhood conditions and events, educational tracks and early adult mental health outcomes of 60 000 persons born in Finland in the year 1987. The 1987 Finnish Birth Cohort has been followed up from prenatal period until 2012 using official health and social registers and has linked the cohort members' data to that of their parents. Using sequence analysis, the study will identify the cohort members' educational tracks and their association to early adult mental health while considering selection processes leading to the educational trajectories.

Does the Transition From School-to-Work Impact on Levels of Life Satisfaction? Evidence From the Longitudinal Study of Young People in England (LSYPE)

Ingrid Schoon, UCL Institute of Education, UK; Mark Lyons-Amos, London School of Economics, UK

In view of the increasing diversification of patterns in school-to-work transitions, the impact of diverse pathways on life satisfaction is becoming an important issue that has yet received little attention. This paper assesses how differences in school-to-work transitions affect life satisfaction. We adopt a holistic definition of school-to-work transitions, not focusing on a single transition, such as starting full-time employment, but examining the timing and sequencing of multiple interlinked transitions, comprising moves in and out of education, employment, vocational training, unemployment, and being out of the labour force due to ill health or family responsibilities.

Taking a longitudinal approach, we assess variations in patterns of school-to-work transitions and how these are associated with levels of life satisfaction before the end of compulsory schooling and by age 20/21, controlling for socio-demographic background factors, such as parental education and occupational status, gender and migration background. In this way we control for possible selection effects into distinct transition tracks.

Using data collected for Next Steps we use sequence analysis of monthly activity data assessed between ages 17 and 21 years to identify differences in the timing and sequencing of education and employment transitions. We identified six distinct pathways involving further education and training, work-focused transitions, and a group of young people who were not in education, employment or training (NEET) over a long period. Least satisfied with their lives were young people who experienced a problematic transition to employment, characterized by being long-term NEET or being unemployed after some further education.

A Comparative Analysis of Young People's Well-Being in Year 10 Using Data From the Second Wave of the Longitudinal Study of Young People in England, Cohorts 1 & 2

Carli Lessof, Emily Bell, Andy Ross, et al., University College London, UK

The second cohort of the Longitudinal Study of Young People in England (LSYPE2) is a flagship DfE funded study which began in 2013. It tracks a representative sample of 13,100 young people from Year 9 when they were aged 13 or 14 until they are 19 or 20. LSYPE2 builds on the earlier LSYPE cohort study – known as Next Steps – which ran from 2004 to 2010 and is now being revisited at age 25.

This presentation will compare the experiences of young people in Year 10 from the two cohorts, based on interviews held in 2005 and 2014. These young people grew up in different school contexts and socio-economic environments – for example, the first lived in a world in which the UK economy had seen 13 years of uninterrupted growth and were almost unaffected by social media and the constant connectedness that characterises young people's daily lives today. In this context, we examine changes in young people's self-reported health and levels of psychological distress (GHQ-12), as well as confidence in their ability to control events affecting them and how far they equate hard work with success. Focusing on the latest cohort, we further explore the social gradient in GHQ12 unpicking some surprising findings about the experiences of relatively advantaged young people.

*Notes: Authors are TNS BMRB researchers or associates except Clare Baker and Sarah Lasher, Department for Education. This abstract does not include specific findings as these are embargoed until the publication of DfE's Research Report RR501.

E6 CHILDREN & FAMILY

Paper Session: *Childhood Development I*

Does Moving Home Affect Child Development? A Study Comparing Pre-School Children in the US and the UK

Heather Joshi, Anthony Buttaro, Ludovica Gambaro, Stephen Beck, Lucy Lennon, UCL Institute of Education, UK

Moving home in early childhood is a normal feature of the family lifecycle, but also potentially a source of disruption to a child's development even before moving school may be involved. It is not clear from previous research whether mobility is the node of different vulnerabilities or an event with its own direct consequences, particularly in the US where housing for young families is generally less stable than in UK.

We conduct a parallel, comparative, investigation of the determinants of moving and its association with child outcomes at age 5 in the US and the UK. We use data from two cohort studies: The Fragile Families and Child Well-being Study, a study of children born in large US cities, and the UK Millennium Cohort Study, which we restrict to children born in large cities in the UK to enhance sample comparability. These are combined with a comparable census-based measure of neighbourhood disadvantage. We investigate the predictors of family mobility, and their association with children's verbal and behaviour scores, controlling for the circumstances in which moves occur, and their destination in terms of neighbourhood disadvantage.

We find that negative family events, such as parental break-up and employment discontinuities, plus less secure housing tenures, are associated with more frequent moves. In bivariate analysis both countries show worse outcomes for mobile children, especially those with more frequent moves. However, negative family events, economic, demographic and health circumstances, account, in varying degree, for these associations. Moves within the more disadvantaged areas show some adverse outcomes even after allowing for selection by household economic status. In both countries it seems that many family moves are 'good moves' in terms of children's outcomes, and those which are bad are not the result of moving per se, but of the context in which some moves occur.

Moving Home During Childhood: A Different Experience for Siblings Under and Over School Age?

Ludovica Gambaro, UCL Institute of Education, UK

Children who move home are often found to fare worse than those who do not, particularly when moves are frequent or lead to changing school. However, recent studies show that for children under school age the apparent disadvantage from moving home is generally accounted for by initial family conditions and co-occurring changes in family structure and parental employment. This leaves unanswered the question as to whether, by contrast, residential mobility at school age has a disruptive effect independent of other family

resources and changes. For older children, moves are more likely to interfere with schooling and friendships. It is thus plausible that moves among children who are already of school age might show more evidence of harmful consequences.

To investigate this, we use a sample of children selected from the second and third waves of the UK Millennium Cohort Study (MCS) who are matched with at least one older sibling. The resulting dataset includes information on the emotional and behavioural outcomes of a subset of MCS focal children and of a subset of their older siblings, assessed at both 2004 and 2006. We use a family-specific fixed-effect model, which allows us to examine whether moving has an age-specific effect, controlling for unobservable effects that do not differ by siblings. We also exploit the longitudinal nature of our data in a value-added model, which accounts for previous levels of emotional and behavioural adjustment.

Preliminary results find no differential impact of moving by age. Even for children who are attending school, it seems that it is not moving per se that can negatively impact children, rather the negative circumstances of some moves. We conclude by discussing the causal assumptions and limits of our results, and highlighting future directions of research.

Unequal Home Learning Opportunities During the First Year of Life Among Children in the French Elfe Cohort

Elise de la Rochebrochard, INED, France

Context: Life cycle skill formation and its determinants have been explored from different disciplinary viewpoints including economics, developmental psychology and neurobiology. All results strikingly converge on the uniquely powerful influence of early experiences – the early family environment in particular – on cognitive and social skills development. The home learning environment (HLE) at age 3 is now considered as a major determinant of unequal educational opportunities during childhood and later. However, further research is needed to investigate the early dynamics of HLE by focusing on the toddler years.

Objective: To explore home learning opportunities during the first year of life

Data: The Elfe Cohort is a French nationally representative longitudinal study of children born in 2011. More than 18,000 families were interviewed after the birth of their child and then followed up at 2 months and 1 year (and then 2 years and 3.5 years). At each sweep, mothers and fathers were interviewed separately with similar questions. The 2-months questionnaire focused on parent-child interactions (smiles, eyes contact, etc.). The 1-year questionnaire focused on activities with the child (picture books reading, hide-and-seek play, tickling, singing, etc.).

Results and Discussion: The HLE will be explored by considering both the mother's and father's interactions with the child. Social differences in the HLE will be investigated with a special focus on testing the emergence and dynamics of the social gradient between ages 2 months and 1 year. Other determinants will be considered such as the parental relationship, siblings, prematurity, the health and gender of the child. The impact of the HLE on child development at 1 year will be explored (measured by the Child Development Inventory). Based on a detailed analysis of mother-child and father-child interactions, this research will shed light on how the conditions for unequal home learning opportunities emerge in the first year of life.

Early Puberty in 11-Year-Old Girls: Millennium Cohort Study Findings

Yvonne Kelly, University College London, UK

Background: Early puberty in girls is linked to poor health across the lifecourse. We address two research questions: 1. Are socioeconomic circumstances and ethnicity associated with early onset puberty? 2. Do adiposity and/or psychosocial stress explain observed associations?

Setting: Longitudinal data on 5839 girls from the UK Millennium Cohort Study were used to estimate associations between ethnicity, family income, adiposity and psychosocial stress with a marker of puberty, reported menstruation at age 11.

Results: The average age of girls was 11.2 years (sd=0.33), and 9.5% had begun menstruation. Girls in the poorest income group were twice as likely (OR=2.14), and in the second poorest group nearly twice as likely (OR=1.92) to have begun menstruation compared with girls in the richest income quintile. Estimates were partially attenuated on adjustment for BMI and markers of psychosocial stress but remained statistically significant in fully adjusted models (poorest, OR=1.52; second poorest, OR=1.52). Indian girls were over 3 times as likely compared with whites to have started menstruation (OR=3.53) and because of their advantaged position relative to the white group, our statistical adjustments did not attenuate estimates. The raised odds of menstruation for Pakistani (OR=1.87), Bangladeshi (OR=3.27) and Black African (OR=3.00) girls were attenuated to varying extents on adjustment for income and markers of adiposity and psychosocial stress with the differences losing statistical significance in fully adjusted models for Pakistani (OR=1.45), but not for Bangladeshi, (OR=2.15), or Black African (OR=1.87) girls.

Conclusions: The disproportionate distribution of adiposity and psychosocial stress partly explain social and ethnic inequalities in early onset puberty in girls in a contemporary setting.

F6 GENERAL

Paper Session: *Status, Income and Wealth*

Earnings Inequality Among Upper Secondary Degree Holders of Differing Social Background: Processes and Mechanisms

Steffen Schindler, Markus Lörz, University of Bamberg, Germany

Despite educational expansion, social inequalities in educational attainment are still pronounced in Germany. But even among students of differing social background who reached the same educational level, one finds an unequal distribution of labour market outcomes. This paper is devoted to social inequality in the labour market outcomes of German students who obtained the Abitur (upper secondary degree) and thus formally share a common starting point. We investigate the processes and mechanisms through which earnings differences are generated. By drawing on a unique longitudinal dataset of students who obtained their upper secondary degree in 1990, we are able to follow educational careers throughout post-secondary education and into professional life over a period of twenty years. By taking on a life course perspective we are able to investigate social differences in vertical and horizontal educational decisions, performance differentials as well as the returns to education. Our analyses show pronounced social origin effects on earnings.

We find that a considerable share of these effects is due to differences that already exist within the group of Abitur holders, such as performance differences or previous educational pathways.

Another big part of the earnings differences can be attributed to post-secondary educational decisions, such as the choice of the educational programme or field of study. Additional performance differences (primary effects) during post-secondary education only play a minor role. If the analyses are restricted to persons who share comparable characteristics at the time of the Abitur or when they enrol in higher education, social earnings differentials are much less pronounced. This hints at strong selection or distributional effects in the generation of earnings differentials.

The Marriage Wealth Premium Revisited: Gender Disparities and Within-Individual Changes in Personal Wealth in Germany

Philipp Lersch, University of Köln, Germany

Marriage has been linked to a wide range of beneficial outcomes such as enhanced economic attainment over the life course. This study examines the association between marriage and economic wealth of women and men. Going beyond previous research, which focused on household wealth, I examine personal wealth which allows identifying gender disparities in the association between marriage and wealth. Using unique data from the German Socio-Economic Panel Study (2002, 2007, 2012), I apply random-effects and fixed-effects regression models to test my expectations. I find that both, women and men, experience substantial marriage wealth premiums not only in household but also in personal wealth. I do not find consistent evidence for gender disparities in these general marriage premiums. Additional analyses indicate, however, that women's marriage premiums may be substantially lower than men's premiums in older cohorts, in the lower half of the wealth distribution, and when only considering non-housing wealth. Overall, this study provides new evidence that women and men do not gain equally in their wealth attainment through marriage over their life courses.

Perceived Income Inequality Among Children

Aisling Murray, Economic and Social Research Institute, Ireland

In the Ireland of 2007, there was an economic boom that brought prosperity for the majority of – though not all – families. Still, wealth is to some extent a relative concept and it is feasible for the child who gets a bicycle for their birthday to feel hard done by when their classmate gets a pony; while the child who only gets a football to be quite happy with their lot. So what might be the effect on child well-being if they perceive economic inequality relative to children from other families, particularly when they are at the 'thin end of the wedge'? And why do some children perceive economic hardship or inequality while others in the same financial situation appear oblivious?

Using the first wave of the Growing Up in Ireland Child Cohort data (age 9 years in 2007 and 13 years at follow-up), we describe the frequency of children perceiving themselves to be economically worse off than their classmates, neighbours or at national level – approximately 6% felt worse off than at least one of these comparators. We look at what income-related characteristics – such as parent-reported financial difficulties, basic deprivation, and deprived neighbourhood – are associated with perceived income inequality among children; and find

that while disadvantaged children are more likely to perceive inequality the majority are largely unaware of it. We also find some evidence that the child's negative perceptions of their area, and the teacher's assessment of him/her being inadequately presented for school are associated with greater perceived income inequality.

Finally, we take a first look at the impact of that perceived inequality and find a modest but significant association with less positive self-concept score and worse teacher-rated behavioural assessment even when actual household income is controlled for.

Sibling Similarity in Socioeconomic Status Attainment Over the Early Life Course

Lea Kröger, European University Institute, Italy

How does the influence of family background on socioeconomic status change over the early life course? To answer this question, I study the similarity of siblings' socioeconomic status over the early life course. Sibling similarity is treated as an estimate of the total influence of the family on status attainment. The main intent of the paper is to assess whether siblings converge or diverge in their level of socioeconomic status attainment. Sibling similarity is estimated as the intra-class correlation, taken from a multilevel decomposition of the variance of different measures of status attainment of siblings nested in families. I use 30 waves (1984 to 2013) from the German Socio-Economic Panel Study (SOEP), including a total of 12,206 siblings in 5,887 families. Socioeconomic status is measured as level of education, occupational status, labor market earnings and job hierarchy position between age 17 and 45.

Results show that siblings are converging in their similarity of educational attainment with higher age. For labor market outcomes, results are mixed. Similarity in earnings is reduced with age, while it increases in occupational status and remains stable in job hierarchy position. The results indicate that family influence on siblings' socioeconomic status varies, depending on the age it is evaluated. When analyzing family influence on status attainment, it is therefore important to interpret siblings' status similarity within the context of their respective life course stage.

Parallel Session 7

A7 EDUCATION 1

Symposium

Inequality and Its Economic Impact on the Life Course

Convenor: Wolfgang Lauterbach, University of Potsdam, Germany

Educational Capital and Unequal Income Development Over the Life Course

Wolfgang Lauterbach, University of Potsdam, Germany; Werner Georg, University of Konstanz, Germany

Economic research has shown that individual income development from young to middle adulthood depends to a great extent on human capital investments, the entry position in the first job and on the duration of the interruption of the professional career. The last result holds especially for women. But, regarding persons with comparable human capital

qualifications it is much more unclear which further factors influence income development in middle adulthood? Thus we will investigate the question whether further education in young adulthood, work force motivation and the grades in school, standing for the intellectual ability of the person have a long lasting effect on income development in middle adulthood. Based on the longitudinal LifE study for Germany we would like to invest in this question.

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 on the income development, the change in the income position in middle adulthood is also influenced by personal factors, the performance and the further education in young adulthood.

Inevitable Increase in Educational Inequality Through Shadow Education?

Steve Enrich, University of Potsdam, Germany

Due to its fee based nature, private supplementary tutoring, also known as shadow education, is believed to play a crucial role in the formation of inequality in educational opportunities. In fact, several comparative single- and multi-case studies verified a strong impact of socioeconomic background variables on the chance to pursue lessons in the shadow for numerous countries. In Germany, the demand for private tutoring (*Nachhilfe*) has drastically increased over the last decade. Today, almost every second 17-year old German adolescent has experience with shadow education (Hille, Spieß & Staneva 2016). One prominent explanation for the increased enrolment in shadow education in Germany is that an increasing percentage of high performing students from well-off family backgrounds pursue lessons to gain competitive advantages instead of trying to catch up in school. Thus, it is feared that private lessons are used by upper class families as an instrument of social closure consequently intensifying educational as well as social disparities. Even though there exists a growing body of literature on the subject, empirical evidence on whether commercial *Nachhilfe* inevitably increases social inequalities in Germany is scarce.

To address this issue, we draw on rational choice theories (Boudon 1974) in order to explain whether German shadow education contributes to persisting inequalities. Our calculations concentrate on long-term effects of social origin on students' likelihood to access shadow education while controlling for their academic achievement and school track. According to our findings, students in the highest track (*Gymnasium*) from *status defender families* (parents and grandparents possess tertiary education degrees) and *status advancer families* (parents achieved tertiary education degrees, even though grandparents have none) show no significant differences in their demand for *Nachhilfe*, whereas students from *status keeper families* (parents gained no tertiary education diplomas over the last two generations) are significantly more likely to pursue lessons in the shadow. We conclude that shadow education in Germany is used as an opportunity to increase the chance of social advancement by ambitious but disadvantaged educational strata. The increased investment in *Nachhilfe* should thus be understood as one outcome of the latest wave of educational expansion.

Transition of Educational Status Over the Life Course

Wolfgang Lauterbach, University of Potsdam, Germany; Werner Georg, University of Konstanz, Germany; Helmut Fend, University of Zurich, Switzerland

According to the educational expansion in the second half of the 20th century the purpose of the political initiated reform was, to increase the general educational level of students. Within families the consequence was a higher education of the children, compared to their parents. Some years after the reform, at the beginning of the new century two questions were formulated: Led the school higher qualification in a professional higher position? And second what happened if the children who should participate of the educational reform couldn't profit from the educational expansion? Both questions where up to now not yet answered. One need longitudinal data for two generations over a historical period of 60 years.

With the life data we will test both hypotheses. We expect that for the first question we could should, that the educational expansion has a positive effect on the professional higher position. For the second question we expect a tendency for exclusion a whole family at the lowest level of the educational qualification.

The Impact of Learning Engagement in School and Work Engagement in Adulthood

Katharina Maag Merki, University of Zurich, Switzerland

Learning engagement is defined as an ability to be persistent, ambitious and hardworking (Fredericks et al., 2004). It is influenced by a complex interaction between individual and context characteristics (Fend 1997, Reyes et al. 2012). Empirical results confirm that students are more likely to be engaged in the learning process when they perceive a positive school climate (SC) (e.g., Hoy et al. 1998). However, there is a lack of studies which analyze the interrelationship of SC, learning engagement and student achievement from a long-term perspective (e.g. Thapa et al. 2013). Against this background, we investigated the following questions: 1. Do level and change of learning engagement in secondary schools predict work engagement in adulthood? 2. Do level and change of SC predict work engagement in adulthood? 3. Is there a moderator effect in terms of academic performance level in adolescence? 4. Is the relationship between learning engagement and SC in school and work engagement in adulthood mediated by job experiences in 2002?

The research questions were analyzed by latent growth curve modelling and by multi-group comparison between high and low achievers. The results confirmed the close relationship between learning engagement, work engagement, school climate and academic performing during adolescence and in the long-term. Particularly, the change of SC during adolescence is important for low performing students.

Education Level and Unequal Income Development Between Cohorts in Germany

Markus Grabka, DIW Berlin, Germany

Inequality research has shown that in the majority of OECD-countries income inequality significantly increased over the last 30 years. Various explanations had been presented for this development such as phenomena like globalization or changes in tax rules. With respect to educational levels it is repeatedly showed, that with those with a higher educational degree usually have above average earnings. However, so far there is only scare research about the impact of the educational expansion on income inequality. Typically, one would expect that with an overall increase of educational levels income inequality most likely will be dampened

in a society. However, one could also assume that educational expansion may lead to more polarization between low and high educational groups and thus may increase income inequality. In a case study for Germany we make use of micro-data from the German Socio Economic Panel study (SOEP) and try to answer this research question by comparing the development of income profiles by educational level for different age cohorts. This will be primarily done for individual gross monthly labor income separately for men and women. First findings show that income inequality between cohorts had been significantly increased.

B7 EDUCATION 2

Symposium

Assessment of German Language Competencies Over the Life Course: Predicting Factors and Methodological Challenges

Convenor: Kathrin Lockl, Ilka Wolter, Leibniz Institute for Educational Trajectories (LifBi), Germany

Summary: German language competencies are considered as core competencies for successful educational trajectories (cf. Artelt, Weinert, & Carstensen, 2013; Weinert et al., 2011), especially as German is the language of instruction in most educational settings and in formal schooling in Germany. Therefore, language competencies including reading and writing skills are studied not only in their own rights but also because they are mediating the acquisition of content- and problem-solving-related knowledge in other domains and because they are relevant for participating in a society's political and cultural life (Weinert, 2006). In order to examine the emergence of individual differences in language competencies previous studies have often focused on early precursors in preschool age.

Recent empirical research not only focuses on the preschool years but also on students with migration background or learning difficulties, to further investigate the emergence of disparities in educational outcomes. Hence, the diagnostic aspects of test fairness are highly relevant when measuring German language competencies especially in large-scale assessments such as the National Educational Panel Study (Blossfeld, Roßbach, & von Maurice, 2011). In this symposium predictors of language competencies are presented such as the working memory in preschool children with and without migration background, and the diagnostic competence of teachers and their assignment of language interventions to young children. Also certain diagnostic aspects in the assessment of language competence are presented such as using process data to investigate reading strategies of adults or different test taking profiles in students with special educational needs. Furthermore, we will focus on linking tests of reading competence in a longitudinal design in order to allow for analyzing developmental change over the life course. Implications for instrument development in assessing German language competence as well as concrete interventions in early education to prevent disparities in language outcomes will be discussed.

Preschool Teacher's Diagnostic Competence and Its Relation to the Development of Early Vocabulary Skills

Tebea Durda, Leibniz Institute for Educational Trajectories (LifBi), Germany

In school settings, the teacher judgment accuracy is considered as an important predictor for instructional quality and instruction success (e.g., Artelt, Stanat, Schneider, & Schiefele, 2001; Helmke, Hosenfeld, & Schrader, 2003; Karing, Pfof, & Artelt, 2011). Even though the diagnostic competence of teachers is also considered as an essential requirement for a successful early language support (e.g., Gogolin, 2005; Neugebauer, 2010), until now the diagnostic competence of preschool teachers has only been investigated in a few studies (e.g., Dollinger, 2013; Geist, 2014; Wildgruber, 2010). Therefore, the present study investigates the relationship between the diagnostic competence of preschool teachers and the development of children's vocabulary skills and whether this relationship is mediated by teachers' targeted language assistance. Longitudinal data were obtained from a sample of 551 children in the context of the NEPS (Blossfeld, Roßbach, & von Maurice, 2011) at three measurement points (at the age of five, the end of preschool and in grade 1). The teacher judgement accuracy was measured by a task-unspecific rating in the domain of vocabulary in relation to child's actual competence at the first measurement point. For the targeted language assistance, the preschool teachers were asked whether the child participated in an individual, small-group or full-group language assistance activity. The receptive vocabulary skills were measured by the Peabody Picture Vocabulary Test (PPVT) at the age of five and in grade 1. First results reveal that preschool teachers overestimate children's vocabulary skills. As expected, teacher judgement accuracy is related to child's development in vocabulary skills. Furthermore, the effect is mediated by specific targeted language assistance. Implications for practice and recommendations for further research are discussed.

Working Memory as Predictor for Future Reading Comprehension: Are the Mediating Effects Similar for Native and Non-Native Speakers?

Shally Novita, Leibniz Institute for Educational Trajectories (LifBi), Germany; Cordula Artelt, University of Bamberg, Germany

Preschool verbal and non-verbal abilities are important predictors for the future domain specific abilities such as reading comprehension. The working memory has a special function in this process, since all new information is meant to be controlled and managed by this system. As a consequence, the capacity of working memory is assumed to correspond to the efficiency and effectivity of learning processes.

The main focus of this study is to investigate the effect of working memory on reading ability. It is assumed that vocabulary and phonological awareness mediate the effects of working memory on reading comprehension. Taking into account evidence from previous studies that found that native speakers rely more on phonological awareness (Limbird, 2006) whereas non-native speakers often use their vocabulary (Verhoeven, 2000) in dealing with reading task, it is further assumed that native and non-native speakers differ in the predictive value of the two mediators. For non-native speakers the mediation effect via vocabulary should be higher than that of phonological awareness whereas the opposite pattern should be found for native speakers.

A total of 492 children in the starting cohort 2 of National Educational Panel Study (NEPS) participated in this study. A multi-group path analysis was conducted using children's

working memory (t1: kindergarten), phonological awareness (t1: kindergarten), vocabulary (t2: first grade of elementary school) and reading comprehension (t3: second grade of elementary school).

Results indicate that pre-schooler's working memory has a substantial contribution in explaining variance of reading ability. In addition, different mediation effects between native and non-native speakers were found and will be discussed.

Challenges in Reading Competence Tests: Explanatory Approaches for Test Taking Behavior of Students With SEN-L

Lena Nusser, Sabine Weinert, Cordula Artelt, Claus Carstensen, University of Bamberg, Germany; Karin Gehrler, Leibniz Institute for Educational Trajectories (LifBi), Germany

The majority of children who receive a diagnosis of special educational needs are students that are diagnosed with special educational needs in the area of learning (SEN-L; Autorengruppe Bildungsbericht, 2014). So far, there are very few broad yet differentiating studies on the competence development of this group, especially compared to children without SEN. The reason for this is the particular challenge, to assess educationally relevant competences of students with and without SEN-L equally valid and comparable.

The group of students with SEN-L is a very heterogeneous group regarding their ability profiles that may affect item processing and therefore the measurement of competences. In addition to limited linguistic abilities, a reduced attention span, which is frequently found in students with SEN-L (Grünke, 2004), support the assumption that the comprehension of test instructions as well as a consistent and sequential test processing is limited. In this case, an interaction between cognitive requirements of the test material and the abilities of a person is to be expected. So it is assumed that basic reading skills and perceptual speed, attention span as well as nonverbal skills can affect item processing of students significantly (see also Artelt, Stanat, Schneider & Schiefele, 2001).

The aim of this analysis is to examine if for the assessment of reading comprehension within the NEPS framework (Gehrler, Zimmermann, Artelt & Weinert, 2013) different test taking profiles can be identified by latent class analysis for students with SEN-L (n = 211, grade 7), and if these profiles can be explained by relevant precursor skills. In addition, it is investigated whether it is possible to find similar profiles and explanations for students at lower secondary schools (n = 125, grade 6). First results show differential test taking profiles with specific strengths and weaknesses. The relation between the identified profiles and basic cognitive skills will be discussed within the presentation.

Assessing Strategy Use in a Computer Based Reading Comprehension Test Through the Sequence Analysis of Log Data

Florian Kopp, Leibniz Institute for Educational Trajectories (LifBi), Germany

The knowledge and adaptive use of strategies is widely seen as an important component of competencies. However, assessing participants' strategy use in standardized testing is often difficult. In this speech we present an approach for generating strategy use indicators in the domain of reading competence by using the method of sequence analysis on the log data of a computer based assessment (CBA). The main focus is to demonstrate the connection between these strategy use indicators and the competence estimate as assessed by the CBA

under consideration of relevant background variables. The data source is a development study of the National Educational Panel Study (Blossfeld, Roßbach, & von Maurice, 2011) in which a new reading comprehension CBA for (university level) students and adults was administered. In this CBA participants were presented with one unit at a time, consisting of several subpages, the first one or two containing a text, followed by one item about the text, each on a separate subpage. Participants were allowed to navigate freely between the subpages of a unit. Strategy use was operationalized through the observed navigational patterns.

Preliminary results show that participants vary greatly in their strategy use while working on a unit and that strategic behavior increases with greater assessed estimated reading competency. In this speech results are presented generalizing these findings beyond the scope of single texts and using clustering methods to identify groups of persons with similar behavioral patterns. We discuss how adaptive strategy indicators can be used for improving competence estimates, provide CBA data set users with useful additional informations about assessed competences, and how information about participants' strategy use can be utilized by test developers.

When Anchor-Items Are Unavailable: Linking Rasch Scaled Longitudinal Competence Data Using an Anchor-Group Design

Luise Fischer, Theresa Rohm, Timo Gnamb, Leibniz Institute for Educational Trajectories (LIfBi), Germany; Claus Carstensen, University of Bamberg, Germany

Within the National Educational Panel Study (NEPS) respondents are repeatedly administered tests for the measurement of different competence domains (e.g., reading literacy, mathematics) to study competence development across the life course. In the NEPS, competence tests are typically scaled using models of item response theory (IRT). Measuring growth in an IRT framework requires aligning two tests administered at different measurement points (e.g., in different grades) to a common scale known as vertical linking. Vertical linking requires an overlap of information on the two tests. This is either achieved by items administered at both measurement points (anchor-items design) or by persons who answer items from both tests within a single measurement point (anchor-group design). The information gained in either test design can subsequently be used to align the two tests onto a common scale.

The longitudinal design of the NEPS differs from the cross-sectional designs of most other large scale assessments (e.g., PISA, NAEP, TIMMS, PIRLS). Therefore, the linking procedure in the NEPS must cope with, for example, memory effects (i.e., if respondents are repeatedly administered the same items). As a consequence, in contrast to other large scale assessments the NEPS adopts an anchor-group design for some competence domains (e.g., reading literacy). Also, while two- and three-parametric test models with their corresponding link methods are popular in many other educational assessments, the NEPS scales the competence data using Rasch-type models.

Therefore, the empirical study adapted and evaluated potential link methods for linking Rasch scaled longitudinal competence data using an anchor-group design. The adapted link procedure is demonstrated on two reading literacy tests administered in Grades 5 (32 items) and 7 (40 items) to 3,829 participants. An independent link sample (N = 608) that took both

tests in Grade 7 was used to link the two tests and examine growth in reading literacy across two years.

C7 HEALTH 1

Paper Session: *Values*

Associations Between Education and Religion Across the Life Course

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

Many studies have shown that religious attendance and beliefs are associated with lower levels of education attainment. However, some studies in British populations show that religion is associated with higher educational attainment. The aim of this study was to investigate the associations between education and religious, practices and beliefs across the life course using data from the MRC National Survey of Health and Development.

Participants were 1,470 study members who had complete data on education (no qualification, O-level, A-level and degree or higher), religion, social class and gender. Religious upbringing was enquired at ages 11 and 36, strength of religious beliefs at age 26 and frequency of religious attendance at ages 36, 43 and 60-64. Logistic and ordered logistic models were used to assess the associations between religion and education while controlling for gender and social class.

Study members with qualifications beyond minimum compulsory education were more likely to attend Sunday school, report a religious upbringing, and attend church at least once a month at ages 36, 43 and 60-64, with the strength of associations increasing with educational attainment.

The strongest associations were found for study members with a degree or higher who were more likely than study members with no qualifications to attend Sunday school attendance (OR=4.2, CI=2.2-8.0, $p<0.001$), report a religious upbringing (OR=2.2, CI=1.3-3.7, $p<0.01$) and attend church at least once a month at ages 36, 43 and 60-64 (OR=2.6, CI=1.7-4.1, $p<0.001$). Study members who had had O-levels were more likely to report stronger religious beliefs than those with no qualifications (OR=1.99, CI=1.43-2.77, $p<0.05$).

This paper will explore which aspects of religion (upbringing, beliefs or attendance) are most strongly associated with education and investigate if education is associated with changes in religious practices and beliefs throughout the life course.

Nationalism and Patriotism Among World War II Veterans and Their Baby-Boom Children

Merril Silverstein, Andrew London, Janet Wilmoth, Syracuse University, USA

In this paper, we examine how veteran status shapes attitudes toward nationalism and patriotism—defined by support for an assertive U.S. foreign policy and pride in national virtues—and how those attitudes are passed to, and persist in, the next generation. We use data from the Longitudinal Study of Generations, a multi-generation and multi-time point study that began in 1971 and continued to 2005. The operational sample consisted of 758 father-child dyads in 1971, when fathers and children averaged 46 and 19 years of age,

respectively. Of the fathers, 60% served in the military during World War II, 22% served in the military at other periods, and 18% never served in the military. Using structural equation modeling with latent variables and full information maximum likelihood to account for missing data and attrition, we found that World War II veterans exhibited significantly weaker support for nationalism-patriotism compared to non-veterans, and that this effect was partially mediated by the greater education attained by those veterans. We also found that values supporting nationalism were transmitted from fathers to children in 1971, and thereafter remained consistent in those children over the next 35 years.

Results are discussed in terms of life course dynamics and the unique historical experiences of World War II veterans and the possibility they may have primed the anti-war movement of their children's generation.

Does Private Schooling Make You Right Wing? An Illustration Based on the Political Attitudes and Voting Behaviour of 'Forty-Somethings' in 2012 Using the 1970 British Cohort Study

Richard Wiggins, Samantha Parsons, Francis Green, Alice Sullivan, George Ploubidis, UCL Institute of Education, UK

This paper assesses the extent to which the expression of political attitudes and voting behaviour in mid-life intersect with gender, the type of secondary school attended, and higher education. The analysis is based upon a nationally representative cohort of 6917 adults born in one week in April 1970 at age 42 years. A path analysis was developed and applied to test the impact of attending a private secondary school or not (age 11 to 18 years), degree attainment or not on the expression of political attitudes and voting behaviour aged 42 years (using Mplus). A constellation of antecedents were included in the modelling covering social origins at birth, cultural and material capital and academic achievement prior and post-secondary school entry. Our findings suggest that once aspects of the life course are included in the model that any evidence for a direct relationship between attending private school and right wing attitudes is weak for both men and women. Whilst individuals who hold right wing attitudes tended to vote Conservative in the 2012 election there is considerable variation in individual voting patterns prior to being forty-something.

Acknowledgement: This work was funded as part of an Economic and Social Research Council award entitled 'Schooling and unequal outcomes in youth and adulthood'. Many thanks to the BCS70 cohort members whose continued participation in this study is greatly appreciated.

The Timing of Work Value Transmission From Parents to Children

Monica Kirkpatrick Johnson, Washington State University, USA; Jeylan Mortimer, University of Minnesota, USA; Jutta Heckhausen, University of California, Irvine, USA

Work-related socialization begins in the family, with parents the most proximal role models of occupational success. Though parental encouragement of achievement and children's aspirations mediate the impacts of socioeconomic origin on attainment, these links have weakened in the face of rising aspirations. Our prior work directs attention to work values, in which we find intrinsic values (focused on occupational tasks, e.g., expression of interests and abilities, opportunities to help others) far more consequential for positive adult work outcomes than extrinsic values (e.g., income, advancement).

The present study examines the development of work values, with particular interest in the timing of parental influence. At what age do children's values begin to reflect their parents' values, and do parents' and children's values become more similar (or do connections weaken) as children gain work experience? Longitudinal data from the Youth Development Study, obtained from a panel of 1010 American youth, shows that parents' values, measured when their children were in high school, show no significant association with offspring values in mid-adolescence (age 14-15), begin to predict children's values by late adolescence (17-18) and continue to influence adult children (37-38). In this cohort, fathers appear to be more important sources of children's intrinsic values; both mothers and fathers affect children's extrinsic values.

With four intervening data points between children's first and last observations, we find that the predictive power of parental values increases over time and is retained with the most recent prior measures of children's values controlled. This pattern suggests continuing parental influence up to age 37-38, quite remarkable since the measurement of parents' values took place more than 20 years previously. Apparently, the influence of parents' values unfolds as children enter and become established in the labor force. Near identical patterns were observed across child gender and parental social class.

D7 HEALTH 2

Symposium

Understanding Allostatic Load: Theoretical Underpinnings, Construction and Associations with Age and Social Position

Convenor: Meena Kumari, University of Essex, UK

Summary: Allostatic load has been proposed as a measure of the overall cost of adapting to the stressful impact of environment, and may be a relevant tool for measuring the way the environment is embodied. The concept has been adopted in many analyses of the association of the social environment with health as it represents the impact on multiple physiological systems including 'primary' stress pathways and secondary 'intermediate' pathways.

Allostatic load is generally measured through a composite index of indicators that reflect this multi-system approach and include neuroendocrine, metabolic, immune and cardiovascular markers. However, as recently discussed (Delpierre et al., 2016) operationalisation of allostatic load varies across surveys and is limited to the availability of biomarkers within studies; consequently, it is difficult to carry out comparative analyses. The majority of studies that have examined associations with social position are conducted in older age groups and further work is required to understand when in the lifespan these associations emerge and disappear.

Here we present three papers covering a review of the biomarkers used in the literature, a substantive and a methodological analysis of allostatic load. Meena Kumari and colleagues will discuss the theoretical underpinnings of allostatic load in relation to its composition in the literature; Cyrille Delpierre and colleagues will examine how the allostatic load construct performs in comparison to its components in the prediction of total and all-cause mortality and Milagros Ruiz and colleagues will review and compare the various methods that have

been used to operationalise the construct and examine how allostatic load using these methods varies by age and social position.

Delpierre et al., *Longitudinal and Life course studies* 2016;7:79-103.

The Composition of Allostatic Load: A Review of the Literature

Meena Kumari, Michaela Benzeval, Milagros Ruiz, University of Essex, UK

Many physiological systems are proposed as the mediators that allow social processes to “get under the skin”. Allostatic load is conceptualised as the ‘wear and tear’ associated with the response to chronic or repeated stress reflecting a long-term cumulative effect of the process of allostasis (McEwen and Stellar 1993). The concept has been adopted in many analyses of the association of the social environment with health as it represents the impact on multiple physiological systems including ‘primary’ stress pathways and secondary ‘intermediate’ pathways (McEwen and Seeman 1999; Seeman et al., 2001).

Since these publications, allostatic load has been adopted by a number of groups. However, the choice of indicators and how to combine these to create a single index reflecting multi-system dysregulation, are issues that remain unresolved.

Here we review the literature on allostatic load with a focus on how the construct has been operationalised in the literature. We will focus on three areas: which variables are typically included in the construct; how these variables are combined to create allostatic load and how the composition of allostatic load has changed over time. Our review of the literature suggests that there may be a bias in the construction of allostatic load towards cardiovascular risk factors and a lack of inclusion of measures of primary pathways. Our review will focus and discuss how well the construction of allostatic load in the literature remains consistent with its original theoretical underpinnings.

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Physiological Wear-and-Tear and Later Subjective Health in Mid-Life: Findings From the 1958 British Birth Cohort

Cyrille Delpierre, Cristina Barboza Solis, Romain Fantin, Michelle Kelly-Irving, INSERM, France
Objective. Our body adapts continuously to environmental challenges and stressful conditions. Allostatic load (AL) is a concept that aims to capture the overall physiological wear-and-tear of the body triggered by the repeated activation of compensatory physiological mechanisms as a response to chronic stress. Growing evidence has shown a link between AL and later health decline, morbidity and mortality. However, due to the global physiological effect captured by the AL concept, it is particularly pertinent to examine its association with subsequent health by taking a broad definition of the latter. We examined the association between AL at 44 years and general health as measured by a latent multidimensional measure of subjective health at 50 years. Methods. AL was constructed using 14 biomarkers representing four physiological systems on 7573 members of the 1958 British birth cohort. Health status was captured using self-reported information about subjective health and

summarized using a principal component analysis including: seven dimensions of the SF-36 questionnaire of health-related quality of life, the sleep subscale of the Medical Outcomes Study characterizing quality of sleep patterns, and a malaise inventory score detecting depressive symptoms. Results. A Higher AL score had a dose-response associated with worse subjective health, after taking into account classic confounders.

Conclusions. Using a physiological index to grasp how the environment can “get under the skin” leading to poor health is of great interest, permitting a better understanding of life course origins of disease and social gradients in health.

Allostatic Load: A Comparison of Statistical Methods Used to Evaluate the Construct

Milagros Ruiz, Paul Clarke, Pia Chaparro, Michaela Benzeval, Meena Kumari, University of Essex, UK

Allostatic load is generally measured through a composite index of indicators that reflect a multi-system approach which includes neuroendocrine, metabolic, immune and cardiovascular markers (Seeman et al., 1997; 2010). Operationalisation of allostatic load varies across surveys as it is limited to the availability of biomarkers within studies, may vary with age and by medication status.

Methods used to create ‘allostatic load’ include simple count, Z-scores, canonical correlations and recursive partitioning techniques amongst others (Read and Grundy 2012). Alternative approaches to the measurement of allostatic load also include techniques within the general framework of latent variable modelling, i.e., structural equation modelling (Wiley et al., 2016).

We will present an overview of the methods that have been used to create allostatic load and discuss the key advantages and disadvantages of these methods. Our review of the literature suggests that simple count is used in the majority of published studies and few studies compare methods to construct allostatic load. We will use some of these methods to examine and compare the construction of allostatic load in Understanding Society: the UK Household Longitudinal study (UKHLS) and examine the evolution of allostatic load across the adult age span, particularly in relation to medication status. We will discuss the implications of our analyses for both the construction of allostatic load and how these relate back to the theoretical underpinnings of the construct.

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E7 CHILDREN & FAMILY**Symposium*****Interdependent Life Domains and Well-Being: Spill-Over and Cross-Over Effects, Vulnerabilities and Resilience***

Convenor: Laura Bernardi, University of Lausanne, Switzerland

An individual's life course is multidimensional, made of events and transitions associated with multiple, diverse life domains happening in connection with one another. Life domains are interdependent and produce spill-over and cross-over effects that have consequences on individual well-being. Spill-over effects are observed within individuals when critical life events and transitions in one life domain have consequences on other trajectories and produce changes in well-being. Cross-over effects are observed across individuals when critical events and transitions of one individual affect the trajectories and well-being of others.

Understanding spill-over and cross-over effects across education, partnership, family, work, and migration trajectories is inherently a longitudinal question, requiring multiple measures over time to connect occurrences of events and transitions to short- and long-term dynamics of general and/ or domain-specific well-being. This Symposium focuses on spill-over and, when pertinent, cross-over effects and outcomes on well-being at different life course stages, ranging from young adulthood to older ages. The 5 papers treat the following topics:

- a) Work, family, and spatial mobility: the subjective well-being of commuting couples
- b) Mental health trajectories, work, and family satisfaction within couples: cross-over and spill-over influences over time. A longitudinal analysis
- c) Interrupted careers and unskilled jobs: the gender career divide contributes to the women's health disadvantage in France
- d) The association of timing of retirement with cognitive performance in old age: The role of leisure activities after retirement
- e) Spill-over effects between health, employment and residential arrangements: a multi-dimensional approach

In all papers, particular attention is paid to the conceptualization and measurement of spill-over processes as well as of mental health, well-being, and life satisfaction, as well as their meaning for individual vulnerability and resilience. The papers examine differences between men and women, variations across age groups, and the impact of educational attainment and employment status. Collectively, the papers draw on data from five different longitudinal data collected in three different countries.

Work, Family, and Spatial Mobility: Subjective Well-Being of Commuting Couples

Michael Feldhaus, University of Oldenburg, Germany; Johannes Huinink, University of Bremen, Germany; Stefanie Kley, University of Hamburg, Germany

From the life course perspective, engaging in different life domains can be perceived as a way to pursue complementary instrumental goals that satisfy different aspects of subjective well-being. However, even though individuals profit from achieving these diverse goals reconciliation problems have to be solved. This is not only true because of a competition for time or other resources to be invested. It also holds in regard to bridging spatial distances between places where respective activities may be conducted. In the latter case, commuting

can be a solution to support the complementary welfare production in family life and employment because it allows to live in a common household at one place and to work elsewhere.

Spatial mobility helps to 'decouple' family and job plans. Therefore, it can be expected to be supportive for individual well-being. On the other hand, spatial mobility might have negative effects on subjective well-being at the same time. Spatial mobility consumes physical and psychological energy, money and time. Moreover, it presumably is not a direct source of well-being in itself. Therefore, it is an open question what the balance between positive and negative impacts of spatial mobility is. Focusing on circular spatial mobility, i.e. commuting, we expect that it varies systematically over family types, available resources, and the particular circumstances of the employment situation. Using the conceptual framework of interdependent life domains, we investigate the interdependence between family life, work, and commuting and their impact on the life satisfaction of couples with and without children. We use data of the first seven waves of the German Family Panel (pairfam), which provides rich information on the family situation, work career, and the spatial mobility of both partners. Additionally, we analyse data from qualitative in-depth interviews of a pairfam subsample.

Mental Health Trajectories, Work, and Family Satisfaction Within Couples: Cross-Over and Spill-Over Influences Over Time. A Longitudinal Analysis

Stéphane Cullati, Delphine Courvoisier, Claudine Burton-Jeangros, University of Geneva, Switzerland; Gina Potarca, Laura Bernardi, University of Lausanne, Switzerland

Background: Mental health trajectories are influenced by family and work daily circumstances. Most research concentrated so far on individuals, without accounting for the impact of living with significant others. Moreover, longitudinal research examining the impact of satisfaction with daily life circumstances of one partner on the mental health of the other one is rare. Objectives: To examine (1) if mental health trajectories of one partner vary due to variations in mental health of the other one (cross-over influences), (2) if satisfaction with life domains (family, work) is associated with mental health trajectories (spill-over influences), (3) if satisfaction with life domains of one partner impacts on the mental health of the other one (spill-over and cross-over influences combined). Methods: Data from 624 couples were used (Swiss Household Panel, 2000-2004). Mental health was measured with two items (depression and optimism). Covariates were satisfaction with family life (living together, way household tasks are shared) and work (work conditions). Variability of mental health was assessed by separating a stable and a variable component, using latent state-trait models. Multi-construct models were used to examining dyadic influence between partners. Results: (1) Stable mental health of the two partners correlated (0.26) while mental health variations of one partner did not impact on the other partner, neither during the same year nor the next year. (2) Spill-over influences on mental health variations were strong, for men and women. (3) Spill-over effects between partners suggested weak associations, e.g. satisfaction with work conditions of one partner had a low association with mental health variations of the other partner. Discussion: Respondents' trajectory of mental health was influenced by the history of the stable part of their partner's mental health, and one's own satisfaction with family and work life domains, but not by partner's satisfaction with family and work life domains.

Interrupted Careers and Unskilled Jobs: The Gender Career Divide Contributes to the Women's Health Disadvantage in France

Ariane Pailhé, Clémentine Garrouste, Emmanuelle Cambois, INED, France

Large inequalities in health and mortality are related to occupational classes and to occupational careers over the life course. Careers of men and women differ significantly, unskilled career, interruptions of work, part-time contracts and stagnant or downward careers being more frequent for women. This study investigates spill-over effects across employment and health domains. It examines the contribution of the gender careers divide to the women's health disadvantage. To address this question, we performed a decomposition analysis of the male-female health difference to assess the contribution of career attributes through sex-differences in their related health risks and/or in their distribution. We used the French survey "Health and Occupational trajectories" (2006) and focused on the 50-65-year-old men and women who ever worked. We analyzed associations between careers (retrospective reports) and current self-rated health (SRH), using logistic regressions and a non-linear decomposition of the sex SRH difference. We found a significant contribution of the gender unequal distribution of career attributes to the women health disadvantage. Exits from the labor force and inactivity periods, downward trajectories, unskilled stationary career, and male shift from self-employment to employment are significantly associated to current poor SRH. The female over-representation of exits, unskilled stationary career and inactivity and under-representation of upward trajectories interact with female poorer SRH.

The Association of Timing of Retirement With Cognitive Performance in Old Age: The Role of Leisure Activities After Retirement

Matthias Kliegel, Andreas Ihle, University of Geneva, Switzerland; Catherine Grotz, University of Liège, Belgium, et al.

The role of spillover effects regarding the timing of retirement on cognitive functioning in old age is inconclusive so far. Therefore, in the present paper, we aimed to investigate the association of timing of retirement with cognitive performance and its interplay with key correlates of cognitive reserve in a large sample of older adults. 2812 older adults served as the sample for the present study. Psychometric tests on processing speed, cognitive flexibility, and verbal abilities were administered. In addition, individuals were interviewed on their retirement, occupation, educational attainment, and regarding 18 leisure activities that have been carried out after retirement. Results showed that earlier retirement was significantly associated with better performance in processing speed and cognitive flexibility. Moderation analyses showed that earlier retirement was related to better cognitive performance only in individuals with a low number of leisure activities in old age, but not in those with a larger number of leisure activities. The activity-cognition relation was larger in individuals with late, compared to those with early retirement. Hierarchical regression analyses revealed that entering leisure activities as additional predictor significantly increased explained variance in the cognitive measures over and above all other investigated markers of cognitive reserve (i.e., occupation and education). In conclusion, retirement is a major life course transition triggering great changes on multiple other life domains such as cognitive functioning. In this context, participation in leisure activities after retirement is an important resource to buffer these spillover effects. Specifically, present data further corroborate the view that leisure activities even in old age may lead to further enrichment effects and thereby may be related to better cognitive functioning.

Spill-Over Effects Among Health, Employment and Residential Arrangements: A Multi-Dimensional Approach

Matteo Antonini, Felix Bühlmann, Jean-Luc Heeb, University of Lausanne, Switzerland

The contemporary concept of well-being includes several physical, psychological and relational aspects. Yet, health remains the most quoted element in everyday discourse. In our paper, we study the connection between individual's health condition and two other life course domains: employment and residential arrangements. Our objective is to explore the interconnections among these three elements in an innovative frame that includes spill-over and lagged effects. In particular, we investigate why the empirical support for the theory-based link between health statuses and other life course domains is often weak. We hypothesize that this deficit is due to the peculiar structure of peoples' health dynamics. Many life course domains are composed of states that last for months or years. Health has a different structure. Medium and long-period states (chronic illness) are less frequent and coexist with more common short-term events (operations, accidents, acute illness). This particular structure hides the presence of life course transitions and disentangles the simultaneity of the relations among life course domains. To overcome these difficulties, we embrace a comprehensive approach applying a type of multichannel sequence analysis specifically conceived to capture spill-over and lagged influences among life course domains. Our sample includes 1250 residents of the Swiss canton of Vaud with information about health, work and cohabitation from age 1 to 40. Our results confirm that a change in the health status can be a trigger event for further changes in other life course domains. Nevertheless, this is rarely a simultaneous direct influence. Cumulative and compensation effects coexist and, sometimes, can be fully observable only after a long span of time. This heterogeneity in our results suggests that personal well-being affects the life course as a whole. If the well-being in a life domain is lacking, the others are used to balance the overall situation. Otherwise, the entire system collapses.

F7 GENERAL

Paper Session: *Methodological Issues*

Multilevel Modelling Approach to Analysing Socioeconomic Status Longitudinal Data and Compensating for Missingness

Adrian Byrne, University of Manchester, UK

Multilevel modelling offers a unique framework for analysing longitudinal data as the method accounts for correlations of observations across time. These data can consist of repeated observations over time (level 1) nested within individuals (level 2). This framework can handle a variety of functional forms of change over time and can tolerate both unequally spaced data and missing data that is assumed to be missing at random.

Missing data may cause bias in parameter estimation and weaken the generalizability of the results in longitudinal studies. Moreover, ignoring cases with missing data may lead to a loss of information which in turn decreases statistical power. Multiple imputation provides one solution to compensate for missing data by replacing missing values with model-based predictions thereby enhancing statistical power and possibly producing less biased model results.

This paper examines the changes in socioeconomic status over the life course by comparing two models: a polynomial growth multilevel model and a step function growth multilevel model both dependent on gender, region of residence and parental socioeconomic status. We also address the problem of missing data, compare multiple imputation solutions and contrast these with complete-case and available-case results.

The Occupational Earnings Scale is chosen as the measure of socioeconomic status (Bukodi, Dex and Goldthorpe 2010; Nickell 1982). This measure injects a form of hierarchy into routinely collected occupation data by ordering each occupation according to its mean hourly wage rate (ONS Annual Survey of Hours and Earnings) and produces a continuous measure of socioeconomic status over the life course. The 1958 National Child Development Study forms the longitudinal dataset (University of London, Institute of Education, Centre for Longitudinal Studies) and has the property that data collection is not evenly spaced across the life course.

Understanding Internet Response in the 2011 Census: What Can Longitudinal Linked Data Tell Us?

Nicola Shelton, University College London, UK

The 2011 Census was the first UK Census to offer online completion. The 2021 Census is expected to be predominantly online.

The paper considers who (in England and Wales) completed their Census form online. The ONS report 'Providing the online Census' showed that large (n=7+) households were much more likely to be internet completers. There was huge geographical variation in internet completion - from 5.7% (West Dorset) to 54.8% (Hounslow). Most forms were completed on paper (>70% in all age groups) but with significantly higher internet responses in younger age groups.

The ONS Longitudinal Study (The LS) is a 1% sample of persons in England and Wales linked data from 1971 to 2011 Censuses. This data was used to ascertain more about the characteristics of internet completers.

Of particular interest was finding people who were missing at Census and then reappear given an internet option. The simplest case is Present in 1991, Not present in 2001, Present in 2011 and these people were compared to those present in each linked Census. Those not present in 2001 were more likely to have been internet responders in 2011 (19.6% internet response c.f. 15.8% in those present throughout, $p < 0.001$). The pattern was similar for men and women but with higher internet response among men. Those aged 45-64 years and 65+ years had significantly higher internet response in 2011 if they were not present in the 2001 linked Census LS.

Acknowledgement: The permission of the Office for National Statistics to use the Longitudinal Study is gratefully acknowledged, as is the help provided by staff of the Centre for Longitudinal Study Information & User Support (CeLSIUS). CeLSIUS is supported by the ESRC Census of Population Programme under project ES/K000365/1. The authors alone are responsible for the interpretation of the data.

Validating Overcrowding Measures Using the UK Birth Cohort Studies

Noriko Cable, University College London, UK

The 'persons per room' (PPR) and the 'Bedroom standard' approach (BS) have been employed to identify overcrowded households in the UK survey data. Despite being commonly treated as an indicator for material deprivation, little is known about which overcrowding measure would perform well in regard to construct validity. In this work, associations between PPR, BS, socioeconomic status (education and occupational status) and subjective well-being (self-rated health and life satisfaction) were examined using available cases of the British adults who were surveyed in 1958 (NCDS, N=8631) or 1970 (BCS70, N=7536).

PPR and BS were derived using relevant housing grid information from the age sweep 33 for NCDS and the age 34 sweep for BCS70. Applying the established cut-off point for each overcrowding measure, the raw scores were categorised into 'undercrowded' 'equal' 'moderately overcrowded' or 'severely overcrowded'.

In both cohorts, PPR and BS were strongly correlated, yet some undercrowded cases identified by BS were identified as moderately (NCDS=4.7%, BCS70=8.6%) or severely overcrowded (NCDS=0.2%, BCS70=0.9%) by PPR. Cross-sectionally, both overcrowding measures correlated strongly with socioeconomic measures compared to the subjective well-being measures, while the estimates from PPR was larger than BS. Our preliminary results using NCDS showed that PPR (OR=1.26, 95%CI=1.09, 1.46 for undercrowded; OR=0.70, 95%CI=0.57, 0.87 for moderately overcrowded in reference to equal) was longitudinally associated with good health at age 42 while neither PPR or BS was associated with life satisfaction at age 42.

In sum, PPR appears to perform better compared to BS in regard to construct validity.

Cultural Knowledge Measurement in the NEPS: Development and First Results

Frank Gossmann, Leibniz Institute for Educational Trajectories (LifBi), Germany

Cultural knowledge is considered to be a substantial part of embodied cultural capital. However, the literature lacks recommendations respective operationalizations and theoretical well-grounded measurements. This paper aims to present a theoretically guided approach to develop a cultural knowledge scale that is adaptable to various stages of life and cultural contexts accompanied by reliability and validity analysis. To achieve content validity and as reference points for the questions, the totality of highbrow cultural entities was defined applying a multistage procedure: (1) By reviewing literature we revealed the consensus upon cultural genres that specify cultural knowledge. (2) We identified agents and institutions possessing the power to define which cultural entities constitute cultural knowledge and (3) recorded these entities. (4) By combining this information and applying certain selection criteria, we created a list representing the totality of highbrow cultural entities. Furthermore, existing measurements of cultural knowledge were classified regarding the used question types. The latter were chosen for the scale: (1) knowing of books, (2) allocation of work to artist, and (3) allocation of artist to genre. Finally, cultural entities were drawn randomly from the list and assigned to the question types resulting in a 24 items scale. Cognitive (n = 12) and quantitative pretests (n = 184) were conducted. Results indicate that the scale is reliable (Cronbach's $\alpha = 0.89$) and valid. A principal component factor analysis confirmed one-dimensionality and regression analysis supported construct validity as the theoretically expected correlations of the scale with education, age, mother tongue, and

number of books at home were observed. Remarkably, time spent on reading did not relate to the scale.

The paper illustrates the development of the scale, especially the abovementioned multistage procedure, and presents empirical results from a NEPS pretest concerning reliability and validity. Moreover, theoretical and methodological implications of these findings are discussed.

Performance Assessment Through Parents and Educators: Who Can Assess Children More Accurately?

Monja Schmitt, Leibniz Institute for Educational Trajectories (LifBi), Germany

An essential prerequisite for the parenting and educating of children is being informed about their development status. Teachers in schools, who have to implicitly and explicitly evaluate students as one of their daily tasks, have been and still are the primary focus of academic research. However, even in the preschool realm, a large range of tasks requiring the diagnostic skills of educators exists. For example, deciding which activities are developmentally appropriate for the children or which areas would benefit from special support, is done by the educational staff of day care centers based on child evaluations. Furthermore, they have to regularly document the children's development status and inform the parents about their children during development talks. Lastly, these types of evaluations are an implicit part of parenting, too, even though the parents don't have to report the results to anyone.

However, research from the preceding decades has shown that the ability to accurately judge personal characteristics varies substantially. This can have particularly problematic consequences in school, where erroneous judgments by teachers can lead to bad grades and thus have a negative effect on a child's educational trajectory. Similarly, far-reaching consequences aren't expected to occur in the preschool realm, but adequate assessments are nonetheless desirable. Our contribution examines how accurately parents and kindergarten teachers are able to judge various competences of the children.

Using the data of the Kindergarten cohort (SC2) of the National Educational Panel Study (NEPS) and running multi-level models, we analyze the parents' and educators' evaluation of the children's linguistic and mathematical abilities. Since the data also provides the objective measures of these competences, we are able to relate them to the ratings, thereby controlling for several features (e.g. the child's sex and age, the number of siblings, and social background indicators). We discuss the results particularly against the backdrop of limited and expensive time for asking questions in panel surveys and ask how helpful it is to ask several groups of raters for sometimes invalid views of persons.

Day 3 Saturday 8 October 2016

Parallel Session 8

A8 EDUCATION 1

Paper Session: *Higher Education Trajectories II*

Patterns of HE Attendance: Student Transfer Almost as a Norm in Norwegian University Education

Elisabeth Hovdhaugen, Nordic Institute of Studies in Innovation, Research and Education (NIFU), Norway

Compared to students in other countries, Norwegian students tend to spend long time to complete a degree, and the estimated time to degree is commonly exceeded. This phenomenon is partly linked to the patterns of HE attendance among students in Norway; their HE attendance is rarely linear. Compared to other countries is it common for students to transfer from one programme to another during their studies, almost half of the cohort of students in general university undergraduate programmes do this. The same type of pattern is not found among students attending more professionally oriented programmes at university colleges, such as nursing, social work and engineering at the bachelor's level. However, admission requirement for both types of programmes are quite similar. This paper explores differences in attendance patterns between students in different types of programmes and at different types of institutions, using event history analysis.

To explore this, high quality register data information is used, with the possibility to track students into, through and out of HE, and to explore their patterns of attendance and variation according to social background, grades, gender or immigrant background. In the analyses, the cohorts starting an undergraduate programme at a Norwegian HEI for the first time in 2003 and 2005 are used.

Preliminary analyses indicate that the patterns of attendance are much more complex in the general bachelors' programmes at university, than in programmes of comparable length at university colleges. This also contributes to explaining both lower retention rates and graduation rates at university, compared to university colleges. Another interesting finding is linked to grades; grades seems to be much more influential on chances of degree completion in undergraduate university education than in professional university colleges programmes. Common for students in both types of degrees is that those who are less well prepared need more time to complete. However, in university education students who have grades under a certain level have very low chances of completing their degree. This indicate that dropout can enhance existing educational inequalities.

Who Upgrades to Higher-Level Qualifications in Mid-Life?

Andrew Jenkins, UCL Institute of Education, UK

The theme of this project is whether unequal educational opportunities early in life can be overcome during adulthood. In recent decades many countries have seen huge growth in graduate-level jobs and decline in numbers of unskilled jobs. To minimise disadvantage in this evolving labour market it is important that adults have opportunities to obtain qualifications and upgrade to higher-level qualifications throughout their working lives.

The research seeks to understand why people return to study in their 30s and beyond and upgrade to higher-level qualifications. Some previous research has argued that attitudes formed in childhood, via family background and schooling, continue to shape a person's engagement in learning throughout the adult lifecourse. Psychologists distinguish extrinsic motivation, determination to progress in a career, from intrinsic motivation, love of learning, and suggest that both may be relevant to participation in adult education. A well-established education literature focuses on barriers to adult learning, such as lack of time or lack of funds.

In this research I consider people who did not enter higher education at the conventional ages of late teens or early twenties but who did subsequently obtain degree-level or equivalent qualifications in mid-life, defined here as from their early 30s through to age 50. The research uses data from the 1958 British birth cohort, a large-scale longitudinal survey.

I address the following questions:

How far did attitudes formed in childhood determine whether adults participated in education and gained higher-level qualifications in mid-life?

To what extent did intrinsic and extrinsic motivations and intrinsic motivation explain who gained higher-level qualifications in mid-life?

Which were the major barriers to gaining higher-level qualifications in mid-life?

The paper uses a comparison group methodology and logistic regression to isolate the key factors which explain why certain individuals progressed to higher-level qualifications in mid-life while others did not.

Should I Stay or Should I Go? Destinations After Higher Education Drop Out. The Role of Social Background and Pre-Tertiary Educational Pathways

Nicole Tieben, Eberhard Karls University Tübingen, Germany

A large proportion of students in Germany enters tertiary education after having obtained a vocational training certificate. This educational strategy is particularly pursued by students from lower socio-economic backgrounds. Prior research has shown that these students are less likely to achieve a higher education degree. The entire pathways through and out of higher education, however, are rarely taken into account, despite the fact that a considerable proportion of students correct their initial choice and drop out of the higher education course initially aspired. Dropping out of the initially chosen course does not necessarily lead to a final drop out from higher education, but involves a more complex educational decision process. We argue that students consider alternative options in higher education, vocational training

and the labour market and make their decisions based on individual evaluations of costs and returns.

We therefore distinguish the outcomes “staying in higher education with a transfer to another course”, “leaving higher education and transfer to vocational training” and “leaving higher education and transfer to the labour market”. Staying in higher education and a transfer to vocational training involve further educational investment, but may also result in higher returns in the labour market than a direct labour market transition. It therefore seems plausible that rational choice theories are applicable in this “non-standard educational decision” as well. As the perceived costs and returns for each of the alternatives differ by socio-economic background and pre-tertiary educational pathways, we expect that dropouts from lower socio-economic backgrounds and with vocational education certificates are less likely to remain in (or re-enter) higher education, which explains the lower graduation rate of these groups. We apply competing risks models in order to account for extended periods of search as especially transitions to the labour market and vocational training may involve a “bridging episode” of several months. We use NEPS starting cohort 6 as database for our analyses.

Determinants of Enrolment Into and Dropout From Higher Education: A Cohort Study of 15,000 People

David Wright, Queens University Belfast, UK

Background: Understanding the factors that influence representation in Higher Education (HE) is of considerable interest in the UK. Previous studies have concentrated on enrolment or dropout. We considered both processes, identifying the most important among a range of individual, household and area factors that potentially influence representation.

Methods: Two large administrative datasets; the 2011 Northern Ireland Census and longitudinal student enrolment data held by the Higher Education Statistics Agency (HESA) were linked, forming a cohort of 14,895 Northern Ireland-domiciled young people turning 18 during the 2010/11 academic year. We compared the characteristics of those enrolling/not enrolling for undergraduate degrees at UK Higher Education Institutions during the next three years. Multiple logistic regression was used to estimate associations with enrolment and dropout.

Results: 57% of cohort members enrolled for HE. Household social class and housing tenure were most strongly associated with enrolment (those in rented accommodation were almost 70% less likely to enrol than those in the most expensive houses) followed by area level deprivation and long working hours outside school (both decreased enrolment). There were moderately strong associations with household car access, individual health status, religion and sex (males 27% less likely to enrol). Associations with household structure and rurality were much weaker.

6615 cohort members were observed for three years post-enrolment. 74.5% continued in their studies, 7.7% dropped out in the first year, 8.4% switched courses and the remainder dropped out either temporarily or permanently in later years. Males were 39% more likely to dropout in the first year but in general associations between dropout and household or area factors were unclear.

Conclusions: Household background appears to have a more profound influence on enrolment than individual or area characteristics but little influence on dropout. Ongoing work aims to investigate dropout in later study years and course switching.

The College Trajectories of First-Generation Students in the United States

Stacey Bosick, University of Colorado Denver, USA

Funding agencies and universities in the United States continue to invest large sums of resources in strategies to attract and retain first-generation students - those who are the first in their families to attend college - into fields in which they are underrepresented. These students disproportionately come from disadvantaged homes and neighborhoods. Their high schools are especially likely to leave them underprepared for college-level work. They may face family pressure to seek employment at the expense of higher education, and education is typically undervalued by their peers. Some struggle with emotional insecurities and lack the cultural capital to navigate the higher education system.

Problematically, funding agencies and universities rely on “intuitive approaches and ‘best practices’ that might not be applicable across institutions and student populations” (DePass & Chubin, 2008). Rather than taking a top-down approach, this project allows the central obstacles faced by first-generation students to emerge from qualitative interviews. I look beyond the institutional context and investigate the broader life circumstances that make it difficult for first-generation students to envision graduate school and professional careers.

In 2012 I conducted interviews with self-identified first-generation freshmen. Four years later, in January 2016, I obtained their full transcripts, which detail the number and order of their courses and their grades in these courses. This paper examines their movement through the college experience. I report on how first-generation students integrate education into their lives. I detail the salient factors at play as students make decisions about classes and majors, and I articulate how the pathways into college (e.g. family influence, timing of application) influence attrition and achievement.

References:

DePass, A. L., & Chubin, D. E. (Eds.) (2008). *Understanding Interventions that Encourage Minorities to Pursue Research Careers*. Bethesda, MD: American Society for Cell Biology.

B8 EDUCATION 2

Paper Session: *Vocational Education*

Opportunity Costs Reinvented: The Influence of Emotional Costs and Work Values on Transitions Into Tertiary Vocational Education

Ines Trede, Irene Kriesi, Swiss Federal Institute for Vocational Education and Training (SFIVET), Switzerland

In this contribution we analyse the influence of emotional costs and work values on the transition into tertiary vocational education after completion of initial vocational education and training. From a rational choice perspective, individuals base their educational decisions on a cost – benefits assessment of the available options. The decision against a specific option leads to opportunity costs. In sociological and economic research opportunity costs are

usually related to financial loss or a loss of status (Lindenberg & Frey 1999, Esser 1999). Wigfield & Eccles (1992) have proposed an extension of the concept to emotional costs. Emotional opportunity costs include, for example, the correspondence of a chosen educational pathway with individual values. However, his emotional component of opportunity costs has hitherto been neglected in empirical research (Trautwein et al. 2013).

Our contribution combines the concept of emotional opportunity costs with Ros, Schwartz and Surkiss' (1999) concept of work values. We will analyse the influence of value-related emotional opportunity costs and of work values on the career choices – i.e. the transition into the labour market or into higher vocational education - of young people who completed initial vocational education and training in the occupational field of health care.

The analyses are based on a full sample of third-year health care apprentices (N=2089). The data was collected during upper-secondary training (2011) and one year after completion (2012). Results are based on logistic regressions.

The results confirm our hypothesis that the perception of value-related emotional costs affects the chance that young people enter vocational tertiary education. Work values play a less clear-cut role. In sum, the findings imply that the avoidance of emotional costs is more important for career decisions after initial vocational education and training than work values.

Does Vocational Education Give a Happy Start and a Lousy End to Careers? Employment and Earnings Over the Life Course

Mailys Korber, University of Lausanne, Switzerland

In the wake of the Great Recession, vocational education and training (VET) has become a widely advocated policy solution to the staggering rates of youth unemployment. Vocational training may give workers a head start in the labour market and thereby lead to more successful careers. However, vocational skills may also become obsolete more quickly and leave older workers vulnerable to structural change. We examine this issue for Switzerland, the OECD country with the highest share of youth who attend a work-based VET course after the end of compulsory school. Our analysis compares the evolution of employment and earnings over the life course for workers with upper-secondary vocational and general education based on the Swiss Labour Force Survey, 1991 to 2014, and the Swiss Household Panel, 1999 to 2013. Our results show that employment prospects for mid-aged and older workers with VET are at least as good as those for workers with general education. However, general education is associated with consistently higher annual earnings than VET once workers reach the age of 30 to 35. When comparing total work income over the life course weighted by the probability to be in employment, we find interesting gender differences. Vocationally trained men have life-cycle earnings that exceed those of men with general education by 2 per cent, whereas women with general education earn about 6 per cent more than vocationally trained women. These results are robust to the use of regional variation in the baccalaureate rate as an instrument to account for selection into different educational tracks.

Individual, Familial and Institutional Determinants of Post-Compulsory Educational Pathways of the Children of Migrants in Switzerland

Andrés Gomensoro, Bern University, Switzerland; Laura Bernardi, University of Lausanne, Switzerland

In Switzerland, educational attainment of children differ greatly according to migrant status and ethnic origin. This paper asks what educational attainment is correlated to which kind of educational pathway and why certain ethnic groups take educational paths that lead to lower-value certifications (or none) instead of tertiary education. To answer to this question, we focus on three potential dimensions which affect the educational trajectory of immigrants' children and, in a second step, we explore the interaction between such dimensions.

First, we have a look at the individual educational aspirations and competencies at different moments of the educational trajectory. Second, we investigate the role played by the members of the family (for instance the parental aspirations and mobilization of resources). Finally, we consider the effect of the Swiss educational system in which tracking (that often defines post-compulsory educational opportunities) occurs very early in the school career.

We rely on both longitudinal quantitative and retrospective qualitative data sources to address these issues. First, we draw on the longitudinal and representative database "Transition from school to employment" (TREE) to study differential distribution by ethnic origin in post-compulsory educational pathways (constructed by OMA and Ward clustering). We notice that children of large groups of migrant workers from former-Yugoslavia, Portugal and Turkey are overrepresented in discontinuous pathways that lead to lower-value certifications (or none). Second, we analyze 50 biographic interviews of children of migrants from former-Yugoslavia to identify principal determinants of educational pathways. We see that early tracking deeply shapes post-compulsory educational pathways, but at the same time that educational trajectories appear to be deeply influenced by the accordance or dissonance between the tracking, parental aspirations, individual aspirations and school competencies. Most of the time, when there is at least one dissonant dimension, the education trajectory is punctuated by specific hardships.

Transition Into Vocational Training?

Maria Richter, University of Goettingen, Germany

For long time the highly regulated German vocational training system has been known for framing rather structured transitions from school to work and qualifying young people on high qualitative and quantitative standards. However, recent developments have made that system increasingly exclusive for the lowest skilled. To facilitate the integration of low skilled youngsters in the training system governmental engagement has established a sector of schemes which aim to compensate for individual deficits and to prepare for regular vocational training – the so-called transition system. Although the attendance of measures in this transition system constitutes nowadays an integral part of the educational trajectories of these students less is known about their effectiveness to promote young people's integration into regular vocational training. By analysing longitudinal data of 1770 school leavers from lower secondary schools in Lower Saxony this paper provides empirical evidence about the consequences and determinants the participation in prevocational training programs has for the educational pathways of these students. While research on this topic often restricts the focus on one status passage of the school-to-work transition we analyse the educational

pathways as a whole by employing sequence and cluster analysis. The analysis reveals three different transition patterns out of the transition system:

- For one group of students the transition systems seems to act as a bridge into the VET system and therefore opens up new pathways.
- Another group spends long time in the transition system without any improvement of their training prospects. Accordingly, the students seem to be “on hold”.
- The third group is characterized by a comparatively short time in the transition system, but the majority passes into unemployment or unskilled employment. In these cases, the transition system seems to hamper further training investments.

To understand the conditions under which the transitional system increases educational opportunities or contributes to further marginalization of students, multinomial regressions methods are applied.

C8 HEALTH 1

Paper Session: *Well-Being and Mental Health*

Transition to Parenthood and Multidimensional Well-Being: Does Personality Play a Role?

Laura Bernardi, Gina Potarca, University of Lausanne, Switzerland

This paper aims to find empirical evidence for spill-over effects across the life domains of family, work, leisure, and psychological well-being. Adopting a longitudinal perspective, we focus on changes of life-, job- and leisure-satisfaction before and after childbirth. We additionally examine how fixed personal resources or attributes, particularly gender and personality traits, may moderate these spill-over effects. Admittedly, the literature on changes in life satisfaction pre- and post-childbirth is burgeoning. Yet, little of this research simultaneously considers changes in satisfaction with other life domains, such as job satisfaction or satisfaction with amount of leisure, their reciprocal interdependence and potential moderators of these relationships. Furthermore, the literature looking at family related transitions and various dimensions of well-being is largely written from a singular disciplinary perspective. This study intends to jointly address sociological, demographic, and psychological explanations of individuals’ experiences of vulnerability and the interplay between family, work, leisure, and mental health. Based on a sample of 3,656 German respondents, a series of multilevel linear growth curve models are performed. Results show that men and women experience comparable post-childbirth changes in life- and leisure-satisfaction. But while there are no significant drops in fathers’ job satisfaction, women’s transition to parenthood triggers significant decreases in satisfaction with work starting two years prior childbirth. Nonetheless, their job satisfaction starts to significantly rise in the years that follow childbirth. Personality plays an important role, with women that score low on neuroticism, and high on conscientiousness or agreeableness not being affected in their job satisfaction by the birth of their first child.

Socioeconomic Inequalities in Well-Being of 11-Year Old Children: The Explanatory Role of Parental and Child Factors

Tanja Vrijkotte, University of Amsterdam, Netherlands

Subjective well-being has positive effects on mental and physical health. Socioeconomic inequalities in well-being in children are described but factors explaining these inequalities are understudied. The aim of this study was to investigate socioeconomic inequalities in subjective well-being in 11-year old children and the degree to which these inequalities could be explained by parental and child factors.

Data from 2175 11-year old children from the ABCD-studies were used. Well-being was measured by self-report by the ladder of Chantril (score between 1-10). A score of 7 or lower was considered as reduced well-being. Maternal education and family income adequacy were used as two separate indicators of socioeconomic status. Multivariate logistic regression analysis was done to study socioeconomic inequalities in reduced well-being and the explanatory role of psychosocial problems and sport participation of the child and of stress, excessive smoking and alcohol consumption of the parents.

Income adequacy was significantly related to well-being in children. Reduced well-being was reported by 6.6%, 10.3% and 19.2% of the children of families with more than adequate income, adequate and inadequate income, respectively. After adjustments for age, ethnicity and sex, the odds of reduced well-being was 3.3 (95%CI:2.3-4.9) higher in children from inadequate income families compared to children from more than adequate income families. This increased odds, could partly be explained by no sport participation (9%) and psychosocial problems (17%) of the child, and excessive smoking (10%) and high stress symptoms (10%) of the mother. Maternal education level was not associated with self-reported well-being in children. The same applied to paternal factors.

Socioeconomic inequalities in well-being are already present at young age. Differences in child as well as maternal factors partly explain these differences. Interventions targeting these factors might be helpful in reducing inequalities in well-being and thereby reduce inequalities in health later in life.

Longitudinal Latent Verbal Profiles and Children's Psychosocial Well-Being in Early Adolescence

Afshin Zilanawala, University College London, UK

Prior research suggests heterogeneity in child emotional and behavioural adjustment across the school-age years. Some children present with persistently more problem behaviours, others have consistently few behavioural problems, and some children experience fluctuations in problem behaviours across early childhood. However, little is known about factors that influence different patterns of emotional and behavioural adjustment over the first decade of life.

We use Latent Profile Analysis (LPA) to generate developmental trajectories across childhood, and examine the role of potential proximal influences in predicting different behavioural profiles. Using the Millennium Cohort Study, we used mother reported Strengths and Difficulties Questionnaires collected at ages 3, 5, 7, and 11 to create longitudinal latent profiles for total difficulties, externalising and internalising scores. Time-varying markers of

children's environments included: financial strain (subjective and objective), family structure (entry/exit of parent/carer, change in presence of grandparent), change in number of siblings, parental death, residential moves, change in maternal depression, non-intended injury, and hospital admissions.

LPA revealed the optimal solution to be 6 longitudinal latent profiles for the total difficulties scores, 5 profiles for externalizing, and 6 profiles for internalizing behaviours. Total difficulties profiles were as follows: (1) no problem behaviours (72.5%), (2) low or average scores but peaking at age 3 (3.3%), (3) peaking at age 5 (7.2%), (4) peaking at age 7 (5.8%), (5) peaking at age 11 (8.1%), and (6) a clinically relevant high group (3.1%). For the externalising profiles, nearly 20% of children had peaks in scores at 2 ages whereas for internalising profiles, the most prevalent profiles, after the 'no problems profile', were those peaking at ages 5 (7.8%) and 11 (7.2%).

The influence of markers of children's environments on membership in behavioural profiles will be presented, shedding light on the factors affecting transient versus persistent behavioural problems in early childhood.

Parental Employment Transitions and Adolescent Happiness: An Analysis of the UK Household Longitudinal Study

Elizabeth Webb, University College London, UK

Adults who are out of employment, and who make transitions out of employment, have poorer mental health. The relationship between parental employment, in particular maternal employment, and child well-being is well-researched, but the effects of paternal and maternal transitions in and out of employment on children's well-being are unknown.

We use data from waves 1-5 of the UK Household Longitudinal Study (UKHLS) to investigate: whether adolescents are less happy when their mother and/or father is not in employment; whether there is an effect on the happiness of adolescents who experience a parental transition in employment; and whether this effect is mediated by household income and/or parental mental health.

Our analytic sample is restricted to co-resident mother-father-adolescent child triads, where adolescents were aged 10-15 years and, within wave, there is complete information on the variables of interest (n triads=2072; N observations=3606).

Fixed effects regression models showed that adolescent happiness did not differ with maternal employment status, but did differ with paternal employment status: adolescent children were happier when their fathers were in employment ($\beta=0.27$; 95% CI 0.03, 0.52). Structural equation models showed that there were no effects of maternal employment transitions in the previous year on adolescent happiness. There was a negative effect of paternal transitions out of employment within the past year ($\beta=0.24$; 95% CI 0.02, 0.45), which was partially mediated by maternal mental health, but no increase in happiness associated with paternal transitions into employment.

Our results suggest that mother's employment status does not influence the happiness of their adolescent children. However, results suggest that when fathers are in employment their adolescent children are happier, and when fathers make a transition out of employment adolescent children become less happy, a relationship which was partially explained by the influence of such transitions on the mental health of mothers.

Time Doesn't Fly: Long-Term Effects of High School Time Use on Resilience and Risk

Jasper Tjaden, University of Bamberg, Germany

This longitudinal study examines how time use in high school contributes to development in adolescence and in early adulthood. We consider differential effects of time use for relatively unsuccessful teenagers who develop resilience and successful youth who become at risk despite their more positive starting positions. We draw on data from 1103 participants in the longitudinal Youth Development Study, followed from entry to high school to the mid-twenties. Controlling demographic, socioeconomic and psychological influences, we estimate the effect of average time spent on homework, in extracurricular activities and with friends during the four years of high school on outcomes at the end of high school and at the age of 26/27. We find substantial positive effects of time spent on homework on successful development up to twelve years later. In contrast, time spent with peers diminishes both mid- and long-term adjustment. We discuss potential mechanisms and implications for further research and policy.

D8 HEALTH 2

Symposium

Growing Up Healthy in Families Across the Globe

Convenor: Susan Morton, University of Auckland, New Zealand

Summary: This symposium will describe a new international collaboration which will focus on comparing five separate longitudinal studies in Ireland, NZ, and Scotland in order to improve our understanding of child development in the context of their families.

Children develop best when raised in functioning and supportive families. This strong international research collaboration brings together five longitudinal studies and our comparative analyses – parallel and combined – will provide a unique longitudinal view where change over time will be emphasised to determine how and why environments change, which environments appear supportive and which do not.

A New International Research Collaboration

Chris Cunningham, Massey University, New Zealand; Susan Morton, University of Auckland, New Zealand

This introductory session will outline the rationale for the collaboration. The similarities between the New Zealand, Scotland and Ireland contexts will be described together with the available longitudinal studies. The focus on child development in the context of families will be explored.

Growing Up in New Zealand

Susan Morton, University of Auckland, New Zealand

Growing Up in New Zealand (GUINZ) recruited 6853 children from *before birth* in 2009 and 2010. The cohort is broadly generalisable to the current NZ birth population in terms of the diversity of parental ethnicity and socioeconomic status. It also has adequate explanatory power to elucidate life course pathways to health for Māori (24% of cohort), Pacific (21%) and Asian (16%) children. Five data collection waves (DCWs) have been completed to date, and the children are now 7 years old. Face to face information is supplemented by linkage to routine health and education records. The overarching objective of the longitudinal study is to understand what shapes developmental trajectories of contemporary New Zealand children growing up in the context of their diverse families and the broader socio-political environment that is 21st century NZ. The study team work closely with multiple government agencies to provide relevant evidence to inform policies to improve well-being for all New Zealanders.

Pacific Islands Family Study

Dan Tautolo, Auckland University of Technology, New Zealand

The Pacific Islands Families (PIF) Study is an ongoing longitudinal birth cohort study that has been tracking the health and development of 1,398 Pacific children and their parents since the children were born at Middlemore Hospital in South Auckland in the year 2000. It is the only prospective study specifically of Pacific peoples in the world. The PIF Study's broad aims are to determine optimum pathways for Pacific children and families during critical developmental periods by identifying risk and resilience factors that influence positive and negative outcomes; and to provide Pacific-specific evidence and make empirically-based strategic recommendations to improve the health and well-being of Pacific children and families and address the social disparities they face in New Zealand.

Te Hoe Nuku Roa

Chris Cunningham, Massey University, New Zealand

Te Hoe Nuku Roa (Best Outcomes for Māori) is a longitudinal survey of people of Māori descent within selected households from several regions of Aotearoa/New Zealand. The major focus of the research is to identify the factors associated with better outcomes for Māori across cultural, social and economic dimensions, using a framework relevant to Māori.

The survey cover a wide range of issues, including language, ethnic identity and cultural participation; lifestyle, health and well-being; education, living standards, employment, income and housing. A core of topics and questions has been retained throughout the waves of data collection. However, topic coverage, emphasis and detail may vary between waves, with selected questions being refined, added or deleted. There are separate questionnaires for adults and children (aged under 15 years) and some questions relating to households. The children's questionnaire is shorter and is answered by a parent or caregiver.

Te Hoe Nuku Roa had a sample size of 839 primary households and over 2500 individuals in the first four waves, equivalent to about one in every 150 Māori households in the study regions. Of these, 631 primary households and 2163 individuals were in the original four regions which form the core of the longitudinal data. Sample sizes for any given analysis were smaller, as the overall sample was split between adults and children (who answered different

questions) and by region (with Auckland accounting for 43% of the sample in the original four regions), and not all participants were represented in each wave.

Growing Up in Ireland

James Williams, Economic and Social Research Institute, Ireland

Growing Up in Ireland (GUI) is a nationally representative study of children of 11,100 children, begun in 2007. The study describes the development of contemporary Irish children, to establish what the determinants of normal and problematic outcomes. The study team work closely with government ministers to inform policy development to optimize well-being of children in Ireland today.

Growing Up in Scotland

Paul Bradshaw, Scottish Centre for Social Research, UK

In recent years, the Scottish Government has set out an admirable and ambitious vision to make Scotland ‘the best place in the world to grow up’. This is to be achieved by improving outcomes and reducing inequalities for all children and their families. The vision reinforces the acknowledgement amongst policy makers in Scotland of the importance of children’s well-being and the commitment to address the impact of inequalities through an emphasis on early intervention and prevention.

Through a combination of its overall design – being a representative sample and longitudinal in nature – and the substantive areas covered, the Growing Up in Scotland study (GUS) provides a unique basis for monitoring and evaluating progress towards the vision. In addition, it can also inform more detailed policy and practice through the identification of factors associated with achieving more positive outcomes, many of which stem from the circumstances and characteristics of the families in which children are growing up.

Using data from GUS, this paper will provide an overview of what families look like in Scotland, how they change over time and how each of these are associated with child well-being. In so doing, it will suggest important areas of similarity and difference between Scotland, New Zealand and Ireland which will potentially warrant further investigation as part of this new collaborative project.

Summary – Next Steps

Susan Morton, University of Auckland, New Zealand

This concluding session will detail the next steps in the collaboration, including the process of harmonisation/comparison of the datasets and identification of the major topics and themes. Themes may include: healthy starts; best healthcare pathways; growth learning and development; family support; younger parents/older parents; and early start education.

E8 CHILDREN & FAMILY

Paper Session: *Childhood Development II*

The Long Arm of Education? A 28-Year Perspective on the Consequences of Education for Job Quality and Well-Being Over Adulthood

Janine Jongbloed, Université Bourgogne Franche-Comté, France

In this study, we consider the education-work-well-being nexus over adulthood using data from the Paths on Life's Way Project, a 28-year longitudinal study of the high school graduating class of 1988 in British Columbia, Canada. Our research investigates the consequences of educational trajectories and attainment for later job quality and personal well-being through path models. Although multiple lines of influence are considered, we focus on the way in which education impacts well-being both directly and indirectly through job quality. Guided by previous research (Hellgren et al., 2003; Huppert & So, 2011; Kompier & Ybema, 2009; Tausig, 2013), robust, multi-dimensional measures of both job quality and personal well-being, attuned to both subjective and objective dimensions of these life course markers, will be constructed and tested. Additionally, we examine the way outcomes shift by gender by exploring the impact of education on both characteristics of employment and well-being and how this differs for women and men.

The Paths project offers a unique perspective on the education-work-well-being nexus as it incorporates both survey methods and semi-structured interviews collected at six points in time: 1989, 1993, 1998, 2003, 2010, and 2016 (currently in process). The questionnaires and interviews were designed to explore the educational, career, and life course trajectories and accomplishments of students after high school graduation, as well as connected choices, beliefs, and expectations, and satisfaction, happiness, and well-being over time. Our research uses previously unexamined aspects of job quality and well-being by integrating dynamic indicators collected across time, while building on previous work done with this dataset (Andres & Grayson, 2003; Andres & Wyn, 2010; Andres, 2009).

The Effects of TV Viewing on Child Cognitive Development: A Dynamic Perspective

Michael Kühhirt, University of Cologne, Germany

The formation of early cognitive ability can be conceptualized as a dynamic process in which a child's individual characteristics in conjunction with bygone and current contextual conditions shape developmental outcomes at a particular point in the child's life course. Many, if not most, contextual features vary over the (early) life course, thus lending particular importance to the timing and duration of exposure. Empirical research to date, however, rarely addresses the dynamics in childhood conditions and the methodological challenges that arise from it.

An important activity in a child's early years, and subject of controversial public and scientific debates, is whether and to what extent and in which developmental phase the child is viewing TV at home or not. Infant TV viewing might have detrimental effects to cognitive development because flashing lights, quick edits and scene change are overstimulating to developing brains. In addition, infant TV viewing may prevent children from participating in activities that are more cognitively stimulating.

In the present analysis, we use data from the 2004/5 birth cohort of the Growing Up in Scotland study and investigate the relationship between naming vocabulary and picture similarity tests at age 5 and child's TV viewing history at home. To assess the cumulative impact of TV viewing over time on cognitive development, we use summary measures of the whole TV viewing history up until the cognitive tests instead of simple point-in-time measures during the child's early years.

In our modelling, we apply inverse probability of treatment weighting, a statistical technique that was developed to properly adjust for time-varying confounding factors that may bias the effects of child's TV viewing history on early cognitive ability.

Double Jeopardy: How Risk Factors Lower the Robustness of Maternal Sensitivity in the Face of a Difficult Child Temperament

Jan-David Freund, University of Bamberg, Germany

Quality of children's early home learning environment, especially the quality of interaction in terms of sensitive and stimulating behavior, is one of the most important and long-lasting predictors of an advantageous child development. However, various study results point to a reduced parental ability to provide high quality interactions, when emotional stress in the family is high. Difficult child temperament could be one potential stressor, but study results remain contradictory showing no relations in large scale studies but strong relations in high risk samples. Therefore, we hypothesize, that parents may buffer the negative effect of difficult child temperament when other stressors, like low household income or lack of support of a partner, are not present or low.

We investigated this assumption using data of the representative sample of the first wave of the Early Childhood Cohort of the German National Educational Panel Study (NEPS) which assesses educational factors and early development of 3500 children from 6-8 months of age onward. Quality of parent-child interactions was assessed by coding videos of a semi-structured play situation between parent and child using a macro-analytic rating system. Infant temperament and contextual factors were assessed via parental interview. We defined subgroups which differ in their amount of contextual risk factors (e.g. low SES; single parent; psychological strain), and analyzed the relationship of temperament and the quality of interactions.

In accordance with previous findings, only a small overall relationship could be found. However, as hypothesized, a targeted inspection of subgroups yielded a clearly higher impact of child temperament on mother's sensitive behavior with increasing number of risk factors.

Our findings support the assumption that a difficult temperament poses an additional developmental risk for children who already grow up under difficult circumstances.

Social Differences in the Development of Receptive Language Skills in Pre-School Age in Germany

Thorsten Schneider, Leipzig University, Germany; Ilona Relikowski, University of Bamberg, Germany; Tobias Linberg, Leibniz Institute for Educational Trajectories (LIfBi), Germany

There is ample evidence on differences in educational performance and cognitive competencies by social origin, especially by parental education. Less is known, however, about how stable these differences are at early ages, and what role structural characteristics as well as parental activities and pre-school institutions play for domain-specific progress. Therefore, we discuss theories on the importance of families and pre-school institutions on progress in language skills, including competing predictions on cumulative (dis)advantages ('Matthew effects'), stability or convergence by social origin. According to the cultural capital approach in the tradition of Bourdieu, strong 'Matthew effects' by social origin should occur because of differences in family activities and middle and upper class biases of educational institutions. In contrast, DiMaggio's social mobility approach assumes that lower class families can benefit more from educational institutions than middle and higher class families. More recent economic and sociological models stress the role of "input" or "opportunities" and also expect children to catch up in the wake of family activities or high quality early childhood education and care (ECEC) on the individual level, reducing social inequality on the aggregate level.

We derive and test hypotheses using data from a subsample of the German National Educational Panel Study (NEPS). Our investigation examines receptive vocabulary and grammar comprehension of about 530 children at two points of measurement (4- to 5-year-olds in ECEC and 1st graders). We describe the overall differences in language competencies by parental education as children get older, and we test the influence of distal and proximate family and ECEC characteristic on progress in language skills with value-added models.

Preliminary findings are pointing to the clear occurrence of 'Matthew effects'. Children do not only demonstrate higher average language skills at age 4 to 5 depending on a higher level of mother's formal education, in fact they also make significantly more progress over the subsequent 2 years. Further analyses are pending.

F8 GENERAL

Paper Session: *Gender and Work in the Life Course*

Education and Women's Work Orientations Over the Life Course: Does Having More Qualifications Mean Finding One's Job More Meaningful? A Qualitative Analysis of NCDS Data

Dinah Gross, University of Lausanne, Switzerland; Loretta Platts, Stockholm University, Sweden; Jack Day, University of Texas at Austin, USA

While women's work orientations have been extensively studied, less attention has been paid to whether work orientations are stable as individuals age. We analyse how educational experiences, both at school and in mid-life, influence orientations to work over the life course for British women. The data used are semi-structured interviews from a sub-sample of 110 participants from the National Child Development Study who were in their early fifties.

We focus on a group of women who held a pragmatic orientation to work when they entered the labour market, women who “fell into jobs” rather than beginning a career. Education plays a crucial role in the life of these women at two points: formal education determines the level of qualification of the first job, while education at later points in life is taken up often in the hope of boosting further career prospects. We find that education at the first point is often aborted in the case of the women holding a pragmatic work orientation: they preferred to begin working rather than pursue school despite having opportunities and often parental support to further their education.

Following a period of child-rearing for most of the women, some moved into roles that were more enjoyable and/or fulfilling, either through gaining formal qualifications or managing in other ways to find more rewarding work. Education taken up at later stages in life is often perceived as personally rewarding, but more rarely introduces fundamental changes in the employment trajectory of these women.

These findings suggest how, for certain women, gaining additional qualifications is a strategy that enables them to find more engaging work, while for others additional educational experiences have little impact upon the women’s pragmatic work orientation.

Changes in Gender-Typical Occupational Aspirations During Adolescence: Does the Type of Upper-Secondary School Matter?

Ariane Basler, University of Zurich, Switzerland

During adolescence, young people’s educational and occupational goals are often gender-typed, which leads to occupational sex-segregation and thus to unequal opportunities of men and women in the labour market: female-dominated occupations often offer less pay and lower opportunities for upward mobility and continuous training (Buchmann & Kriesi 2008).

Recent research provides evidence that the extent of educational and occupational gender segregation is linked to a country’s educational system (Imdorf et al. 2015). Especially initial vocational education and training fosters gender-typed enrolment (ibid.). We assume that this is due to the fact that gender-typical aspirations are most pronounced around the age of 15, when young people face the simultaneous tasks of choosing their upper-secondary education and developing their gender identity. Our paper examines the change towards less gender-typical aspirations between the age of 15 and 21 and its relation with the type of upper-secondary school attended.

Our analyses are based on the Swiss longitudinal study COCON, including a sample of 15-year old youth born in 1990/91, and being representative of the German and French speaking part of Switzerland. We use data from the survey waves of 2006, 2009 and 2012, when the respondents were 15, 18 and 21 years old. We apply a dichotomous multilevel model with weighted data. For every data wave the dependent variable captures whether the youth aspires to a gender-typical (male or female-dominated) or a non-gender-typical occupation.

Preliminary results show that gender-typical occupational aspirations are most prevalent at the age of 15. The proportion of young people aspiring to a gender-typical occupation decreases thereafter.

Young people in general education, high performers, and those with a high career orientation (women) have the highest probability of abandoning their former gender-typical occupational aspirations in favour of gender-neutral or gender-atypical aspirations.

Gendered Transitions to Early Employment in Bulgaria

Rumiana Stoilova, Bulgarian Academy of Sciences, Bulgaria

The paper investigates how gender affects school-to-work transitions in Bulgaria. Theoretically the study builds on previous research on how educational pathways explain gender specific employment experiences (Imdorf et al. 2014; Buchmann and Charles 1995; Estévez-Abe 2006; Smyth and Steinmetz 2008). Similarly, the paper contributes to existing school-to-work research on Central and Eastern European countries (Kogan et al. 2011), which thus far has not included Bulgaria. Kogan et al. (2011) point to the existence of strong and consistent gender effects and rural-urban differences for the immediate entry into the first job in some Central and Eastern European countries. For Bulgaria, Stoilova (2012) finds that women are more frequently employed with stable contracts compared to men. Building on this literature, we ask through what kind of employment (e.g. registered vs. non-registered) men and women enter the labour market in Bulgaria, and how the educational career as well as parenthood matter.

We use data from a nationally representative school leavers survey (2014) to analyse gendered transitions to early employment in Bulgaria. First, we explore what type of transition types exist for men and women after leaving formal education separately for men and women using sequence analysis. Several status distinctions are captured: contract/no-contract work, employed/self-employed, and care work amongst others. Then we test for factors that shape gender specific transitions in different forms of employment using regression analysis. We analyse the effects of educational pathways - specifically educational level, grades and education type (i.e. vocational vs general, tertiary vs secondary) as well as having children, and we control for socio-demographic characteristics (age, social origin, ethnicity, and rural-urban place of residence). Our preliminary results show that not only educational level and type but also grades, ethnicity and place of residence influence graduates' transitions in a gender specific way.

Women's Reconciliation Behavior Between First and Second Birth Across Family Policies and Educational Groups

Uta Brehm, Bamberg Graduate School of Social Sciences, Germany

In research's focus on women's means to reconcile employment and family responsibilities, partial aspects such as the timing and scope of mothers' return and their employment status prior to having another child have been consulted as representatives for women's overall behavior. The present study adds a perspective of interrelatedness, arguing that women's births and the thereby encircled employment behaviors configure one behavioral unity which is influenced by structural and individual factors such as changing family policies and women's educational background. For the case of conservative West Germany, focus is set on mothers of two biological singletons who thereby comply with a prevailing two-child norm.

On the basis of sequence analysis on NEPS data, cluster analysis identifies five distinct patterns in the reconciliation behavior between the first and second birth. Specifically, clusters range from rather family-oriented patterns encompassing unpaid caregiving and

part-time employment to more work-oriented patterns consisting of full-time employment or particularly quick decisions for a second child.

Logistic regressions on the emergent patterns suggest that family policies had a major impact on the prevalence of behaviors embracing unpaid caregiving as well as on the polarization of educational groups – findings that are scientifically established in West Germany today. Particularly incisive in this respect was the introduction of the 36-month parental leave in 1992 which raised the shares of women pursuing patterns of unpaid caregiving enormously at the expense of full-time employment. This is similarly true for all educational groups except for tertiary educated women, yielding their incomparable consistency even in the face of adverse family policies. The institutionalization of part-time employment in 2001 levels educational differences again. Beyond that, results suggest that mothers rarely take advantage of job warranties beyond 20 months, exposing the needless costliness of longer parental leaves in light of their facilitation of statistical discrimination in employers.

Parallel Session 9

A9 EDUCATION 1

Symposium

The Determinants of Educational Outcomes in Japan: First Evidence from the Japan Child Panel Survey (JCPS)

Convenor: Hideo Akabayashi, Keio University, Japan

Summary: The strong intergenerational transmission of economic and social status observed around the world has become a serious issue that threatens our core value - the equality of opportunity - that we believed to have achieved in any democratic/free-market societies. In the past decades, there has been an increasing interest in comparing countries with a different degree of cross-sectional and intergenerational inequality to investigate the role of public policies, especially education and early childhood education and care policies, to understand what explains differences across countries.

The most powerful research uses longitudinal data that follows children over time, with detailed measures of educational and psychological outcomes, as well as family background variables. Japan is clearly a unique country in terms of education policy, cultural setting, and the degree of inequality, compared with the U.S and European countries. Yet, Japan has lacked such comprehensive data that is openly available to researchers, hindering the advancement of quantitative research in this field. Since 2009, our research group at Keio University has worked to create the first representative child panel survey in Japan with both cognitive and non-cognitive outcome measures with a similar structure with CNLSY, the Japan Child Panel Survey (JCPS). In this symposium, we explain about the structure of the JCPS, and present the first evidence about various aspects of educational inequality in Japan using the JCPS.

Determinants of Cognitive and Non-Cognitive Ability of Children in Japan: Overview and the Results From the JCPS

Hideo Akabayashi, Michio Naoi, Keio University, Japan; Chizuru Shikishima, Teikyo University, Japan; Ryosuke Nakamura, Fukuoka University, Japan

Like many other advanced countries, Japan has experienced a widening income inequality in the past decades. Public concerns are directed toward the arguably strengthening link between family background and children's educational outcome, which leads to a decline of equal opportunity for children. In this paper, we provide an overview of the current knowledge about the equality of educational opportunity in Japan, drawing upon a wide range of previous research, with an emphasis on the states of longitudinal data of children available to researchers in Japan. Then, we discuss the aim of development of the Japan Child Panel Survey (JCPS), the first national representative longitudinal survey of school children in Japan with not only cognitive and non-cognitive outcomes but also rich family background information. Finally, we present cross-sectional evidence of the determinants of cognitive and non-cognitive ability, and compare the results with the literature and results in other advanced countries.

Dynamics of Educational Outcomes Over the Child Development and the Role of Socioeconomic Status of Parents in Japan

Michio Naoi, Hideo Akabayashi, Keio University, Japan; Chizuru Shikishima, Teikyo University, Japan; Ryosuke Nakamura, Fukuoka University, Japan

Various longitudinal data of children have been used to describe the development of inequality of educational outcomes across socioeconomic groups of households over the course of child development measured by the achievement test and behavioral indices in the United States and European countries (Ermisch, Jantti, & Smeeding, 2012). In this paper, we present selected results of the dynamics of educational outcomes of children of between ages seven and fifteen in Japan using the JCPS's educational indicators, such as math, Japanese, and behavioral score (SDQ), across different socioeconomic groups. We also investigate the degree of mobility of cognitive test scores and the behavioral score and their relationship with the family background. We try to present our results in a way that is comparable with the results from the U.S. and European countries drawn up the previous literature.

Does Money Matter? Exploring a Causal Link Between Family Income and Educational Spending and Child Outcomes Through National Child Allowance Policy

Shinpei Sano, Chiba University, Japan; Michio Naoi, Keio, University, Japan, et al.

We examine the causal effects of family income on household's private educational spending and child outcomes using the JCPS. Our identification strategy relies on the largely exogenous, discontinuous changes in the Child Allowance Policy in Japan that took place between 2010 and 2012. Prior to FY2010, a child aged 12 and younger was eligible for the allowance. A monthly allowance was determined based on children's age and birth order, and no allowance was given for a child from a household with income above the pre-specified threshold. In FY2010, the government substantially expanded the amount and scope of allowance. A child aged 15 and younger became eligible for the allowance. A monthly allowance was 13,000JPY, independent of child age (re-introduced four categories in Oct, 2011), and the income-test was abolished. The current policy, from FY2012, provides a category-based monthly allowance, and the income-tests used for the eligibility for child allowance were reintroduced. We examine whether an exogenous increase in family income

derived from policy change has any causal effects on a household's educational spending and on children's cognitive and non-cognitive outcomes. Our baseline estimates suggest that a cumulative increase in allowance has a weaker impact on children's cognitive outcome. We also test whether this policy change has any causal impacts on a household's educational spending and children's non-cognitive and behavioral outcomes. We also examine a variety of alternative specifications, considering heterogeneous policy responses across different households.

Does Social Capital Affect Children's Achievements? Assessing the Evidence of Japan

Ryosuke Nakamura, Fukuoka University, Japan; Jun Yamashita, Japan Women's University, Japan

The main purpose of this study is to clarify the effects of the social capital of a Japanese household on their children's achievement test score. According to Putnam's study, we define social capital as the degree of the parents' participation in the activities of PTA (Parent-Teacher Association) or school events (such as sports day, and school play). We assume that parents who have high social capital participate in these events more actively. We use the JCPS (Japan Child Panel Survey) which includes questions not only about frequency of parents' participation in these activities but also children's achievement tests score in math and Japanese. We present two sets of empirical evidence. First, by using the cross sectional OLS estimation, we show the correlation between the social capital of a household and test score changes as children grow up. This estimation shows that the social capital of a household positively correlates with math test scores from forth to sixth graders. Second, we estimate the causal effects of the social capital of a household on children's test score by using panel data analysis. We find that the social capital of a household has positive causal effects on both math and Japanese test scores from forth to sixth graders. We provide alternative interpretation of our results with additional estimates.

B9 EDUCATION 2

Symposium: Adolescents' Pathways Towards and Away From Schooling in Canada, England and Finland: Predictors, Trajectories and Longitudinal Associations

Convenor: Jennifer Symonds, Trinity College Dublin, Ireland

Summary: This symposium focuses on the development of adolescents' feelings about school and schoolwork, school related stress and school dropout, in Canada, England and Finland. The first study examined the role of recent stressors, such as conflict with teachers, peers and relatives, health problems and arrests, on Canadian adolescents' chances of dropping out of school. The second identified how school burnout developed in Finnish adolescents, focusing on the impacts of recent immigration status and gender. The third uncovered the cross-lagged associations between English adolescents' school engagement and educational aspirations, and related this development to their career pathways at the school-to-work transition. Finally, the fourth identified 4 distinct trajectories of English adolescents' school disengagement, and their longitudinal associations with well-being and career pathways in late adolescence and young adulthood. Based on specific stress, engagement and motivation frameworks, these studies provide insight into how adolescents' school engagement and disengagement developed in relation to their environmental circumstances and affected their later life chances.

Stressors and Turning Points in High School and Dropout

Veronique Dupéré, John McCabe, Université de Montréal, Canada; Eric Dion, Université du Québec à Montréal, Canada

Recently (Dupéré et al., 2015), we formulated a life-course, stress-process framework of high school dropout suggesting that dropout results from the interplay between long-term processes (e.g., learning problems, family poverty) and proximal turning points (e.g., being kicked out of home, being hospitalized). An abundant literature examines the long-term processes in play, but little is known about the potential precipitating role of proximal stressors. The goal of this study was to address this gap. To do so, interviews (N = 546) were conducted (in Montreal, Canada) between 2012 and 2015 with adolescents (aged 16-17) who had just dropped out of high school, with similarly at-risk but persevering peers (matched based on a validated index of risk, Gagnon et al., 2015), and with not-at-risk students. To assess stressors experienced in the past year, the adolescent version of the Life Events and Difficulty Schedule (LEDS, Brown et al, 1992) was used. This instrument is considered the gold standard to chart recent stressors in multiple domains, and their contextual severity (e.g., Monroe, 2008). Results showed that as compared with matched at-risk students, dropouts were much more exposed to severe life events, but only in the three months before they dropped out (OR = 3.0; 95% CI = 1.9-4.9). These precipitating events could take many forms, and involved for instance conflicts with classmates or teachers, family turmoil, health problems, placements in foster care, arrests, etc. The results were robust across subgroups (e.g., adolescent males and females), and held for both dependent events (e.g., interpersonal conflicts) and independent events outside the control of the participant (e.g., death of a parent). Findings indicate that dropout reflects both long-term vulnerabilities and proximal turning points.

Immigration Status and School Burnout in Finnish Lower Secondary School Students: A Longitudinal Study

Katariina Salmela-Aro, Sanna Read, University of Jyväskylä, Finland; Jaana Minkkinen, Jaana Kinnunen, Arja Rimpelä, University of Tampere, Finland

The aim of this longitudinal study among 9,223 students from 7th to 9th grade (age 13-16) is to assess whether immigration status and gender is associated with the level and change in school burnout among lower secondary school students in the Helsinki metropolitan area. 97% of the variation in school burnout was due to individual factors. Both the intercept (2.3, SE=0.036) and slope (0.5, SE=0.046) of school burnout were statistically significant, indicating increase in school burnout from grade 7 to grade 9. School burnout increased more in girls than in boys. However, the initially apparent higher school burnout among those students who had immigrated to Finland within the last five years compared to Finnish native students was largely accounted for socioeconomic background and school-related factors. Moreover, there was a persistent gender by immigration status difference showing that recently (<5 years ago) immigrated boys experienced larger increase in school burnout especially due to increased cynicism compared to recently immigrated girls.

Co-Development of Education Aspirations and School Engagement During Adolescence and Their Joint Impact on School-to-Work Transitions

Terry Ng-Knight, Ingrid Schoon, UCL Institute of Education, UK

Previous research has documented the significant role of various social, emotional and learning skills, (such as motivation, goal-setting, and conscientiousness) on early and later life course out-comes such as educational attainment and career development. There is however less evidence on the conjoint development of these skills and their mutually-dependent impact on life course outcomes. Taking a longitudinal approach the study draws on data collected for the Longitudinal Study of Young People in England (LSYPE), examining the co-development of education aspirations and school engagement or effort during secondary school (age 13 to 16), and to assess their relationship with variations in the school-to-work transition between ages 17 to 21. We focus in particular on the experience of not being in education, employment or training (NEET) after completion of compulsory schooling, controlling for family socio-economic background, gender, migration status and prior educational attainment. Using cross-lagged modelling the findings suggest that young people's educational aspirations develop in conjunction with investment of time and energy in school related demands, which can be considered to reflect a dimension of playful competence, which helps to coordinate and direct agency, and to avoid the experience of NEET even among young people growing up in relative disadvantaged circumstances.

Developmental Trajectories of Emotional Disengagement From Schoolwork and Their Longitudinal Associations in England

Jennifer Symonds, Trinity College Dublin, Ireland; Ingrid Schoon, UCL Institute of Education, UK; Katariina Salmela-Aro, University of Jyväskylä, Finland

This study identified the varied ways in which emotional disengagement from schoolwork typically developed between 13 and 16 years of age, in the Longitudinal Study of Young People in England. Using growth mixture modelling we found eight main trajectories of (dis)engagement, with four trajectories of either increasing or stable emotional disengagement with schoolwork (41% of the sample). Using propensity score matching to create groups balanced on a wide range of covariates at Wave 1, we compared disengaged students to their engaged counterparts, to identify the longitudinal effects of disengagement trajectory membership on behavioural engagement, psychological well-being, substance use, career pathways and achievement. Using linear and binary logistic regressions, we established that students in disengagement trajectories developed lower achievement across compulsory secondary school, and participated less in education and more in employment at age 17 years. In young adulthood (age 19 – 20 years) they were less likely to attend university and more likely to be unemployed. During secondary schooling, they developed higher levels of substance use, and poorer psychological well-being which persisted in the year after compulsory school. However, after compulsory school the differences in substance use dissipated. Then in young adulthood, students in most of the disengagement trajectories had relatively similar life satisfaction to their counterparts. These findings suggest that students (except perhaps those who became unemployed) were able to develop healthily and happily after leaving the schoolwork environments they were emotionally disengaged from.

C9 HEALTH 1**Symposium*****Biological Age Over the Life Course***

Convenor: Amanda Sacker, University College London, UK

Summary: This symposium will present new research on biological ageing, with three papers covering theoretical, methodological and substantive findings on biological age over the life course. The first paper by Amanda Hughes and colleagues “Anabolic and Catabolic markers in UKHLS: understanding development, maintenance and decline across the age span” will outline a new approach to conceptualising biological age - anabolic/catabolic balance – and demonstrate using data from Understanding Society, the UK Household Longitudinal Survey how anabolic/catabolic balance varies over the life span and with socio-economic position. The second paper by Melissa Wake et al “Pathways to biological age in the Longitudinal Study of Australian Children” describes the state-of-the-art parent and child physical health and biomarkers module used in the study and their research on pathways from psychosocial & lifestyle exposures via inflammation to biologic ageing. The third and final paper by Amanda Sacker and Meena Kumari “What do measures of biological age tell us that chronological age doesn’t?” also exploits the large representative sample of adults in Understanding Society” to investigate whether several recently proposed measures of biological age improve the prediction of mortality beyond that predicted by chronological age alone. Together the three papers will provide valuable insights for those interested in the social-biological interface over the life course.

Anabolic and Catabolic Markers in UKHLS: Understanding Development, Maintenance and Decline Across the Age Span

Amanda Hughes, Michaela Benzeval, Meena Kumari, University of Essex, UK

‘Anabolic’ processes of growth and building, and the ‘catabolic’ processes of breakdown which offset them, have prominence at different points in the life-course; molecular markers of anabolism peak in early mid-life, whereas markers of catabolism increase throughout life from initially low concentrations. In older samples, the balance between anabolic and catabolic processes has been linked to physical functioning[1], and anabolic markers linked to cognitive functioning[2], suggesting anabolic/catabolic balance may be crucially involved in the functional decline which characterises biological ageing. However, it is unclear whether such a relationship exists between anabolic and catabolic processes and physical functioning at earlier stages of in the life-course characterised by growth and maintenance. It is also unclear the extent to which anabolic/catabolic balance can explain differences in trajectories of functional decline by socioeconomic position. Using data from Understanding Society: The UK Household Longitudinal Study, we used three markers of anabolism (testosterone, IGF-1 and DHEAS) and three markers of catabolism (creatinine, C-reactive protein and fibrinogen) to investigate these questions in a large, nationally representative sample of UK adults.

Using this survey’s extensive age range of 16-102, we firstly explore in detail how markers of anabolism and catabolism differ across the adult life span, both in terms of absolute concentrations and relative to each other. Secondly, we explore how these absolute and relative indexes of anabolism and catabolism are associated with physical functioning (grip strength) by age groups. Thirdly, our preliminary analyses suggest social position differences

in anabolism and catabolism. We will investigate how age distributions of anabolic and catabolic markers differ by socioeconomic position, potentially helping to explain social differences in the life-course trajectories of physical functioning.

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Pathways to Biological Age in the Longitudinal Study of Australian Children

Melissa Wake, Richard Saffery, David Burgner, Kate Lycett, Fiona Mensah, Ben Edwards, Growing Up in Australia's Child Health CheckPoint. Murdoch Childrens Research Institute, Royal Children's Hospital, Australia

Non-communicable diseases (NCDs) increasingly drive the world's burden of disease. Empirical evidence supports a bio-developmental framework for their long and silent preclinical courses. An individual's health at any life stage may reflect their total biologic response to cumulative environmental exposures interacting with genetic makeup.

When and how these exposures shape biology are pressing questions whose answers could in turn shape responses to the NCD epidemic. Common central intermediary processes appear to lie between multiple exposures and myriad disease outcomes, with 'biological age' far outweighing chronological age in importance to health. 'Epigenetic age' and telomere length are key contenders as biomarkers of biologic ageing; inflammation is firming as a likely common pathway to both.

Comprehensively quantifying these population-level pathways at different stages of the life course would require that a single study includes (1) population-derived samples of different ages, (2) repeated measures of multiple exposures over different life stages, (3) biosamples with state-of-the-art platforms to assay inflammation, epigenetic age and telomere length, and (4) objective measures of end-organ health across multiple body systems predictive of NCDs. The duration and cost of such studies places them typically in the realm of government funding - yet government-funded studies rarely include biosamples or phenotypic measures.

Taking Growing Up in Australia's Child Health CheckPoint as a case study, this paper will explore how Australia's only national children's study has adapted to address some of today's most pressing questions: what is the fundamental role of biology in population health, and where should we intervene? It will also contend that this approach, while challenging, is cheaper, safer and faster than mounting any new data collection.

What Do Measures of Biological Age Tell Us That Chronological Age Doesn't?

Amanda Sacker, University College London, UK; Meena Kumari, University of Essex, UK

The availability of biological data in social surveys has led to an emerging interest in "biological age" with some studies finding that statistical approaches to measuring biological age (BA) more reliably predict mortality than chronological age (CA). In this study we use data from Understanding Society, the UK Household Longitudinal Study to assess whether the same finding is observed when we use a large nationally representative sample of the adult

population. At waves 2 and 3, a health assessment was carried out by a nurse on respondents aged 16 years and older. Of those that took part in the health assessment (N = 20,644), 65% provided a blood sample. We derived three measures of BA: (i) a frailty index (FI) based on direct health measures, cognitive tests and self-reported health conditions and disabilities; (ii) a multi-biomarker statistical algorithm suggested by Cohen et al, 2013 (CBA); and (iii) a multi-biomarker algorithm suggested by Klemmera and Doubal, 2006(KDBA). To assess the predictive validity of the three measures compared with CA, receiver operating characteristics curves were used to mortality in the following three years. Logistic regression models containing both CA and one of the BA measures were used to investigate whether CA and BA independently predicted mortality. We had complete data for 8,199 respondents. Over the 3-year follow-up, there were 169 deaths and a further 167 drop-outs due to infirmity or illness. Preliminary results show that CA was better able to predict mortality than KDBA or CBA (AUC 0.915, 0.869, 0.783 respectively for men and 0.915, 0.798 and 0.769 respectively for women). In some but not all models, BA improved the prediction of mortality beyond that predicted by CA alone. The utility of BA measures will be discussed in the light of these findings.

D9 HEALTH 2

Paper Session: *Psychological Stressors*

Education and Psychological Distress in Adolescence and Mid-Life

Alice Sullivan, UCL Institute of Education, UK

Parents are commonly at least as concerned about their children's well-being as they are about the academic outcomes of schooling. Strong claims are sometimes made for the psychological benefits of certain types of schooling, e.g. the claim that private schooling fosters self-confidence and high aspirations. But in general, questions regarding psychological distress and well-being are sorely neglected in the educational research literature relative to questions of educational attainment. Our paper addresses this gap in the literature by assessing whether attending a private rather than a state school was linked to psychological outcomes at age 16 and age 42 for two national birth cohorts born twelve years apart, the 1958 and 1970 British Birth Cohort Studies. We assess whether private schooling made a difference, and the salience of pathways via educational and occupational attainment.

A Cross-National Comparison of the Relationship Between Family Structure, Family Transitions, and Child Internalizing and Externalizing Behavior Problems

Kristie Rowley, Mikaela Dufur, Brigham Young University, USA; Shana Pribesh, Old Dominion University, USA, et al.

A large body of research connects family structure to a variety of child and adolescent outcomes; however, recent work focuses attention on more nuanced explorations of how a variety of family structures shape family mechanisms and processes (c.f. Boswell & Passmore, 2013; Golombok et al., 2013; Lamb, 2012; Dufur et al., 2010). Examining how these processes operate across different settings may help distinguish among theories concerning why children who live in different family structures have different outcomes; however, relatively little cross-national or comparative research on family structures exists (Bjarnason et al., 2012; McCulloch et al. 2000). Using data from the UK Millennium Cohort Study (First, Second, Third and Fourth Sweeps 2000-2008), the US Early Childhood Longitudinal Study-Birth Cohort (First, Second, Third, and Fourth Waves 2001-2007), and the German National Educational Panel

Study (Starting Cohort 3, First and Second Waves 2010-2011), we examine the effects of duration in or transition to a variety of family types on young children's internalizing and externalizing behavior problems in the 5th grade. For the UK and US data, we concentrate on the effects of family types at birth, family type transitions, and exposure to multiple transitions on child behavior problems; we add the German data to explorations of family type transitions. We hypothesize that family structure transitions will exert stronger effects on behavior problems than will type of family structure, with waning effects of transitions across time net of family resources, stressors, and characteristics.

*Note: this paper is a modified version, adding the German data, of a paper accepted to SLLS last year that we were unable to travel to present

*Note: while the lead author is not an early career researcher, Jarvis (assistant professor), Alexander, Cheng, and Lucier (master's students) are.

Time Trends in Psychological Distress Among Young People and the Link With Increasing Individualisation

Andy Ross, Yvonne Kelly, Amanda Sacker, University College London, UK

Prior research suggests the prevalence of psychosocial disorders among Western young people has increased since the middle of the 20th Century. However more recent evidence suggests that a standard assessment of time trends in which mean scores or a prevalence are examined over time mask an underlying polarisation of young people's mental health.

The present study is part of a wider programme of work examining links between time trends in psychological distress (GHQ-12) and increasing individualization among 16 to 24 year olds. 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. This has implications for young people's mental health, either positive or negative arguably as a consequence of the resources available to them.

The present study uses latent class analysis to identify clusters of young people defined by their level of individualization and then links these classes to variations in young people's psychological distress. The latent class model is then replicated over time to capture increasing individualization and used to explain the polarisation of young people's mental health. Data for the study comes from the British Household Panel Survey (1991 – 2008). Individualization is operationalized using a set of attitudinal and value measures that best captures this concept.

E9 CHILDREN & FAMILY**Symposium*****Missing Data Handling in Longitudinal Surveys: Evidence From the 1958 British Birth Cohort***

Convenor: George Ploubidis, UCL Institute of Education, UK

Summary: Selection bias, in the form of incomplete or missing data is unavoidable in longitudinal surveys. It results in smaller samples, incomplete histories, lower statistical power and it is well known that unbiased estimates cannot be obtained without properly addressing the implications of incompleteness. We present the first results from the Centre for Longitudinal Studies Missing Data Strategy using data from the National Child Development Study (NCDS) which follows the lives of 17,416 people born in England, Scotland and Wales in a single week of 1958. Also known as the 1958 Birth Cohort Study, it collects information on physical and educational development, economic circumstances, employment, family life, health behaviour, well-being, social participation and attitudes. Since the birth survey in 1958, there have been ten further ‘sweeps’ of all cohort members at ages 7, 11, 16, 23, 33, 42, 44, 46, 50 and 55. Within Rubin’s conceptual framework we present three papers that clarify the instances where complete case analysis and methods that operate under the Missing At Random (MAR) assumption return unbiased results. For the first time to our knowledge, we present a three step empirical/data driven approach that maximises the plausibility of the Missing At Random assumption in NCDS and quantify the effect of strong departures from MAR. Our findings have implications for missing data handling in the 1958 cohort and other longitudinal studies as they will help inform the selection of auxiliary variables and therefore allow researchers to effectively evaluate the assumptions underlying popular MAR methods such as Multiple Imputation, Full Information Maximum Likelihood and Inverse Probability Weighting.

To Impute or Not to Impute? A Practical Guide for Handling Missing Data in Longitudinal Surveys

George Ploubidis, Tarek Mostafa, Brian Dodgeon, UCL Institute of Education, UK

According to conventional wisdom, Complete Case Analysis (CCA) should never be used in any setting as it results in biased estimates. As a result, missing data handling methods such as Multiple Imputation (MI), Full Information Maximum Likelihood (FIML) and Inverse Probability Weighting (IPW) that are known to perform well under the Missing At Random (MAR) assumption have become popular among users of longitudinal studies. However, in practice, data in all longitudinal studies can only be Missing at Random (MAR) or Not Missing At Random (NMAR), but both assumptions are untestable. If MAR plausibility is achieved or at least sufficiently approximated, FIML, MI and IPW provide unbiased estimates in the presence of missing data. In this paper we employed Directed Acyclic Graphs and the Fraction of Incomplete Cases among cases with outcome and exposure Observed (FICO) to offer practical guidance for handling missing data in longitudinal surveys Our objectives were: i) To clarify what MAR means in practice in longitudinal surveys and whether it can be thought of as a reasonable assumption; ii) Identify the instances where it’s a good idea to use MI, FIML or IPW; iii) Clarify instances when CCA will return unbiased estimates. We show that apart from well documented exceptions the use of MAR methods reduces bias in the majority of data analytic scenarios faced by users of longitudinal surveys and that the number of variables that may carry information about non-response is tractable. We discuss the implications this

has for achieving balanced samples for variables that are typically used as predictors or outcomes in longitudinal and life course studies.

Maximising the Plausibility of the Missing At Random Assumption: Results From the 1958 British Birth Cohort

Tarek Mostafa, Brian Dodgeon, George Ploubidis, UCL Institute of Education, UK

Since flexible solutions that operate under the Missing At Random (MAR) assumption have become increasingly popular among researchers, a pertinent question is how we can make MAR more plausible. For example, it is widely accepted that under MAR the Full Information Maximum Likelihood (FIML), Multiple Imputation (MI) and Inverse Probability Weighting (IPW) methods return unbiased estimates in the presence of missing data. However, most studies employing these methods rely on a largely arbitrary selection of auxiliary variables that are used as predictors of missing data. It follows, that with a theory driven variable selection process the extent to which the plausibility of the MAR assumption is maximised for a given dataset is not known. Failing to identify all systematic information that drives missingness will invariably make the data NMAR and results from any MAR approach will likely be biased. We describe a three step data driven approach that allowed us to empirically identify all possible predictors of wave specific non response in all available waves of the 1958 cohort. We employed univariate and multivariable logistic regression models within the context of sequential multiple imputation that allowed us to appropriately handle non monotone missing data patterns. Our approach allowed us to empirically identify all systematic information that maximises the plausibility of the MAR assumption in the 1958 British birth cohort. We found that both early life and adult characteristics are predictors of wave specific non-response. In accordance with the literature, indicators of socio-economic position, demographic characteristics and home moves strongly predicted wave specific non-response. However, variables not traditionally used as predictors of non-response, such as indicators of social capital, early life mental health, cognitive ability and health related behaviour were also associated with wave specific non-response.

How Well Do Methods That Assume Data Are Missing at Random Perform When the Missing Data Generating Mechanism is Not Ignorable? Evidence From the 1958 British Birth Cohort

Brian Dodgeon, Tarek Mostafa, George Ploubidis, UCL Institute of Education, UK

Flexible solutions and software are available for methods that assume that data are Missing At Random (MAR) and these approaches are becoming increasingly popular among applied researchers. However, despite our attempts to improve the plausibility of the MAR assumption in longitudinal surveys, we cannot rule out the possibility that the missing data generating mechanism in the 1958 cohort or other longitudinal surveys is not ignorable and the data are Not Missing At Random (NMAR). This implies that major causes of missingness were not available, or by omission were not included in the models. Maximising the plausibility of MAR implies that bias will only be possible if unmeasured variables are associated with missingness strongly and independently of the set of variables that were empirically identified as predictors of wave specific non-response in the 1958 cohort. In this paper we use these predictors and consider several scenarios for the missing data generating mechanism. Our working example concerns the association between cognitive ability at age 11 and childlessness up to age 42. We compare and contrast results from Complete Case Analysis that assumes the data are Missing Completely At Random (MCAR), with Multiple Imputation (MI) and Full Information Maximum Likelihood (FML) under both MAR and NMAR

scenarios. We found that in the 1958 cohort MI and FIML return robust estimates even in strong departures from the maximum plausibility of the MAR assumption. The implications of using MAR methods instead of selection models when data are NMAR are discussed.

F9 GENERAL

Paper Session: *School-to-Work Transitions of Disadvantaged Young People*

Two Generations of Young People Not in Education, Employment or Training (NEETs) in England and Wales

Wei Xun, University College London, UK

Worklessness at early stages in the life-course can have long-term effects on health status in later life, through the accumulation of socio-economic disadvantage. This study in young people (aged 15/16-29) explored the associations between baseline characteristics and status of not in Education, Employment or Training (NEET), in two representative samples of 1% of the England and Wales census population drawn at 1971 and 1991 from the Longitudinal Study (ONS LS).

Age-adjusted, gender-specific logistic regression found that women with dependent children aged < 4 years were 8.3 and 16.9 times more likely to be defined as NEET in 1971 and 1991 respectively (95% CIs=7.8-8.8; 16.0-17.8), compared to those without children in the household. For lone mothers with dependent children, the odds ratios (ORs) were 5.1 and 23.4 in 1971 and 1991 compared to childless married couples as reference (95% CIs 4.5-5.7; 21.4-25.6). In men, increases odds for NEET status were found in those living in communal residences (1971: OR, 95% CI=10.1, 8.3-12.2; 1991: OR, 95% CI=4.9, 4.2-5.8) and lone person households (1971: OR, 95% CI=3.2, 2.8-3.8; 1991: OR, 95% CI=3.5, 3.2-3.8), versus childless married couples. An interaction was found between broad geographical regions and ward-level deprivation quintiles.

Misalignment of Education and Workforce Outcomes for College Graduates

Hyungjo Hur, Julie Maurer, Joshua Hawley, Ohio State University, USA

Most governments encourage citizens to pursue degrees in higher education in an effort to strengthen their skilled labor force to meet the emerging workforce demands in their countries. In response to these efforts, more people are pursuing higher education opportunities despite rising tuition and other associated costs. Governmental leaders and individuals alike believe that their investments in human capital will result in increased knowledge and skills, more productivity, and higher earning capacities in the labor force. However, as the supply of skilled workers increases, there is no guarantee that college graduates will be matched with ideal jobs or that they will be able to earn the expected returns on their higher education investments.

This study seeks to increase our understanding of how graduates at the bachelors' level transition to employment within their respective fields. Ordered logic regression and standard wage regression analyses were used by using the Graduates Occupational Mobility Survey data in South Korea. With these analyses, we find 1) the extent of mismatch varies across college majors, 2) individuals working in their degree field earn more than individual working outside their degree field, 3) wage penalties from mismatch vary by degree field, and

4) the wage effects are smallest when graduates from the field of study are more likely to be mismatched. Our analysis of the return on individuals' investments in higher education, coupled with an analysis of field specific employment mismatching, provides interesting information regarding the education to workforce pipeline and associated labor market outcomes. Mismatched graduates are much more vulnerable to negative returns than graduates who are well matched. These findings are considered to be useful to both governmental policy makers and individuals.

Young Adults With Disabilities in Transition From School to Work

Nancy Reims, Brigitte Schels, Institute for Employment Research, Germany

Due to a disadvantaged societal position, young adults with disabilities can take advantage of programmes of occupational rehabilitation (OR) to manage the critical transition from school to work. It remains unclear if and for whom OR provides an institutional bridge into employment or if young disabled people follow misleading pathways away from employment.

Based on administrative data of the German Federal Employment Agency, the study observes young people in OR who finished lower or medium secondary schooling in 2008 and took part in vocational counselling in the same year.

The data contains detailed information on schooling, labour market programmes and employment biographies, as well as sociodemographic and disability-specific information. Using sequence analysis and an observation period of 5.5 years, the whole transition period between school, OR and labour market integration can be observed. By applying optimal matching and cluster analysis (ward method), the population is grouped into seven types of promotion biographies.

The results suggest that a large part of young adults with disabilities are promoted by company-internal, as well as company-external vocational training, often leading into employment.

However, one third of the population is divided into two groups not showing any vocational training during the first five years after the end of school. For one part, those young people take part in many different measures with no obvious integration strategy mostly leading into unemployment. On average, they often completed a special school and frequently finish OR due to a lack in cooperation. For another part, a cluster can be identified that is characterized by longer periods of data gaps. In comparison, this cluster contains more women and more people with psychological disabilities than other clusters. These gaps might represent periods of child rearing, sickness absences without benefit receipt, as well as full-time vocational school training often preferred by women.

No Chance for the Lower Skilled? How Employer as Gatekeepers Determine Future Chances of Low Skilled Youngsters in Germany

Bettina Kohlrausch, University of Paderborn, Germany

Low skilled youngsters, namely persons holding a lower secondary degree (Hauptschulabschluss) are often excluded from apprenticeship training directly after school, despite there are no formal entry requirements preventing them from training. In this paper we concentrate on the mechanisms leading to this exclusion. Here, the focus of our research is on the meaning of employers as gatekeepers within the recruitment process. Our particular interest is on the organizational processes structuring the assessment of individual resources, since we show in our paper that these lead to a systematic exclusion of youngsters holding a lower secondary degree. Theoretically the analysis refers to the approach of Imdorf (2010), who argues that the selection of apprentices is not about finding the highest-performing candidate but about finding the person who fulfils best the distinct coordination requirements resulting from different organizational problems employers are confronted with (e.g. the organization of horizontal and vertical hierarchies or the exchange with clients).

Our analysis is based on data collected in the context of the study: “How and why are training schemes for disadvantaged youngsters successful?” The study explores the individual and institutional requirements facilitating a sustainable integration of low-qualified youth into approved vocational training. It is designed as a panel study covering school to work transitions of 1700 low skilled youngsters. Moreover, the study encompasses a dataset consisting of 500 standardized computer assisted telephone interviews with human resources manager providing information on recruitment practices and selection criteria, personal information on interviewee (socio demographic characteristics as well as attitudes towards low skilled youngsters) and firm related information such as size, branch etc. By integrating both datasets we analyze the recruitment decision by the means of logistical regression models considering the individual school-to-work transition as well as the structure of the recruitment process.

Parallel Session 10

A10 EDUCATION 1

Demonstration

CLOSER Discovery: Demo of Online Search Portal Enabling Researchers to View and Appraise Data From Eight Leading UK Longitudinal Studies

Presenter: Jon Tebbett, UCL Institute of Education, UK

B10 EDUCATION 2

Paper Session: *Transmission of Educational Inequality*

Micro-Class Inequalities in Early Reading and Mathematics Skills

Roxanne Connelly, University of Warwick, UK

In countries like Britain there is persistent educational inequality. In general children born into more socially advantaged families have better results on a wide range of educational outcomes. Less is known however about the effects that certain types of parental occupations might have on children's educational outcomes. In this paper we construct a micro-class scheme for the UK to investigate contemporary educational inequalities in Britain.

Social class schemes are usually characterised by less than a dozen 'big' (or agglomerate) discrete categories. The micro-class approach offers an alternative method to analysing contemporary occupational structures. The micro-class approach theorises that the labour market is balkanised into discrete categories, however the categories are balkanised at the level of specific occupations (e.g. doctors, teachers, electricians etc.) rather than large agglomerate groupings.

In this paper we undertake analyses of the Millennium Cohort Study, which is a large-scale longitudinal study of children born in the UK between 2000 and 2002. We focus on outcomes in reading and mathematics tests undertaken at age seven. We operationalise a micro-class scheme for the UK drawing on foundational work reported in Grusky et al. (2008).

We observe the expected negative relationship, children from families in more advantaged agglomerate classes have better outcomes. In addition to large differences between the agglomerate classes we also observe differences within the big class categories. For example, within the 'lower managerial, administrative and professional occupations' category, the children of school teachers have good outcomes, but the children of publicans have poor outcomes. Conversely, the children of dance teachers despite being within the 'intermediate occupations' category perform far better than other children in this category and more like their counterparts in the 'teaching' micro-class. We conclude that there are substantively interesting patterns of educational outcomes at the micro-class level that are masked in big class analyses.

Intergenerational Transfer of Education: Parent Educational Attainment is Associated With Adult Offspring Personality

Angelina Sutin, Florida State University College of Medicine, USA

Education is known to predict better health and well-being across the lifespan. In addition to the benefit for the individual, the positive effect of education stretches across generations. The children of educated mothers, for example, tend to have better physical health. Less is known about how parent education contributes to psychological functioning. To that end, we take an intergenerational lifespan approach to addresses how parent education is associated with the development of offspring personality. Specifically, we test whether parents' educational level is associated with adult offspring five factor model personality traits in seven samples that covered adolescence through old age (age range 14-95) and meta-analytically combined the results (total N>60,000). Parents with more years of education had children

who were more open, extraverted, and emotionally stable as adults and who maintained these traits over time. In contrast to our expectations, parent educational attainment was unrelated to Conscientiousness. Similar results were found in a subsample of participants who were adopted, which suggests that the associations do not only reflect shared genetics. Although family income was also associated with adult offspring personality, it did not account for the association between parent education and personality. As a point of comparison, we also examined the association between the individual's own level of education and his/her personality. Participants who attained more education themselves were more conscientious, as well as more emotionally stable, extraverted, and open and maintained these traits over time. The present findings indicate that, independent of their own level of education, children who grow up with more educated parents are more open, extraverted, and emotionally adjusted, but not more conscientiousness or agreeable. The effect of parent education on offspring personality may be one mechanism through which parent education contributes to more educational and economic opportunities and more positive health outcomes in their children.

The Role of Parental Family Resources in Intergenerational Transmission of Education

Ellu Saar, Triin Lauri, Jelena Helemäe, Tallinn University, Estonia

A wide range of existing research has focused on the roles of social origin, family structure, and family economic, cultural and social resources resources for individuals' social and educational attainment (De Graaf et al. 2000; Sullivan 2001; Lareau and Weininger 2004; Jæger and Holm 2007; Conley 2008; Erikson and Goldthorpe 2010; Tramonte and Willms 2010; Huang 2013). However, there is a lack of consensus on which parental resources actually matter for children's attainment and why. The question seems to be rather how different parental resources work together to generate certain educational outcomes and how these resources transform into supportive environment of successful life-course transitions Is one type of resources compensating the lack of another or do they have independent effect on educational attainment? Furthermore, social institutions might have impact on compensatory mechanisms either enabling or constraining the potential effects. Thus it cannot be assumed that the effect of different parental resources as well as compensatory mechanisms show similar patterns of persistence or change over time and in different countries (Byun et al. 2012; Bukodi and Goldthorpe 2013; Bukodi et al. 2014; Meraviglia and Buis 2015). We analyse the role of intrafamilial resource compensation in the intergenerational transmission of educational attainment. We develop and test a number of hypotheses regarding the effects of parental education and family cultural resources on individuals' educational attainment in different institutional contexts.

We investigate whether one type of resource compensates for another or does the accumulation and multiplication of advantages occur. Does this process vary in different institutional context in systematic way? Our empirical strategy is based on Qualitative Comparative Analyses (QCA) and coincide analyses which enables to focus on combinations of resources to examine their intersectional impact on educational attainment to reveal the potential overlapping inequalities and distinguish respective patterns across certain types of institutional contexts. The analysis is based on PIAAC data.

The Intergenerational Effects of Parental Military Service: War as a Determinant of Unequal Educational Opportunities

Walter Forrest, Ben Edwards, Galina Daraganova, University of Queensland, Australia

Several recent studies have highlighted the adverse effects of parents' wartime military service on children's behavioral problems and educational achievement. Despite the potential cumulative disadvantages associated with these outcomes, little is known about the intergenerational consequences of parental military service on children's long-term educational and employment trajectories. In this paper, we examine the long-term causal impact of parental military service on educational achievement, employment, and financial stress using the results of a landmark, retrospective study of the families of men who served in the Australian army during the Vietnam War (1965-1972). Results indicate that the men's war service had no effect on whether their adult children had completed school or on their job stability or current employment status. However, the sons and daughters of war veterans were less likely to have attended University and more likely to have completed a trade certification than the adult children of other military personnel. They were also more likely to have experienced financial distress at some point. These outcomes appear due to the effects of the fathers' wartime military experiences on their behavioral and learning problems in childhood. We discuss the implications of these findings for inequality in educational opportunities in the context of the large-scale troop deployments to Afghanistan and Iraq.

The Effect of Parental Wealth on Children's Educational Attainment: Demotivation or Risk Minimization?

Nora Skopek, GESIS, Germany

Our paper addresses the relationship between parental wealth and children's educational attainment. In theoretical terms, we aim at an extension of the classical status attainment model by Blau und Duncan (1967), which estimates the relative effects of different background characteristics on individual's educational and occupational success. While the relations between parental income and children's educational attainment are established, this is not the case for wealth. We argue that wealth is an important additional indicator of parental financial resources, which is likely to exert an even stronger impact on children's educational attainment as compared to income and thus has to be included in the model of status attainment.

Past research already found some associations between parental wealth and children's educational success differing in magnitude depending on the institutional context. We will go one step further by trying to disentangle the theoretical mechanisms linking parental wealth to children's educational attainment. We will conduct our study within the German context, where educational success is strongly related to parent's social class, although education is free of charge.

We apply the subjective expected utility model as based on Boudon (1974), Erikson und Jonsson (1996), and Breen und Goldthorpe (1997) and expanded by Esser (1999) and Becker (2003) to understand the precise role of wealth in parental educational choices at the end of primary school education. From theory we expect two countervailing effects of parental wealth on children's educational attainment: A negative "educational demotivation effect" and a positive "risk minimizing effect". We test our competing hypothesis drawing on data from the German Socio-Economic Panel Study (GSOEP). We apply logistic regression models

to estimate the odds of the children to be in upper secondary education as a function of the relative position of their parents in the wealth distribution of 2002, and 2007.

C10 HEALTH 1

Paper Session: *Depressive Symptoms*

Socioeconomic Inequalities in Psychosocial Problems of 5-6 Year-Old Children: The Explanatory Role of Maternal Depressive and Anxiety Symptoms During Important Developmental Stages

Sanne de Laat, Tanja Vrijkotte, University of Amsterdam, Netherlands

Background: Socioeconomically disadvantaged children are more likely to have psychosocial problems. This study aimed to analyse the determinants of inequalities in psychosocial problems of 5-6 year-old children. We analysed the mediating role of maternal depression and anxiety symptoms in the relationship between maternal education and psychosocial problems. We focused on three developmental periods: pregnancy, 3 months after birth and at age 5-6.

Method: We included 3413 5-6 year-old children of the Amsterdam Born Children and their Development (ABCD) study. At age 5-6 years mothers completed the Strengths and Difficulties Questionnaire (SDQ) to assess psychosocial problems of the child. Maternal depression and anxiety were assessed using the Center for Epidemiologic Studies Depression Scale (CES-D), State Trait Anxiety Inventory (STAI) and Depressive Anxiety and Stress Scale 21 (DASS21). Proportion mediated measures in psychosocial problems explained by the mediators maternal depression and anxiety were calculated.

Results: The mean mother-reported SDQ total difficulties score was significantly higher ($p < 0.001$) for children of low educated mothers (6.74 ± 4.41) compared to children of high educated mothers (4.47 ± 3.73). Maternal depression and anxiety scores were also higher in low educated mothers. Preliminary analysis showed that depression and anxiety scores during pregnancy mediated 30.0% and 33.7%, respectively, of the SDQ differences between children of different maternal education. Maternal depression and anxiety scores 3 months after birth and at age 5-6 mediated lower proportions of offspring SDQ-scores (22.8%, 26.3%, 17.9% and 20.2%).

Conclusion: This study corroborates the evidence for the strength of the disadvantageous effects of low maternal education on early psychosocial development. Suboptimal maternal mental health during pregnancy had the largest effect on SES inequalities in child psychosocial problems. Early recognition and treatment of symptoms of maternal depression or anxiety is important to prevent psychosocial problems in children, especially in low SES families.

Family Transitions and Depressive Symptoms Among Older Adults: Examining Educational Differences

Claudia Recksiedler, Robert Stawski, Oregon State University, USA

Later decades of the life course underwent rapid transformations due to demographic changes in aging societies, which affect the reorganization of all life domains. For instance, the dramatic increase in divorce rates among older adults since 1980 highlights that extended life expectancies bring novel challenges in negotiating new social roles in old age, which could be a source of stress and emotional turmoil. Because higher levels of educational attainment may smoothen older adults' adjustment to new transition patterns, the present study aims to identify and track trends in prevalence and timing of marriage, divorce/separation, and widowhood among sociodemographic subgroups; link the occurrence of those transitions with mental health; and test the influence of educational attainment on these associations. We drew data from the Health and Retirement Study, which samples US households of individuals' aged 50 and older (N = 22,120). Measures of family transition occurrence, depressive symptoms, and educational attainment (no formal degree; high school diploma; some college or more) were available across up to ten biennial assessments. Logistic multilevel models revealed that individuals with no formal degree displayed the highest likelihood of losing their significant other through divorce/separation or death. Multilevel models with time-varying predictors demonstrated that when widowhood or divorce/separation occurred, depressive symptoms increased. The opposite pattern was found for (re)marriage. Compared to those with no formal degree, individuals with high school and college education exhibited larger increases in depressive symptoms associated with widowhood, even though their average levels of depressive symptoms were lower. This finding may hint toward individuals' heightened resilience and potential for posttraumatic growth in the dynamic process of adjusting to loss among less privileged groups. Findings are further discussed in light of developmental trajectories of well-being, differential adaptation to loss, and cohort change in educational attainment.

Years Spent in Stressful Work and Depressive Symptoms After Labour Market Exit: Results From SHARE

Morten Wahrendorf, University Düsseldorf, Germany

Background: A growing number of life course studies shows that repeated exposure to work stress is related to poorer health, suggesting a dose-response relationship. To extend this research we investigate the relationship between the number of years spent in a stressful job and number of depressive symptoms after labour market exit.

Methods: We use data from the Survey of Health, Ageing and Retirement in Europe (SHARE), with retrospective information on previous working careers for 4996 retired men and 3903 women collected 2008/2009 in 13 European countries. This includes information on years worked in the most significant job between age 30 and 65 together with levels of work stress (as defined by low control and low reward). To measure health, we use number of depressive symptoms (EURO-D depression scale). We apply a flexible approach (polynomials) to analyse the relationship between years spent in a stressful job and depressive symptoms.

Results: For both men and women, findings indicate a non-linear relationship between years spent in a stressful job and levels of depressive symptoms, with a constant increase of depressive symptoms between 1 and 15 years spent in stressful work and a weakening effect thereafter. Findings remain consistent after excluding respondents with short working careers, poor health prior and during working life, and additionally, after adjusting for country, age, education, marital status and childhood adversity. We also observe selections into stressful job, where people with childhood adversity and with restricted opportunities on the labour market (e.g. low educational attainments) spent on average more years in a stressful job.

Conclusions: Our findings support that the cumulative exposure to work stress is related to poorer health during retirement, and additionally, that working more years in a stressful job is part of larger trajectories of disadvantages throughout the life course.

Depression and Suicide Among the Children of War Veterans: The Intergenerational Consequences of Going to War

Ben Edwards, Walter Forrest, Galina Daraganova, Australian Institute of Family Studies, Australia

The psychological effects of military service on war veterans have been documented extensively, but much less is known about how it affects the long-term mental health of the families of war veterans — especially their children. This is a significant shortcoming in light of the large-scale and ongoing deployment of military personnel from the US and allied nations since the start of the “War on Terror”. Using the results of a landmark, retrospective study of the families of men who served in the Australian army during the Vietnam War (1965-1972), we investigated the long-term, psychological impact of their war service on their adult children. Results indicate that 40 years after the end of the Vietnam War, the adult children of Vietnam Veterans are more likely to have been diagnosed with depression and to have had thoughts of suicide and self-harm than the children of comparable army personnel. They were also significantly more likely to have died by suicide. We discuss the implications of these findings for research and policy concerning the effects of military service on families.

D10 HEALTH 2

Symposium

Inequalities in Ageing and Retirement

Convenor: Johan Fritzell, Stockholm University, Sweden

Summary: More and more people reach older ages, and the older population becomes increasingly diverse with regard to social and economic conditions, preferences, behaviours, and health. There is today ample evidence that health inequalities persist into older ages.

Although old age can be viewed as a relatively stable life period, there are several transitions and life events that can have major impacts on the remaining life of older individuals. This symposium focuses on one such transition, retirement, and its short- and long-term associations with health and health behaviours from a socioeconomic perspective.

A fundamental question when approaching the topic of retirement timing and inequality is whether it is a privilege to retire early, or if it signifies exclusion from productive activity, social roles and meaning. This makes it difficult to approach the question from an inequality perspective.

Available evidence suggests that the benefits or harms associated with early or late retirement depend on the individual's situation and circumstances. Positive health effects of remaining in the work force may be directly associated with work tasks or stem from social relations and economic rewards coming from employment. However, large differences can be found between manual and non-manual occupations, and selection processes into early or late retirement are also at play.

The four presentations include new results on health as a predictor of retirement age, the short- and long-term health consequences of retirement timing and early or late retirement, and behavioural changes following retirement, and how these associations and changes vary by socioeconomic position and gender.

The presentations include data from different datasets and countries, and are part of the Nordic project Social Inequalities in Ageing (SIA).

Health and Retirement Age: Investigating Birth Cohort and Gender Differences in Sweden

Harpa Sif Eyjólfsdóttir, Stockholm University, Sweden

The health status of different cohorts has changed over time. Many countries, including Sweden, are developing policies to encourage older workers to remain longer in the labour market and delay retirement. A key life transformation for most people in adulthood is retirement and it is well-known that poor health is a key predictor for early exit from the labour force. With regard to policies encouraging employees to delay retirement it is crucial to investigate the association between health and retirement age for women and men in different birth cohorts.

The aim is to investigate health before retirement in relation to retirement age for women and men in different birth cohorts in Sweden to see if there are changes in health and retirement age, and the association between them. Are younger cohorts retiring in better health (but at the same age) compared to older cohorts, and is there a difference between men and women?

Repeated cross-sectional, nationally representative data from the Swedish Level of Living Survey and the Swedish Longitudinal Occupational Survey of Health will be used to compare different cohorts with regard to health and retirement age.

Retirement - The Great Equalizer: Socioeconomic Status, Gender and Health

Maja Weemes Grøtting, Oslo and Akershus University College of Applied Sciences, Norway

Aim: This paper examines the causal effect of retirement on health, and how this effect varies by socioeconomic status, gender and health outcome.

Methods: The study utilizes Norwegian representative data on old adults. The health outcomes of interest are depression (CES-D) and physical health (Short Form 12). Administrative registers provide information on individual's education, and retirement status and income. Regression discontinuity design is applied to account for workers self-selecting into retirement.

Findings: I find that retirement has a large positive causal effect on physical health for manual workers and individuals with lower education. Retirement has a negative effect on mental health for adults with at least five years of higher education. This pattern holds for both men and women. For the remaining groups, no significant effects were found.

Conclusions: The current retirement system in Norway, which incentivizes longer working lives, can have negative short-term consequences for manual workers.

Retirement for Better or Worse?

Carin Lennartsson, Stockholm University, Sweden

In this paper we analyse retirement effects on later life health from an inequality perspective. We have two competing hypothesis concerning retirement effects: Individuals are “worn out of work”, and retirement will therefore lead to positive health outcomes, or work is fundamental for staying healthy and to uphold cognitive abilities, i.e. the hypothesis “use it or lose it”. Our conjecture is actually that both these statements might be true, but for different segments of the population.

Individuals with high socioeconomic status, in contrast to individuals with lower socioeconomic status, tend to have better health, working conditions and more resources, all which, in turn, increase the possibility of extending working life well beyond present retirement rules.

We will focus on the long-term impact of retirement on cognitive and physical health. If retirement as such, and ultimately of extending working life, has an impact on health and health inequalities are main focuses. Our research questions are: Does the association, and even the direction of the association, between retirement and cognitive and physical health differ by socioeconomic position? Are those who work longer than average, doing better or worse in terms of health in old age?

We use data from two interrelated nationally representative longitudinal studies covering a 46-year period: The Swedish Level of Living Survey (LNU) and the Swedish Panel Study of Living conditions of the Oldest Old (SWEOLD). The SWEOLD sample is 77 years and older, thereby we can assess the long-term association between retirement age and physical and cognitive health in advanced old ages.

Who Benefits From Retirement? Socio-Economic Differences in Behavioural Change

Neda Agahi, Stockholm University, Sweden

A key life transformation for most people in adulthood is retirement. Depending on the individual's socioeconomic situation and the circumstances related to the retirement decision, the consequences of the transition into retirement will likely differ. For some, primarily more privileged socioeconomic groups, retirement provides an opportunity for creating new routines including health-promoting behavioural changes. For example, physical activity has been found to increase after retirement in more privileged socioeconomic groups, but decrease in more disadvantaged groups. However, studies on predictors for behavioural changes surrounding retirement are scarce.

This paper investigates socioeconomic differences in short-term changes in health behaviours before and after retirement, and identifies predictors for these changes. Do higher socioeconomic groups have more favourable behavioural changes after retirement? What predicts positive behavioural changes, and are predictors similar for higher and lower socioeconomic groups?

Analyses are based on the biennial Swedish Longitudinal Occupational Survey of Health (SLOSH), which provides nationally representative longitudinal data on the working population followed during work life and into retirement. Changes in tobacco use, misuse of alcohol, physical activity and sedentary behaviour in different socioeconomic groups are investigated.

E10 CHILDREN & FAMILY

Paper Session: *Childhood Development III*

A Latent Growth Curve Analysis of Child Height Trajectory: Differentials by Maternal Education in Four EU Countries

Richard Layte, Trinity College Dublin, Ireland

Background: Studies show that height is socially patterned and that individuals from deprived social backgrounds are shorter. Currently, evidence is mixed as to whether height differentials increase or decrease with child age or are stable from birth. Because height is strongly correlated with future health and life expectancy, the answer has important implications for life course models of health inequalities.

Methods: Latent growth models of child height trajectories from age 9 months to 21 years using data from Ireland, UK, Portugal and Finland are estimated. Child height within age group, cohort study and country is standardised using z-scores and differentials by maternal educational level are estimated using mixed hierarchical models with fixed and random components for each child cohort study.

Results: A clear educational gradient in height was evident across all European countries at all age ranges, although the magnitude of the associations varied by country and age group. In Ireland and the UK, there is evidence of growing social inequalities in height from infancy into adolescence. In Finland, the differential is fairly stable at about 0.30 of a z-score score

between 3-12 years but narrows between 12 and 24 years of age. The Portuguese data also demonstrate a narrowing of the social gradient from adolescence into adulthood.

Discussion: Understanding of the role of early life exposures to later disease processes is still limited. Our results suggest that environmental factors in early childhood interact with a biological substrate to produce increasing child height differentials in early childhood followed by incomplete catch-up in adolescence leading to educational differentials in adulthood. Our results provide supportive evidence for the Strachan-Sheikh (2004) model of development with implications for life course inequalities in health.

Decomposing the Influence of Social Origin in Early Childhood Development in Ireland

Patricia McMullin, European University Institute, Italy

Social gradients in cognitive outcomes are visible from an early age (Cunha and Heckman 2007). Numerous studies using different measures of the home learning environment (HLE) have shown that it has considerable influence on young children's cognitive development and early educational outcomes (Anders, H.-G. Rossbach, et al. 2012; Bus et al. 1995; Whitehurst et al. 1999). In particular, reading to young children has been found to be an important determinant of children's early language and literacy skills (Bus et al. 1995; Whitehurst et al. 1999; Brooks-Gunn 2003).

Additionally, parental class, and parental education have independent effects on individuals educational attainment (see Bukodi and Goldthorpe 2013) and that these effects remain net of an individuals' early life cognitive ability for British and Swedish students (Bukodi, Erikson and Goldthorpe 2014). It is still an open question whether or not class, occupation and education have differential effects on the home learning environment and the types of learning activities parents engage in with their children before they enter school.

Using the Growing Up in Ireland Study (GUI), this paper asks do parents with higher levels of education invest more in literacy skills and engage more in 'learning activities' such as reading to their children relative to those in better class positions and whether this translates into different cognitive outcomes for children of the educated and those with better social positions. Related research using the GUI has found that beneficial effect (on cognitive development at age 3) of reading and other activities is maintained even after adjustment for maternal education (Murray and Egan 2014).

Who's Looking After Our Infants: The Early Childhood Education and Care Environment in New Zealand

Polly Atatoa Carr, Sarah Berry (Presenting), University of Waikato, New Zealand

Longitudinal cohort studies have significant potential to inform policy across a range of child and family areas, including early childhood education and care. The Growing Up in New Zealand longitudinal study has had a focus on key policy relevant questions in the early childhood education and care area since before birth. Parents (both mother and father) of the cohort of approximately 6800 children have described their preference for early education and care since before their children were born, and at each data collection wave throughout the preschool period information has been collected about: the type (or types) of early childhood education and care provided (within formal education sector setting and informal care), the amount of care (hours per day), cost, and also parental quality of care

children receive. Quality measures collected include parental engagement in the education and care setting, and the communication provided to families. Further, parents have been asked about their engagement with a primary policy focus in the early childcare sector in New Zealand – the provision of subsidized 20 hours of early childhood education and care per week. In addition to the care arrangements, parents have been asked their reasons for and against utilizing early childhood education and care for their young children. Results indicate that there are clear differences in early childhood education and care arrangements used at age two years in New Zealand as a function of maternal ethnicity, income, area deprivation and household structure. In addition, several child care proxy quality indicators were lower for children of our indigenous (Māori) population as well as for those that are identified within Pacific and Asian communities, compared with children of European mothers. Similarly, children living in areas of higher socioeconomic deprivation also experienced lower quality care as described by their mothers. While 88% of mothers were intending to utilize the Government's '20 Hours ECE' funding, Asian and Pacific mothers and mothers whose children were cared for by family members were less likely. These findings, based on novel data that also provides the context of life for children growing up in New Zealand today, highlight the importance of continued policy efforts to reduce socioeconomic and ethnic disparities in education and care during the preschool years.

F10 GENERAL

Symposium

Tackling Deep and Persistent Disadvantage: The Australian Research Council Centre of Excellence for Children and Families over the Life Course

Convenor: Jack Lam, University of Queensland, Australia

Summary: Established in 2014, the Life Course Centre was funded by the Australian Research Council to tackle the problem of deep and persistent disadvantage, characterised by the spread of social and economic poverty within families and across generations despite overall improvements in the broader society. The Centre is headquartered at the University of Queensland, with nodes at three other universities in Australia (the Universities of Western Australia, Melbourne and Sydney). Researchers at these four universities work alongside partners in government agencies and not-for-profit organizations in Australia, and also with investigators at ten universities around the world. In this symposium, we will present the range of research currently being conducted at the Centre, aimed at identifying patterns of disadvantage in Australia, and around the world. The first paper examines psychological and socio-demographic risk factors for school achievement using a latent class analysis of approximately 4,000 children, linking survey data from the Longitudinal Study of Australian Children (the LSAC) with the National Assessment Program – Literacy and Numeracy (NAPLAN), an annual assessment for students in Years 3, 5, 7 and 9 of school. The second paper is also focused on education, understanding how moving to schools with a higher, lower, or similar-level socioeconomic status (SES) as one's original school is related to student's literacy and numeracy progress over time. The third paper investigates the links between parents' work hours, job insecurity and child well-being in dual-earner families over three points in time, to understand how parental work stress operates to affect children in this particular family context. The fourth paper uses Census data from 1981–2006 for Australia, Canada, and New Zealand, to investigate the extent of progress for Indigenous

populations (relative to non-Indigenous populations) in the domains of educational attainment, labour force status, and income across these three countries.

Concurrent Risks for School Achievement

Daniel Christensen, University of Western Australia, Australia; Kirsten Hancock, Rebecca Seth, Francis Mitrou, Cate Taylor, Stephen Zubrick, University of Queensland, Australia

Much is known about risk factors for school achievement. However less is known about the accumulation and distribution of risk factors, and how these factors interact across the population. In this paper we examine a range of psychological and socio-demographic risk factors for school achievement using a latent class analysis of approximately 4,000 children from the Longitudinal Study of Australian Children (the LSAC). The LSAC allows us to take a broad-based biopsychosocial view of risks for school achievement in a population representative sample of Australian children. We examine the distribution of these risk factors across our sample, and identify distinct sub-groups of children on the basis of overlapping patterns of risk. School achievement is measured by a national standardised measure, the National Assessment Program – Literacy and Numeracy (NAPLAN), an annual assessment for students in Years 3, 5, 7 and 9 of school (ages 8-9 through to 14-15) which includes reading, writing, spelling and numeracy. This paper also presents the association between the identified risk groups (latent classes) and NAPLAN outcomes, measured by growth trajectories and logistic regression.

The Ups and Downs of School Mobility: How Upward and Downward School Mobility Relates to Literacy and Numeracy Progress Over Time

Kirsten Hancock, University of Western Australia, Australia; Stephen Zubrick, University of Queensland, Australia

This study examines numeracy and literacy progress over time for Western Australian government sector students who move to schools with a higher, lower, or similar-level socioeconomic status (SES) as their original school. Results suggest that upwardly mobile students, particularly those moving from the 2nd, 3rd and 4th quartile of school SES to the highest 25%, saw greater gains in achievement compared to students making a lateral move. Downwardly mobile students moving out of the 1st quartile had smaller achievement gains than those making a lateral move. While the results confirm that the direction of school mobility matters, and that not all school moves are associated with diminished achievement, the effects are largely limited to students moving into and out of the highest SES schools. The second phase of analysis then examines if these patterns change if markers other than school SES are used, including overall school achievement, the proportion of students within a school falling below the national minimum standard, and average student absence rates within schools. The third phase of analysis then examines if these patterns vary by student characteristics, such as gender, parent education, or prior achievement, to examine if particular students benefit more than others from upward mobility, or if some are more detrimentally affected by downward mobility than others. The results are discussed in the context of research that compares outcomes of students attending public and private schools, and the extent to which school SES is an adequate marker of school quality.

Dynamics of Parental Work Hours, Job Insecurity, and Child Well-Being During Middle Childhood in Australian Dual-Income Families

Jack Lam, Martin O’Flaherty, Janeen Baxter, University of Queensland, Australia

This study examines the relationship between parental employment characteristics and child well-being during middle childhood in dual-earner families. Parental employment provides important resources for children’s well-being, but may also create time pressure and introduce stress into the child’s environment. Moreover, there may be gender differences in how mothers’ and fathers’ employment characteristics translate to children’s well-being, due to the different role-performance demands placed on men and women, and the differences in the amount of time mothers and fathers spend with their children. Further, these relationships may differ at various ages of the children across middle childhood. Our study contributes to existing research in three ways: 1) by examining longitudinal data that enables us to examine changes in the association between parental work hours, job insecurity and child well-being, within and across parent-child dyad, 2) by focusing on regularly dual-employed, intact households to examine the effects of mothers’ and fathers’ employment environment on girls’ and boys’ well-being in this relatively privileged sample, and 3) by testing possible mediators in the relationship between parental employment characteristics and child well-being. Drawing on 3 waves of data from two cohorts of the Longitudinal Study of Australian Children (N = 3,216), from 2004 to 2012, we find that mothers who work long hours on average over the study period have children with poorer socio-emotional trajectories, and that fathers with increasing work hours have children with poorer socio-emotional development. Mothers’ job security is linked to better child development, comparing both across mothers and within mothers over time.

Gaps in Indigenous Disadvantage Not Closing: A Census Cohort Study of Social Determinants of Health in Australia, Canada, and New Zealand From 1981–2006

Francis Mitrou, University of Western Australia, Australia; Martin Cooke, David Lawrence, David Povah, Elena Mobilia, Eric Guimond, Stephen Zubrick, University of Queensland, Australia

In modern developed economies, better education outcomes lead to increased employment opportunities and higher incomes. Australia, Canada, and New Zealand are developed nations that share similar colonial histories over similar timeframes. Since at least the 1970s each country has implemented major government policies designed to improve the life outcomes of their Indigenous people. We aimed to investigate the extent of progress for Indigenous populations in the domains of educational attainment, labour force status, and income, over the period 1981–2006 using national census data for each country. Are outcomes similar, or have some countries done a better job of closing gaps in key human capability outcomes for Indigenous peoples? We used Census data from 1981–2006 for Australia, Canada, and New Zealand, for people aged 25–29 years at each census. We used the 25–29 years age bracket as this is an age by which key developmental and structural transitions to adult independence have generally occurred. It is also an age-range of critical importance for monitoring of “Closing the Gap” type policies, as poor outcomes during this period can signal entry into deep, persistent disadvantage, and possible transfer of this to the next generation. Results showed that relative to non-Indigenous populations, Indigenous populations were almost as disadvantaged in 2006 as they were in 1981 in the employment and income domains, and more disadvantaged in the education domain, with Australia generally showing the greatest gaps.