



Center for Interdisciplinary Research
Zentrum für interdisziplinäre Forschung



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Life course perspectives on social inequalities in health

Moving towards an interdisciplinary science

11-12 March 2010

Center for Interdisciplinary Research, University of Bielefeld
Wellenberg 1, 33615 Bielefeld, Germany

Organisers: Matthias Richter (Bern) and David Blane (London)

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Abstract

The chances of participation in social life exert a crucial impact on health. In the context of a life course perspective on social inequalities in health, new findings were gained by enlarging the analytic time frame and by integrating determinants and mechanisms acting earlier in life. However, an interdisciplinary framework which draws upon different theoretical ideas from several disciplines, which deal with the life course, is still lacking. The workshop explores the interaction and accumulation of physical and social hazards over the life course of individuals and populations to the genesis of health. A special focus is put on approaches which address the question which temporal determinants and mechanisms can be identified for the production and re-production of social inequalities in health over the life course. The aim is to contribute to the development of a more holistic and theory-driven view of the life course and its interdependent pathways – an interdisciplinary view of the embodiment of social phenomena into the biological. The workshop brings together leading experts from different disciplines (Sociology, Medicine, Psychology and Education) and from major longitudinal studies in Europe, with a view to identifying the models of the life course which underlie their science; and working towards a shared model. In tackling these questions we will focus on four areas of interdisciplinary study: 1) theoretical and statistical challenges for life course research, 2) illuminating life in late middle age, 3) accumulation of adversity, 4) life course influences on life at older ages. Expertise in the key disciplines will be combined, in order to contribute to an implementation of a life course perspective at the interface between natural and social sciences. The workshop is a joint effort of the Institute of Social and Preventive Medicine at the University of Bern and the ESRC International Centre for Life Course Studies in Society and Health at the University College London and Imperial College London. The findings of the workshop will be published as a special issue of the journal “Longitudinal and Life Course Studies” which already agreed for publication (<http://www.journal.longviewuk.com/index.php/llcs>).

Die Chancen für gesellschaftliche Teilhabe in Form sozialer Ungleichheiten üben einen bedeutenden Einfluss auf die Gesundheit der Bevölkerung aus. Im Rahmen einer neu ausgerichteten Lebenslaufperspektive gesundheitlicher Ungleichheit konnten erste wichtige Erkenntnisse gewonnen werden, indem der zeitliche Rahmen der Betrachtung erweitert wurde und so Einflüsse in den frühen Lebensjahren für die Erklärung gesundheitlicher Ungleichheit im Erwachsenenalter einbezogen werden. Ein interdisziplinärer Rahmen, der die unterschiedlichen theoretischen Konzeptionen und Vorstellungen aus den verschiedenen Disziplinen berücksichtigt, die sich mit dem Lebenslauf auseinandersetzen, fehlt jedoch bislang. Der Workshop setzt hier an und untersucht die Interaktion und Akkumulation biologischer und sozialer Gefahren über den Lebenslauf von Individuen und Gesellschaften für die Genese von Gesundheit und Krankheit. Ein besonderer Fokus liegt auf Erklärungsansätzen, die der Frage nachgehen, welche zeitlichen Determinanten und Mechanismen für die Produktion und Reproduktion gesundheitlicher Ungleichheiten identifiziert werden können. Ziel des Workshops ist es, zu einem holistischen und theoriegeleiteten Blick auf den Lebenslauf und seinen wechselseitigen Verläufen beizutragen – ein interdisziplinärer Ansatz, der zu erklären versucht wie soziale Phänomene verkörpert werden - wie die Gesellschaft unter die Haut kommt. Der Workshop bringt führende Experten unterschiedlicher Disziplinen und großen europäischen Längsschnittstudien zusammen, um deren jeweiligen zugrundeliegenden Modelle des Lebenslaufs zu identifizieren und ein gemeinsames interdisziplinäre Model zu entwickeln. Vier unterschiedliche Gebiete der interdisziplinären Auseinandersetzung wurden identifiziert und werden im Rahmen des Workshops diskutiert: 1) theoretische und methodische Herausforderungen für die Lebenslauforschung 2) Leben im späteren Erwachsenenalter 3) Akkumulation von Benachteiligung 4) Einflüsse des Lebenslaufs im hohen Alter. In jeden dieser vier Blöcke wird die wissenschaftliche Expertise aus den einzelnen Disziplinen gebündelt, um so zur Implementation einer Lebenslaufperspektive an der Schnittstelle zwischen Natur- und Sozialwissenschaften beizutragen.

Programme

Thursday, 11 March 2010

8:00-08:30 **Registration and networking**

8:30-09:00 **Welcome session**

Welcome address by Michael Röckner, director of the ZiF
Welcome and introduction by Matthias Richter (Bern) and David Blane (London)

09:00-10:30 **Block 1. Life course research – overview and examples**

Chair: David Blane (London)

09:00-09:30 **The promise of life course research**

Mel Bartley (London)

09:30-10:00 **Social inequalities in health in the HAPIEE: life course perspectives**

Hynek Pikhart (London)

10:00-10:30 **The life course approach in (Health Equity in All) Policy analysis:
the case of a metropolitan area**

Giuseppe Costa (Turin)

10:30-11:00 **Coffee/Tea (ZiF cafeteria)**

11:00-12:30 **Block 2. Theoretical challenges for life course research**

Chair: Mel Bartley (London)

11:00-11:30 **The life course, socialisation and health: linking social science and
epidemiology**

Matthias Richter (Bern)

11:30-12:00 **Recent developments in sociological life course research. Implications
for the study of health**

Martin Diewald (Bielefeld)

12:00-12:30 **Life course research, human development, and social inequalities in health**

Ingrid Schoon (London)

12.30-13.30 **Lunch (ZiF cafeteria)**

13:30-15:00 **Block 3. Statistical challenges for life course research**

Chair: Matthias Richter (Bern)

13:30-14:00 **Causal inference of neighbourhood effects based on studies of individuals' residential history through the life course**

Øyvind Næss (Oslo)

14:00-14:30 **A structured approach to modelling the effects of binary exposure variables over the life course**

Gita Mishra (London)

14:30-15:00 **A multiple process latent transition model of poverty and health**

Amanda Sacker (Essex)

15:00-15:30 **Coffee/Tea** (ZiF cafeteria)

15:30-17:00 **Block 4. Illuminating life in late middle age**

Chair: Amanda Sacker (Essex)

15:30-16:00 **Intergenerational solidarity between divorcing adults and their older parents**

Dimitri Mortelmans (Antwerp)

16:00-16:30 **Impact of socioeconomic position on the relationship Self-Rated Health/health status: comparative analyses in US and France**

Cyrille Delpierre (Toulouse)

16:30-17:00 **Health and quality of life in late middle age in Europe**

Gopalakrishnan Netuveli (London)

19:00 **Network dinner** *tba*

Friday, 12 March 2010

09:00-10:30 **Block 5. Accumulation of adversity: disappointment paradox**

Chair: Gopalakrishnan Netuveli (London)

09:00-09:30 **The origins of some complications may pre-date obesity**
Scott Montgomery (Stockholm)

09:30-10:00 **Cumulative life course and adult socioeconomic status and markers of inflammation and haemostasis in adulthood**
Meena Kumari (London)

10:00-10:30 **The disappointment paradox – when affluence meets adversity**
Walter Osika (Orebro)

10:30-11:00 **Coffee/Tea** (ZiF cafeteria)

11:00-12:30 **Block 6. Life course influences on life at older ages**

Chair: Scott Montgomery (Stockholm)

11:00-11:30 **Working conditions in mid-life and participation in socially productive activities after labour market exit**
Morten Wahrendorf (Düsseldorf)

11:30-12:00 **Socio-economic inequality in hip fracture incidence**
Frank van Lenthe (Rotterdam)

12:00-12:30 **Life course influences on quality of life at age 50 years**
David Blane (London)

12:30-14:00 **Lunch** (ZiF cafeteria)

14:00-16:00 **Round Table. Theoretical and methodological challenges: implications for future research and practice**

Chair: Mel Bartley (London)

Discussants:
Johan Hallqvist (Uppsala)
Klaus Hurrelmann (Berlin)
Thierry Lang (Toulouse)
Jürgen Schupp (Berlin) *tbc*

16.00 **End of the workshop**

Abstracts

Block 1. Life course research – overview and examples

Chair: David Blane (London)

The promise of life course research

Mel Bartley

ESRC International Centre for Life Course Studies in Society and Health, London, UK

When European nations were setting up health services to be available to all citizens it was not anticipated that much demand for health care would be a result of long term processes across the life course. The processes are of many kinds, ranging from childhood relationships to parents and carers, through the acquisition of health habits and behaviours in adolescence to long-term effects of work hazards and work stress. It is only in the last decade that theories, methods and new data begin to be combined to give us ways to understand health in the life course in ways that may eventually allow more effective health policy and health care to be designed. This session will introduce participants to some of the longitudinal and birth cohort studies available in the UK and how these are changing health policy.

Social inequalities in health in the HAPIEE: life course perspectives

Hynek Pikhart

Department of Epidemiology and Public Health, UCL, London, UK

The HAPIEE (Health, Alcohol and Psychosocial factors In Eastern Europe) study is a prospective cohort study designed to investigate the effect of classical and nonconventional risk factors and social and psychosocial factors on cardiovascular and other non-communicable diseases in eastern Europe and the FSU. The HAPIEE study comprises cohorts in Russia, Poland, the Czech Republic and Lithuania; each consists of a random sample of men and women aged 45–69 years old at baseline. The total sample size is approximately 37,000 individuals. Baseline information was collected in 2002–2005 and re-examination of the cohorts was carried out in 2006–2008. The HAPIEE study has carried out screening of the study samples at a time of great social change. In this way, the study corrects a tendency of life course research to leave social change too far in the background. Findings from this study force us to consider more closely the ways in which social change affects life course processes that contribute to health inequality.

The life course approach in (Health Equity in All) Policy analysis: the case of a metropolitan area

Giuseppe Costa

University of Turin, Epidemiologic Unit of the Piedmont Region, Turin, Italy

Health impact is one of the key criteria of policy evaluation (see Health in All Policies strategy). Social variations in health should be considered a priority in health impact assessment (see the EU Communication on Solidarity in Health). Does the life course approach (and a longitudinal view in health information systems) matter in Health Equity in All Policies? In Turin policy makers asked local epidemiology to build a health information system (the Turin Longitudinal Study, TLS), in order to provide answers to the most common questions of an health equity oriented policy analysis. TLS is an integrated study based on record linkage between population census and administrative data sources, associating demographic, socioeconomic and health data at the individual and contextual level for the whole resident population since 1971.

Three main categories of questions come from policy makers for the purpose of priority setting:

- understanding causes and responsibilities;
- evaluating the impact of policies and interventions (ex post and ex ante);
- allocating resources.

For each question the paper will build on examples from the Turin experience in order to see the possible importance of the life course approach.

Block 2. Theoretical challenges for life course research

Chair: Mel Bartley (London)

The life course, socialisation and health: linking social science and epidemiology

Matthias Richter¹, Klaus Hurrelmann²

¹ *Institute of Social and Preventive Medicine, University of Bern, Switzerland*

² *Hertie School of Governance, Berlin, Germany*

The explanation of social inequalities in health still presents a challenge for all participating disciplines. The existing models discussed in life course research on the social determinants of health largely originate from epidemiology. So far, the potential of a life course perspective in public health was not fully exhausted as it still focuses largely on a traditional risk factor epidemiology. In general, an integration of life course principles from other disciplines is still lacking. In order to better understand the development of health and health inequalities in a life course perspective, it may be useful to take an interdisciplinary approach and draw upon the more theoretical ideas from life course sociology and life span psychology. This might enhance the strong empirical focus that is often observed in epidemiology. We argue that the four paradigmatic principles of interdisciplinary life course research, i.e. human agency, timing in lives, linked lives and historical context provide a strong theoretical framework for a more holistic and theory-driven view of the life course and its interdependent pathways. The 'agency within structure' paradigm on which these principles are based are an essential part of socialisation theory which is a neglected field of research in social epidemiology. Socialisation is understood as a life long dynamic process of coping with the inner and outer requirements to the development of personality. We suggest that socialisation could act as theoretical linkage between social science and epidemiology and offers a multi-causal framework to better understand the association between social structure and health across the life course.

Recent developments in sociological life course research. Implications for the study of health

Martin Diewald

Department of Sociology, Bielefeld University, Germany

Up to now, the life course approach is clearly a powerful methodological approach. However, it can hardly be conceived as being a theory, though theoretical propositions play a major role in the development of the field. Advancement in the field of life course research is still especially needed regarding internal dynamics and causal linkages across life time, with the interdependence between structure and agency being the most prominent general topic. Some recent developments in sociological life course research provide grounds for optimism that such advancements can be expected for the following years. I discuss (1) the methodological advancement of measuring social context in addition to individual life courses; (2) a focus on social mechanisms as strategy of sociological explanation, with a specific focus on cumulative advantage and disadvantage; (3) theorizing interdependence between life domains; and (4) the integration of genetic and other biological foundations of life courses. The study of health can profit a lot from the developments, as well as including health development into life course studies may help to understand causal linkages across the life course. This is shortly demonstrated for the important question of social inequalities and health.

Life course research, human development, and social inequalities in health

Ingrid Schoon

Institute of Education, University of London, UK

The life course approach to the study of health variations offers an interdisciplinary framework or orientation for guiding and structuring research with the aim to study the contribution of early life factors jointly with later experiences to identify risky and protective pathways. One of the key assumptions of life course research is that human development is a life-long developmental process. Although there is consensus about the need to consider multiple levels of influence and their dynamic interactions over time, the question of how individual characteristics and environmental conditions interact over time remains a challenge to be addressed. The dynamics of human development (which can of course include a focus on developmen-

tal psychopathology) have been conceptualised in terms of cumulative risk or pathway models, and critical periods for interventions have been identified – yet these models do not fully account for the plasticity of human development, and the observation of continuity and change in developmental transitions. For example, expectations regarding the long-term consequences of any sort of behaviour or risk exposure are based on the assumption of developmental continuity across the life course, reflecting a highly deterministic perspective. Yet, the roots of adult functioning do not always extend back to childhood or early life, and the influence of earlier experiences may be mediated, or even reversed by later experiences. In this paper I will consider issues related to developmental continuity and discontinuity across the life course and discuss their implications for understanding social inequalities in developmental health.

Block 3. Statistical challenges for life course research

Chair: Matthias Richter (Bern)

Causal inference of neighborhood effects based on studies of individuals' residential history through the life course

Øyvind Næss

*Division of Epidemiology, National Institute of Public Health, Oslo, Norway
Institute of Health and Society, University of Oslo, Norway*

Recent years of public health research have seen a renewed interest in the effect of area determinants on ill health. These determinants, both physical and social, may exert an impact independently of the characteristics of those individuals residing in them. The majority of studies have looked at cross-sectional data or data with short follow up time. People may move into deprived areas dependent on later health potential. A fundamental problem in multilevel studies attempting to disentangle contextual and compositional effects results from the endogeneous nature of area determinants. People make places and places make people. Longitudinal multilevel models may potentially add new insights into how areas may impact on health over the life course.

Methodological problems related to drawing causal inference in multilevel studies of neighborhood effects will be discussed. Statistical multilevel models that take individuals' residential history through their life course into account and results applying these models to Oslo, Norway, will be presented. Census data from 1960, 1970, 1980 and 1990 were linked to the Cause of death registry of all residents in Oslo, Norway. Area coding was harmonized over this period. The following multilevel models were used: simple multilevel models from each year separately, a multiple membership model, a cross classified model and finally a correlated cross classified model.

We analysed 120,000 individuals aged 30-69 years who had been residents in Oslo through this period. After decomposing the time points from each other we found that each time point had effect on mortality in the oldest age groups whereas in the youngest age groups the most recent neighborhood had the strongest effect. Advantages and disadvantages of using such longitudinal multilevel multilevel models of area effects over the life course will be discussed.

A structured approach to modelling the effects of binary exposure variables over the life course

Gita D Mishra

MRC Unit for Lifelong Health and Ageing, Department of Epidemiology and Public Health, University College, London

There is growing interest in the relationship between time spent in adverse circumstances across life course and increased risk of chronic disease and early mortality. This accumulation hypothesis is usually tested by summing indicators of binary variables across the life span to form an overall score that is then used as the exposure in regression models for health outcomes. We shall highlight potential issues in the interpretation of results obtained from such an approach. We propose a model-building framework that can be used to formally compare alternative hypotheses on the effect of multiple binary exposure measurements collected

across the life course. Examples will be drawn from the MRC 1946 Birth cohort study and the Uppsala Birth Cohort Multigenerational Study.

A multiple process latent transition model of poverty and health

Amanda Sacker

Institute for Social and Economic Research (ISER), University of Essex, UK

An often contested issue is whether poverty increases the risk of poor health or poor health increases the risk of poverty. In this work we test the relative strength of these relationships, using a multiple process latent transition model that estimates the cross-lagged influences on health and poverty over time.

The data are from the British Household Panel Survey, restricting the sample to men aged 21 to 49 years and women aged 21 to 44 years in 1991 who were still participating in the survey in 2006 (N=2344). The model is based on data from every 3rd wave of the survey, resulting in 6 waves in total (1991, 1994, 1997, 2000, 2003, 2006).

The health and poverty dynamics are modelled as hidden two-state Markov processes. Observed health is measured by the general self-rated health question on a 5-category Likert scale. The repeated health measures are assumed to be conditionally independent given the hidden process, i.e. the underlying “true” state of good or poor health. Observed poverty is defined as below 50% of the median household income adjusted for household composition and again assumed to be conditionally independent given an underlying “true” poor or non-poor state.

Our starting point is a separate examination of health transitions and poverty transitions over time to assess whether transition probabilities are heterogeneous or homogeneous. Then a series of nested multiple process latent transition models are used to explore the cross-sectional and bidirectional longitudinal links between health and poverty. Time-invariant and time-varying covariates are also accommodated in the framework.

Evidence for both concurrent and bidirectional longitudinal relationships is found. Employment status appears to mediate longitudinal health-to-poverty effects and to confound longitudinal poverty-to-health effects. The multiple process latent transition models provide quantitative estimates of the complex relationships over time between states that are not directly observable and/or are measured with error. As such, the model can take us some distance toward understanding the interlocking processes with which life course research on health is ultimately concerned.

Block 4. Illuminating life in late middle age

Chair: Amanda Sacker (Essex)

Intergenerational solidarity between divorcing adults and their older parents

Dimitri Mortelmans

Faculteit Politieke en Sociale Wetenschappen, University of Antwerp, Belgium

The past decades are characterized by drastic changes in the family constellations. Families are changing in form and meaning due to trends in divorce and remarriage. Generally these changes raise concerns about the intergenerational solidarity: are families still providing or willing to provide? As divorce becomes more and more common, it is important to understand how this life event affects the intergenerational relations. In studies on intergenerational support the focus often lies on the effect of parental divorce and the intergenerational support received by adult children. However, intergenerational relationships are characterized by long term reciprocity as support tends to run upwards and downwards through time. More specifically the older generation often functions as care providers, specifically the ‘younger old’. As adult children’s divorce becomes an increasingly common experience for older adults and divorced children are expected to have greater needs for support than married children, the question can be raised whether divorced children actually receive more support than married children.

The SHARE-data offer the possibility to answer this question and compare the support given to adult children by their marital status within Europe. At first instance, this will be tested for wave 1. We will specifically look at gender differences of the adult child in support received by marital status. Furthermore the need for support of the adult child as well as the parents' ability to give support are taken into account. As the level of intergenerational solidarity is expected to differ across societies, country is added as a control variable.

Impact of socioeconomic position on the relationship Self-Rated Health/health status: comparative analyses in US and France

Cyrille Delpierre

Institut nationale de la santé et de la recherché médicale (INSERM), Toulouse, France

Previous work has reported that education influences the relationship between objective health status and self rated health (SRH). In the present study, we aimed at comparing the influence of education on the link between physical health, as measured by functional limitations (FL), and SRH in two countries, France and the United States. Data from NHANES was used for USA and the Decennial Health Survey (DHS, Enquête Décennale Santé) for France were used. The population. Logistic regression models were used with SRH as the outcome and included variables for education, FL, and the interaction between education and FL in the model to test if educational modifies the relationship between FL and SRH.

Our results show that the relationship between FL and SRH is modified by education and that this phenomenon exists in both France and the US. The impact of FL on SRH was greater for the highest educational level compared to the lowest. Therefore the use of SRH as a measure of health for evaluating social inequalities could lead to underestimating the real magnitude of health inequalities existing within and between countries. Future studies using social indicators other than education are needed, as are international studies evaluating how people from different cultures understand and evaluate the notion of health, how they understand SRH and choose a specific health category. These are important considerations to take into account in attempting to understand health differences between socioeconomic groups or populations.

Health and quality of life in late middle age in Europe

Gopalakrishnan Netuveli

Imperial College London, UK

Human life span has never been so long as now making chronological stages salient in the study of health and wellbeing. Tucked between youth and old age, middle age starts at 40 which coincide with first signs of physiological decline. However, in other domains like social and psychological middle age can be a period of thriving as the concept of the Third Age proved. In this paper we are studying health and quality of life in late middle age (50 to 65 years) in selected European countries. The data were from the Survey of Health, Aging and Retirement in Europe (SHARE). The outcome measures were health measured as composite index of self reports and quality of life measured using CASP-19. We used multilevel models to study the influences of individual level variables like age, sex, education, and marital status as well as country level variables representing welfare state regimes and social welfare on health and quality of life. Our results showed that both health and quality of life vary by country and the differences could be explained partly by the explanatory variables we used.

Block 5. Accumulation of adversity: disappointment paradox

Chair: Gopalakrishnan Netuveli (London)

The origins of some complications may pre-date obesity

Scott M Montgomery

Imperial College London, UK; Örebro University Hospital, Sweden; and Karolinska Institutet, Stockholm, Sweden

The epidemic of obesity and type 2 diabetes will lead to parallel epidemics of obesity-related complications including more rapid cognitive decline and other neurological complication in later life. While obesity and diabetes cause neurological damage, is there evidence that elements of poor neurological function associated with adult-onset obesity have early-life origins? This was investigated using the 1958 and 1970 British birth cohort studies. Poorer childhood cognitive function is associated with a greater risk of adult obesity and diabetes. It has been argued that this does not indicate neurological impairment and is an educational phenomenon. An alternative measure of neurological function - physical control and coordination in childhood – is also associated with a greater risk of adult obesity independent of childhood BMI. Here, it is possible that poorer physical function may limit physical exercise, thus increasing obesity risk. We sought a marker of poorer neurological function that is not itself likely to increase obesity risk. A contemporaneous association of adult type 2 diabetes with hearing impairment has previously been identified, so we examined whether childhood hearing impairment (measured using audiometry) is linked with adult-onset obesity. Bilateral impairment was selected to indicate a systemic phenomenon. Among 3527 females, childhood bilateral hearing impairment was associated with BMI at age 34 years with odds ratios (and 95% CI) of 1.65 (0.96 - 2.83) for overweight and 2.37 (1.33 - 4.24) for obesity, after adjustment for childhood BMI and markers of family circumstances. There was no association among males, with statistically significant effect modification for the sex-difference, consistent with other research indicating girls are more susceptible to childhood obesity risks. Early life exposures relevant to poorer neurological development are also risks for adult-onset obesity. Adversity accumulates across the life course, as a proportion of those who experience adult obesity may already be more susceptible to neurological complications resulting from early life exposures, suggested by a 'pre-obese syndrome' of impaired function.

Cumulative life course and adult socioeconomic status and markers of inflammation and haemostasis in adulthood

Meena Kumari, Faiza Tabassum

Department of Epidemiology and Public Health, UCL, London, UK

There are numerous reports of the association of Inflammatory and haemostatic markers with a number of diverse outcomes including cardiovascular disease and depression. However, there has been debate as to the causal nature of these associations with suggestions that many social factors are not accounted for in analyses. In particular lifecourse influences on these markers are not well described. We examined the effects of life-course social position on inflammatory and haemostatic markers: fibrinogen, C-reactive protein, von Willebrand factor antigen, and tissue plasminogen activator antigen. Data from the biomedical follow-up of the 1958 British Birth cohort (2002–2004) were used. Social class was determined at three stages of respondents' lives: childhood (birth), early adulthood (age 23 years), and midlife (age 42 years). A cumulative indicator score of SEP was calculated that ranged from 0 (always in the highest social class) to 9 (always in the lowest social class). In men and women, associations were observed between cumulative indicator score and fibrinogen ($p < 0.001$), C-reactive protein ($p < 0.001$), von Willebrand factor antigen ($p < 0.05$), and tissue plasminogen activator antigen ($p < 0.001$ only in women). Risk exposure related to SEP accumulates across the life course and contributes to raised levels of fibrinogen and C-reactive protein, while childhood SEP influences haemostatic markers more than does adult SEP. The effects of inclusion of this lifecourse perspective to the cross sectional association of these markers with cardiovascular risk and with psychological distress will be described.

The disappointment paradox – when affluence meets adversity

Walter Osika

Stress Research Institute, Stockholm University, Sweden

Shorter adult stature, depression and low income are associated with an increased risk of angina pectoris. Adult height partly reflects childhood exposures, and we hypothesised that some exposures impairing growth may also increase susceptibility to coronary heart disease (CHD)- angina pectoris - and depression risks; such that shorter adults may be more susceptible to some exposures in adulthood that are risks for heart disease and depression.

This was investigated using data from the National Health Interview Survey, a stratified random sample of households in the USA (1997-2000); the first cross-sectional sweep of the English Longitudinal Study of Ageing, UK (2002); and the Behavioral Risk Factor Surveillance System in the US conducted by state health departments and the Centers for Disease Control and Prevention (2004).

In the first study population, the odds ratio (and 95% confidence interval) for angina risk associated with the tallest height fifth compared with the shortest fifth is 0.77 (0.97, 0.88). The association of low income (less than US\$ 20,000) with angina was assessed separately in each of five height strata defined by fifths of the height distribution and –unexpectedly -low incomer was a greater risk for angina among taller participants.

In the second population, taller stature was associated with a statistically significant reduced risk of depression with an odds ratio of 0.7 (0.6 to 0.9) among those without financial disadvantage. No protection against depression was associated with taller stature among those with financial disadvantage (odds ratio 1.0; 95% confidence interval 0.8 to 1.3). Interaction testing confirmed effect modification by financial disadvantage for the association of height with depression ($p = 0.005$).

In the third study, after stratification by economic disadvantage, taller individuals in the higher income stratum maintained a statistically significant reduced risk of low mood, with an odds ratio of 0.90 (0.90, 0.91). In contrast, taller stature represented a raised risk for low mood in the lower income stratum, with a statistically significant odds ratio of 1.27 (1.26, 1.28). This effect modification was confirmed by interaction testing, producing an odds ratio for interaction of 1.39 (1.37, 1.39; $p < 0.001$). Effect modification by economic disadvantage was also observed for the association of height with CHD, producing an odds ratio for interaction of 1.57 (1.56, 1.59; $p < 0.001$).

The consistent results from these three separate studies suggest childhood adversity resulting in shorter stature may confer resilience against adult economic adversity. The relative disadvantage of low income in adulthood may be perceived more keenly by those who had a relatively privileged childhood (indicated by taller stature). This group may have the highest expectations thereby increasing stress and thus disease risk associated with disadvantage. The policy implications are that support must be targeted at both childhood and later adulthood.

Block 6. Life course influences on life at older ages.

Life course influences on quality of life at age 50 years

Blane D^{1,3}, Webb E^{1,3}, Wahrendorf M^{1,2,3}, Netuveli G^{1,3}

¹ Imperial College London, ² University of Düsseldorf, ³ ESRC International Centre for Life Course Studies in Society and Health

The recent increase in life expectancy at middle age has drawn the attention of scientists and policy makers to questions of quality of life. Will the extra years of life be worth living? Has quality followed quantity? What are the main influences on quality of life at these ages? The last question has been answered best. Studies have identified as important: health, particularly physical functioning and clinical depression; financial circumstances; social participation and relationships; and neighbourhood and residential locality.

A further question is whether, in addition to these features of current existence, there are important influences from earlier in the life course – as there are with health? So far, this question has been answered, largely in the negative, based on a small study containing retrospective life course data. Now we can investigate further using recently released data from the 1958 British birth cohort study at age 50 years, offering life course prospective data on a larger sample.

The presentation will report the relationships between childhood circumstances and quality of life at age 50 years, including whether there are independent, direct effects or whether the relationships are mediated via other contemporaneous aspects of life at 50 years. The analyses will test the idea that material circumstances during childhood are related to quality of life at 50 years via their influence on adult physical functioning and adult financial circumstances. Similarly, that psycho-social circumstances during childhood are related to quality of life at 50 years via their influence on adult clinical depression and adult social participation.

Socio-economic inequality in hip fracture incidence.

Frank van Lenthe

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Purpose: To investigate the association between childhood and adulthood socio-economic position and the hospital-based incidence of hip fractures, and the contribution of behavioural risk factors to these socio-economic disparities.

Methods: Baseline (1991) information about socio-economic position in childhood and adulthood, behavioural factors (alcohol consumption, smoking, physical inactivity, coffee consumption) and body height and weight of 25 to 74 year old participants (n=18,810) was linked to hospital admissions for hip fractures (ICD 9 code 820-821) over a follow-up period of almost 13 years.

Results: Childhood socio-economic position was not associated with the incidence of hip fractures. A lower educational level and being in a lower income proxy group was associated with an increased probability of hip fractures (HR=1.88, 95% c.i. [1.00—3.53] in the lowest education group; HR = 2.39, 95% [1.46-3.92] in the lowest income group). Very excessive alcohol consumption, smoking, and physical inactivity were associated with an increased probability of hip fractures, and contributed (10-31%) to socio-economic disparities in hip fractures.

Conclusions: The higher prevalence of unhealthy behaviour in lower socio-economic groups in adulthood contributes to socio-economic disparities in incidence of hip fractures. Effective behavioural interventions in lower socio-economic groups may reduce socio-economic disparities in hip fracture incidence.

Working conditions in midlife and participation in socially productive activities after labour market exit

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Promoting participation in socially productive activities after labour market exit is an important challenge for European policies. Not only society as a whole might profit from an increased investment, but also elderly themselves, since participation in such activities was shown to improve health and well-being in older ages. Against this background we investigate whether the experience of ‘good’ working conditions in midlife might increase the probability of investing in such activities during retirement. One possible reason is that the motivation for getting active is higher, given that positive work-related experience occurred. Another reason might be that ‘good’ working conditions in midlife contribute to increased health at older age, which in turn favours the participation in socially productive activities after labour market exit. Based on this background, a life course approach will be applied, and long-lasting influences of working conditions in midlife on participation in socially productive activities after labour market exit will be studied. Working conditions are de-

fined in terms of exposure to psychosocial stress at work, and of different types of working trajectories. In particular, two questions will be studied: First, how are working conditions associated to participation in productive activities during retirement. Second, to what degree can this association be explained by health after labour market exit? We use life history data from the SHARELIFE survey with retrospectively collected information on working life of some 30000 men and women aged 50+ in 14 European countries. Results indicate that people with good working conditions in midlife (e.g. low work stress, continued job promotion) are more likely to participate in productive activities after labour market exit. A fraction of this association is explained by good health. The experience of good working conditions in midlife might not only increase health and well-being, but also promote participation in productive activities after working life.

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