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ABSTRACT BOOK



University of Essex



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Introduction

This Supplement to the International Journal “*Longitudinal and Life Course Studies*” comprises abstracts of oral presentations, workshops and posters presented at the *Understanding Society* Scientific Conference, held at the University of Essex, UK, on 21st – 23rd July 2015. The abstracts reflect the growing importance of longitudinal studies to a variety of disciplines, and policy makers, and the increasingly multi-disciplinary nature of longitudinal research, especially the interaction between health and the social sciences.

In this context, *Understanding Society* is an innovative and world-leading study about 21st century UK life and how it is changing. It captures important information about continuity and change in people’s social and economic circumstances, attitudes, behaviours and health. In addition to research at the boundary between health and the social sciences, the *Understanding Society* Scientific Conference also provides the opportunity to showcase research on key topics such as wealth and poverty, education, social mobility, employment, ethnicity and families. Other key sessions are focused on methodological research and innovations in survey methods. *Understanding Society*, and the biennial conference, provides a forum for stimulating interdisciplinary interactions, and for fostering the exchange of ideas and the building of collaborative ties between researchers, using a wide array of longitudinal methods and studies, across a broad range of topics.

We would like to acknowledge the following people and thank them for their contribution to the success of the 2015 *Understanding Society* Scientific Conference: the Conference Organising Committee and the communication and project management teams at the Institute for Social and Economic Research who have organised the event so effectively (Michaela Benzeval, Paul Fisher, Janine Ford, Jay Hemker, Annette Jäckle, Renee Luthra, Louise Miles, Jon Nears, Victoria Nolan), the abstract reviewers (Michaela Benzeval, Nick Buck, Jon Burton, Paul Fisher, Annette Jäckle, Meena Kumari, Renee Luthra, Peter Lynn, Alita Nandi, Lucinda Platt, Steve Pudney, Birgitta Rabe, Shamit Saggar, Dieter Wolke); HG3 Conferences Ltd; the Economic and Social Research Council; and the University of Essex.

Michaela Benzeval

Director, *Understanding Society*

Please note that the conference programme is subject to change

Day 1 – Tuesday 21st July 2015

1P Plenary

Understanding ageing, understanding sleep: capitalising on *Understanding Society*

Sara Arber, University of Surrey, Guildford, Surrey, UK

The paper will explore three inter-linked areas of my own research, and in so doing illustrate the richness and potential of *Understanding Society* for answering novel sociological and policy relevant research questions. Recent UK policy changes are predicated on government assumptions that older men and women will continue to work in their late sixties. Focusing primarily on men and women aged 65-69 (n=3400) in *Understanding Society* (2012-13, Wave 4), the paper examines gender differences in participation in paid employment/self-employment, the nature of employment and inequalities in income received. Nearly half of economically active men aged 65-69 are self-employed, as are a third of women. Being employed/self-employed in the late sixties is associated with health and educational advantages. Levels of income inequality from employment, and especially from self-employment, are very marked. The top 10% of self-employed men earn ten times more than the lowest 25%, and earn 20 times more than the lowest 25% of self-employed women. Continued economic activity may compound gender and other inequalities in later life. Sleep is increasingly seen as central to health and wellbeing. *Understanding Society* is used to analyse socio-economic inequalities in sleep quality, and consider to what extent sleep may be a mediator in the link between marital status/marital quality and poor health. Finally, the paper analyses caregiving and sleep, and shows that co-resident care-giving is strongly associated with poor sleep. However, poor health and not being employed are implicated in these relationships among working age carers, but not among older caregivers.

Parallel session 1A Health – cardiovascular disease

1A.1 Associations between active commuting behaviours and blood biomarkers for cardiovascular disease

Ellen Flint and Steven Cummins, Social and Environmental Health Research, London School of Hygiene and Tropical Medicine, London, UK

Previous research has demonstrated that active commuting (AC) to work significantly and independently predicts objectively measured body weight and composition and self-reported diagnosed cardiovascular disease (CVD)-related conditions in the UK general population. This study aims to further illuminate the relationship between AC and CVD-related biomarkers using novel *Understanding Society* blood analyte data.

Nurse health assessment data from the *Understanding Society* general population sample (wave 2) and the *British Household Panel Survey* (BHPS, wave 3) subsamples were combined with relevant mainstage data. AC was operationalised as a 3-category variable (private, public and active transportation modes). Three CVD-related blood analyte outcomes were identified: (1) Total cholesterol (dichotomised using $\leq 5\text{mmol/l}$ cut-point); (2) High-density Lipoprotein (HDL) cholesterol (dichotomised at $> 1\text{mmol/l}$); (3) triglycerides (dichotomised at $< 2\text{mmol/l}$). Hypothesised socioeconomic, behavioural, health-related and demographic confounders were identified. Gender-stratified nested multivariate logistic regression models were fitted for each outcome using appropriate p-weights. A complete-case analysis approach yielded an analytic sample size of 4210.

Compared to their private or public transport using counterparts, male active commuters were significantly more likely to have protective levels of HDL cholesterol (OR 2.79, CI 1.58

to 4.95, fully adjusted). Women who commuted via active modes were significantly less likely to have elevated triglyceride levels (OR 0.70, 95% CI 0.50 to 0.98, fully adjusted). After adjustment for hypothesised confounders, no significant association was found between commuting mode and total cholesterol for men or women. Active commuting (AC) has been promoted as a way of addressing the population health effects of increasingly sedentary lifestyles in Western settings. This study contributes novel findings to the evidence base on active travel and CVD risk.

1A.2 The impacts of retirement on cardiovascular risk factors in China: results from a 20-year prospective study

Baowen Xue, Anne McMunn and Jenny Head, Epidemiology & Public Health, University College London, London, UK

China plans to raise the compulsory retirement age for the first time since the 1950s, but few studies have investigated the impacts of retirement on health in China. The objective of this study was to examine the impacts of retirement on seven cardiovascular risk factors – BMI (body mass index), waist circumference, systolic blood pressure (SBP), diastolic blood pressure (DBP), fat intake, smoking status, and alcohol consumption – independent of any reciprocal effects of cardiovascular risk factors on retirement. This study included men and women who participated in the *China Health and Nutrition Survey* (1991-2011) at least once prior to and once after the year in which they retired (n=1254, 59% men). Piecewise multilevel models, which were centred at the year of retirement, were applied. A 17-year observation period both before and after retirement was analysed.

No bad effect of retirement on cardiovascular risk factors was observed in this study, instead, some beneficial effects were found. After retirement, the probability to be a moderate or heavy drinker went down, and the probability to be a non-drinker went up. SBP and DBP increased with age, but the rate of increase slowed down significantly after retirement. These beneficial effects on blood pressures are stronger in men than in women, and in urban men than in rural men. No significant effects of retirement on BMI, waist circumference, fat intake and smoking status were found.

1A.3 Unmet statin treatment needs for primary prevention of cardiovascular events among the 30-74 year olds in the UK household population – Implications of the new 10% 10-year cardiovascular risk threshold for treatment eligibility

Jakob Petersen, ISER, University of Essex, Colchester, UK

Long-term statin therapy is at the forefront of pharmacological measures to prevent cardiovascular disease (CVD) events and premature mortality. The threshold for prescribing statins in general practice was lowered from a 20% to 10% 10-year risk of a cardiovascular event in 2014 and the present study looks at the changes in the characteristics of the specific target groups with data collected in 2010-2012 in the general household population. Individual 10-year cardiovascular event risk was estimated using the office-based Framingham equations for 30-74 year olds in *Understanding Society*, who took part in a health assessment and had data on height, weight and three blood pressure measurements (N=11374). The study also collected data on diet, exercise, smoking, alcohol consumption, and a wide range of socio-economic factors. 11% of 30-74 year olds had $\geq 20\%$ CVD risk and did not take statins for primary prevention (11.1% 95% CI 10.5; 11.7). According to the new 10% threshold the percentage eligible for treatment has increased to 29% (95% CI 27.8; 29.5). The characteristics of those with unmet statin needs were at the same time changing towards younger age groups and those in work, e.g. for men there was a nearly five-fold increase among the 45-54 year olds (from 12% to 56.8%) and a seven-fold increase for women among the 55-64 year age group (from 4.5% to 31.1%). The paper discusses the likely implications of the new guidelines for target patient groups and primary care providers in improving early diagnosis and adherence to long-term therapies.

Parallel Session 2A Wealth, income and poverty

2A.1 The impact of spell recurrence on poverty dynamics in less developed contexts: the case of Chile during the period 2006-2009

Joaquin Prieto, International Human Rights Program, Boston College, Boston, USA, Department of Sociology, Universidad Alberto Hurtado, Santiago, Chile; Luis Maldonado, Alberto Hurtado University, USA, Department of Sociology, Universidad Católica de Chile, Santiago, Chile

This paper analyses whether poverty persistence and spell recurrence over time can affect poverty exit and entry rates in a less socially and economically developed context. To do so, the study uses novel data from the *Chilean Socio-economic Household Panel Survey 2006-2009*, which involves personal interviews conducted each year with all adult members of sampled households. The analysis is carried out on a balanced subsample of 18065 persons covered in four waves with multivariate hazard models taking into account multiple-poverty and non-poverty spells. Preliminary results show that, similarly to many developing countries, the Chilean panel data provide information about poverty that generally remains hidden in cross-sectional data analysis: i) there is much poverty turnover, even though there is a small percentage of individuals persistently poor, and ii) being poor in one year decreases the likelihood of escaping poverty the next year. Most importantly for the current study, the findings show that the risk of entering poverty increases when an individual has moved in and out of poverty previously. The results justify designing different antipoverty programmes. Long-term policy programmes that improve individuals' characteristics such as education and training should be accompanied by short-term programmes with the capacity to rapidly bring people out of poverty by cash transfers. This study represents the first effort to demonstrate the relevance of duration dependence and recurrence of poverty spells in income dynamics in a Latin American country.

2A.2 Income reporting in the initial waves of panel surveys: evidence from *Understanding Society*

Paul Fisher, ISEr, University of Essex, Colchester, UK

This paper provides evidence that income data collected as part of panel surveys may not be comparable across waves. Using *Understanding Society* and exploiting a unique feature of the survey design – that random samples of households are responding at different waves of the panel in a given calendar year – means that we have a quasi-experimental setup. Estimates indicate that the effect of being interviewed for a second time is to increase reported monthly benefit income by £117 per month. Dependent interviewing – a common recall device used in household panel surveys – takes effect only after a first survey interview. It can explain approximately 37% of the observed increase in reported income, however, leaving a substantial part of the increase unexplained. After ruling out alternatives, we conclude that familiarity with the survey and interview process changes reporting behaviour at the second wave. This conclusion is supported with an examination of item non-response rates for the income variables, which fall at the second wave. The results have implications for estimating income distributions from the initial waves of panel surveys and more broadly for comparability with income data from cross-sectional surveys.

2A.3 The pattern of home ownership across cohorts and its impact on the net wealth distribution: empirical evidence from Germany and the US

Tobias Schmidt, Deutsche Bundesbank, Germany; Arthur Alik-Lagrange, Toulouse School of Economics, Toulouse, France

We analyse the link between home ownership and the net wealth distribution using household-level micro data from the wealth surveys of Germany (*Panel on Household Finance – PHF*) and the US (*Survey of Consumer Finances – SCF*). Given that wealth accumulates over the life-cycle and that owners are wealthier than renters, past tenure choices, affecting today's share of owners for different cohorts, should be related to current wealth levels and inequality. In order to gauge the effect of the ownership structure over cohorts on the distribution of net wealth, we impose the homeownership pattern of the US on Germany and ask: What would the net wealth distribution in Germany look like, if German households were distributed across tenure status along cohorts, the same way as those in the US? Our results indicate that the ownership rate and pattern within cohorts is closely linked to the wealth distribution. Imposing the structure of the US on Germany leads to a large increase in the German median and reduces wealth inequality. Past tenure choice indeed affects today's net wealth distribution. We show that some of these effects can be attributed to the difference in ownership shares between old cohorts in Germany and the US, as often mentioned in the literature, but this effect appears to be less pronounced than expected.

Parallel Session 3A Fertility decisions

3A.1 Perceived income adequacy, the transition to parenthood and parity progression in the UK

Ann Berrington and Juliet Stone, ESRC Centre for Population Change, University of Southampton, Southampton, UK

Economic uncertainty can change patterns of family formation in complex and competing ways. For example, while the costs of having children may represent a barrier to childbearing if economic resources are precarious, part-time work and unemployment may increase the time available for childcare and provide opportunities for childbearing. This paper presents a novel perspective on this complexity by investigating how subjective perceptions of income adequacy (which does not necessarily reflect absolute income) can provide unique insights into the relationship between economic uncertainty and family formation. The analyses use prospective data from Waves 1-4 of *Understanding Society* (2009-13). We use discrete time-event history analysis to model the transition to first, second and third birth for men and women aged 16-44 years. For objective indicators of economic uncertainty (economic activity, household income) we generally observe an age-specific effect, with uncertainty associated with increased fertility at younger ages, and vice-versa at older ages. However for women of all ages, those describing their financial situation as difficult are more likely to become parents. For men, subjective financial status is significantly associated with entry into fatherhood, whereas household income is not. We conclude that perceptions of financial strain may capture aspects of economic precarity not reflected in more objective measures. This may include experiences of an insecure housing position or uncertainty over whether welfare benefits will be restricted/withdrawn. We discuss our findings in the context of means-tested welfare assistance in the UK.

3A.2 Job turnover in early career and fertility

Ludovica Giua, Department of Economics, University of Essex, Colchester, UK

In this analysis, I investigate the impact of job instability during the labour market early career of British young women on their fertility choices, using retrospective information from the *British Household Panel Survey*. This allows me to look at a sufficiently wide time-span (1959-2008) and to evaluate fertility outcomes in the long-run. I also try to disentangle the effect between voluntary and involuntary job turnover. In fact, while voluntary turnover may be a prerogative of career-oriented women, experiencing involuntary job changes may be associated with individuals who have stronger family taste. In order to account for the endogeneity of job experience to fertility, I instrument job turnover with historical series of the British Labour Statistics and the *Labour Force Survey*. Preliminary estimates suggest that experiencing both involuntary and voluntary job changes seems to negatively affect the number of children born.

3A.3 The boy-girl factor: gender role attitudes and the impact of entry into parenthood

Alice Lazzati, Sociology, University of Oxford, Oxford, UK

This paper investigates the impact of entry into parenthood on gender role attitudes. Considering a sample of British men and women in their childbearing age (taken from the *British Household Panel Survey* and *Understanding Society*), we measure gender equality beliefs on four attitudinal statements consistent with the literature, rated on a five-point scale. Firstly, we exploit the panel features of the survey to analyse the direct effect of entry into parenthood on gender role attitudes. Our results underline that the change in attitudes is explained only to a certain extent by socio-economic variables and that they are often revised following certain life course experiences. In line with previous studies, women tend to become more conservative after childbearing, validating the 'cognitive dissonance' hypothesis under which women adapt their beliefs and expectations to their choices and behaviour. Men, on the contrary, are not found to experience the same dynamics. Lastly, we investigate the impact of parenting daughters for both men and women, showing that the event, differently from most of previous literature, triggers men to become more conservative relative to parenting a son.

1W Workshop

Understanding impact

Meghan Rainsberry, CLOSER, Institute of Education, University College London, UK

Longitudinal studies are designed to address some of the most important challenges facing our society today. Researchers using these data are charting social and biosocial change, and untangling the reasons behind it. Their findings are often powerful and widely relevant. Impact is becoming integrated in the very research process, a shift largely driven by our funders. Today, much of our academic success can be measured by the impact our work achieves. This workshop will look at the impact process from start to finish, illustrated with actual case studies of where longitudinal research has made a difference. The opening session will provide an overview of what impact is, why researchers should care about it, and what the main challenges are in achieving impact. Delegates will then have an opportunity to put this learning into practice. Working in small groups, delegates will be asked to come up with an 'impact plan' for a piece of research. The plans will be presented to a panel of experts, including representatives from government, academia, and higher education funders, who will provide feedback and recommendations. The session will end with an open discussion of the key opportunities and challenges in achieving research impact.

Parallel Session 1B Health and social relations

1B.2 Empowerment and the risk of mortality in the *English Longitudinal Study of Ageing*: a survival analysis

Gopal Netuveli, International Centre for Life Course Studies in Society and Health, University College London, London, UK; Marcello Bertotti, Institute of Health and Human Development, University of East London, London, UK

Empowerment is a word used in different contexts and, in the same context, with different definitions. However, its adoption in such global policies like the Millennium Development Goals and the Ottawa Charter of Health Promotion imply its importance to human development, health and wellbeing. There only a few studies of empowerment at individual level. In this paper, following Alkire, we defined individual empowerment as an increase in the individual's level of autonomy and investigated its effect on mid-term mortality in a sample of non-institutionalised people aged 50 years or more living in England. We use data from the *English Longitudinal Study of Ageing* (ELSA), which in its first wave, in 2002, had a measure of autonomy as a domain of CASP-19, a measure of quality of life in older ages and which was repeated in all subsequent waves. We define empowerment as an increase in the autonomy score between ELSA Waves 1 and 2. The mortality data were available until 2012. We adjusted our analyses for age, sex, social class, limiting long standing illness and CASP-19 scores from Wave 1. We used survival analyses and Cox proportional hazard models in a dataset with complete information. The mortality rates were (per 1000 person years) 179 in those without and 158 with empowerment; empowerment results in 21 fewer lives/ 1000/ year being lost. Empowerment had a crude hazard ratio of 0.87 which decreased to 0.83 when adjusted for all covariates. We are doing further analyses to check for sensitivity and missing data.

Parallel Session 2B Poverty and earning loss

2B.1 Can job displacements explain the UK's productivity puzzle?

Panagiotis Giannarakis, Economics, University of Southampton, Southampton, UK

Human capital has been found to be important for aggregate productivity, and large individual human capital losses are associated with job displacements. I investigate the role of involuntary job separations (since displacements have increased during the 2008 financial crisis) on the UK's productivity puzzle. I construct an estimator of aggregate productivity (as output per hour worked) which accounts for displacements. I introduce a tractable Constant Elasticity of Substitution (CES) production function that separates workers into displaced and non-displaced, and is adjusted to real aggregate data. As a first step, I estimate that the elasticity of substitution between high and low educated workers for the UK economy is 1.97 (which is close to the estimations of Acemoglu for the US economy). With the adjusted CES, I run the following accounting counterfactual exercise: I measure the potential aggregate productivity for the hypothetical case where the productivity of a displaced worker is equal with the one that he had before the displacement. I establish a methodology which can also be used for a comparison between different economies.

By linking the *British Household Panel Survey* with the *Understanding Society* dataset, we extract a unique worker's earning histories for the UK from 1990 to 2011, which includes the current economic crisis. I combine this new dataset with aggregate data from the Office for National Statistics (ONS) and I run counterfactual exercises where I observe the following results: displacements can explain on about the 22% of the drop in the growth rate of productivity, and the 10% of the post-crisis gap, if productivity had followed the path of past recessions.

2B.2 Neighbourhood effect on poverty dynamics in the city of Santiago, Chile

Jose Prieto and Isabel Brain, Alberto Hurtado University, USA, International Human Rights Program, Boston College, Boston, USA, and Department of Sociology, Universidad Alberto Hurtado, Santiago, Chile

This paper addresses the neighbourhood effect on the income dynamics of poor households living in the Metropolitan Area of Santiago, Chile. The hypothesis suggests that given that the quality of private and public services, urban infrastructure and the degree of segregation of low-income households are unevenly distributed within the city, the likelihood that a household experiences upward income mobility is significantly conditioned by the location of their home.

The paper uses data from the *Chilean Socio-economic Household Panel Survey 2006-2009*, and data on land value from the Internal Revenue Service as proxies to the attributes associated to different areas. The analysis is carried out on a balanced subsample of 11448 persons covered in four waves with multivariate hazard models, and considers the 34 municipal districts that comprise the metropolitan area, divided in three groups based on their land value (high, moderated and low land-value). The main contribution of this work lies in estimating the weight that residential location has in the income trajectory of households. Preliminary results show that, after controlling for initial conditions as well as for the characteristics of households and individuals, households living in areas with high land value increase their probability of escaping poverty. Conversely, for households residing in areas of low land value the likelihood of overcoming poverty decreases significantly. Results demonstrate that the urban context doesn't play a neutral role in household income dynamics but rather has an active and significant role in explaining the income mobility of low-income households.

2B.3 In or out? Poverty dynamics amongst pensioner households in the UK

Ricky Kanabar, ISER, University of Essex, Colchester, UK

Individuals in the UK are living longer: The 2011 Census highlighted one in six individuals in the UK is aged over 65, however relatively little is known about the income dynamics of this group. Rising longevity is not a problem assuming (1) The number of healthy life years lived also increases and (2) Individuals are not in poverty. The focus of this paper is to investigate the latter. We use a first order Markov model to test for correlation between initial and conditional poverty status in Waves 2-4 of *Understanding Society*. We explicitly control for the fact that survey response differs, for example due to differences in health which may have implications for our results. The results suggest individuals who are initially poor are no more or less likely to remain poor than the initially non-poor. The model estimate indicates no evidence of a correlation between initial and conditional poverty status with survey retention. These results imply that future research investigating low income dynamics in pensioner households can be accomplished using relatively simple and well established methods.

Using the model estimates it is possible to demonstrate how differences in individual and household characteristics can heavily influence particular aspects of the poverty experience such as the time spent in poverty, the time spent out of poverty and probability of entering poverty. This provides a useful tool to policymakers in understanding how the introduction of particular policy might affect the poverty experience. The model also allows us to test whether there are scarring effects from experiencing poverty; we find no evidence of such effects. However we do find evidence of state dependence, that is to say the extent to which current poverty depends on past poverty is large (around 93%), with only the remaining 7% attributable to differences in individuals. This result is striking, the fact that an individual was poor last year largely determines their chances of being poor this year. The size of this effect highlights the need for policies which prevent pensioner households from falling into poverty.

Parallel session 3B Survey methods (measurement)

3B.1 Interviewer and respondent behaviours when measuring change with dependent interviewing

Annette Jäckle and Tarek Al Baghal, ISER, University of Essex, Colchester, UK

Most panel surveys use dependent interviewing as a method of reducing spurious changes between interviews in responses to key factual questions. With proactive dependent interviewing respondents are reminded of their response in the previous interview before being asked about their current situation. There are however different ways in which this question can be worded. For example in *Understanding Society* some dependent interviewing questions ask respondents 'Is this still the case?', while other questions ask 'Has this changed?' In this study we report on experiments carried in the *Understanding Society* Innovation Panel that were designed to test how best to word proactive dependent interviewing questions. Interviews were audio-recorded so that interviewer and respondent behaviours could be coded. Initial results of the behaviour coded data from Wave 3 suggests that the 'remind, changed?' question format was problematic. With the 'remind, still?' format most interactions were straightforward: the interviewer asked the question as scripted and the respondent gave a codeable answer. With the 'remind, changed?' format it was more likely that interviewers or respondents deviated from behaviours required for standardised interviewing and that the exchange took longer. In Wave 7 the experiment included two further question versions, asking 'is that still the same or has it changed?' or 'has that changed or is it still the same?' Further analyses will include examining in detail the types of interviewer behaviours and how those related to the reporting of change.

3B.2 Effects of showcards on responses in face-to-face surveys

*Violetta Parutis and Annette Jäckle, ISER, University of Essex, Colchester, UK;
Caroline Roberts, Institute for Social Sciences, University of Lausanne, Lausanne, Switzerland*

There is currently very little empirical evidence on how showcards are used in surveys and what effect they have on response. Some face-to-face surveys use these visual aids to reduce the cognitive demands on memory by letting the respondent read response options instead of having to remember them. However, showcards could also make the task of answering survey questions more complex, as the respondent has to listen to the interviewer and read the showcards (at the same time). In this paper we use experimental data from the *Understanding Society* Innovation Panel, which contrasted showcard and no-showcard versions of questions. We have tested 54 items using Wave 2 Innovation Panel data and 14 items using Wave 1 and 2 Innovation Panel data. Using Chi-squared and logit test statistics we calculate whether response distributions are different between showcard and no-showcard conditions and whether the effect of showcards is different for respondents with different levels of cognitive ability. Results so far suggest that showcards only rarely affect responses. Further analyses will include examining whether the use of showcards affects the response times for questions. We also plan to replicate the analyses on an experiment of the European Social Survey, and results will be presented at the conference.

3B.3 Towards device agnostic survey design: challenges and opportunities for *Understanding Society*

Tim Hanson and Peter Matthews, TNS BMRB, London, UK; Alexander Wenz, ISER, University of Essex, Colchester, UK

Eighteen percent of respondents completing *Understanding Society* Innovation Panel Wave 7 (IP7) online used a tablet device – double the proportion at the previous wave. This reflects evidence from other major UK social surveys which have adopted online data collection, such as the Community Life Survey and National Child Development Survey. And this proportion will only increase as tablet ownership grows. Broader trends in market research show growing demand for mobile completion, with around half of new panellists to the Lightspeed UK Access Panel signing up on a smartphone or tablet. Smartphone use is particularly common among younger people; according to recent Ofcom data, nine in ten 16-24 year olds own a smartphone, and spend an average of over three hours a day using these devices. This paper will draw on paradata from a range of surveys, including IP7, to show how device choice varies by socio-demographic variables, and may impact on survey behaviour. Drawing on latest thinking in commercial research, we outline important design considerations to support mobile completion, including survey length and question format, and highlight movement towards ‘device agnosticism’ in survey design. Results from qualitative usability testing will allow us to vividly illustrate the feasibility of - and challenges associated with - completing *Understanding Society* on mobile devices. With *Understanding Society* potentially becoming mixed-mode, there is a need to better understand the ways that people want to complete surveys online, how device choice can impact on respondent behaviour, the design challenges to overcome, and measurement opportunities offered by mobile devices.

2W Workshop

Longitudinal modelling with longitudinal households

Paul Clarke, ISER, University of Essex, Colchester, UK

The longitudinal analysis of household surveys is complicated by changes in the composition of the sampled households over time: so-called 'longitudinal households'. If one chooses household as the unit of analysis then questions arise as to how to define the household as new members arrive, old ones leave, or the household breaks up completely. These questions can be avoided by taking individual as the level of analysis, but this approach treats individuals as being in their own separate worlds and ignores the influences of other household members. In this workshop, we will review the methodology that has been developed to address this problem, and give guidance for practice. This workshop will comprise three papers:

1. About longitudinal households: We will discuss household change in the *British Household Panel Survey* (BHPS) and *Understanding Society*, the forces behind these changes, and the implications of these changes for the definition of the longitudinal household.
2. Longitudinal modelling with longitudinal households: Standard multilevel models include random effects for households but are unrealistic for longitudinal households. Analyses can be divided into those with individual-level and household-level outcomes. We will review the use of multilevel models for this purpose, including multiple-membership models, and illustrate with BHPS examples on health for individual-level outcomes, and residential mobility for household-level outcomes.
3. Handling drop-out: Techniques for handling drop-out (and other missing data) using weights and model-based techniques will be reviewed.

Day 2 – Wednesday 22nd July 2015

Parallel Session 1C Health (methods)

1C.1 Survey design, survey response behaviour and the dynamics of self-reported health and disability

Steve Pudney and Annette Jäckle, ISER, University of Essex, Colchester, UK

Academic and policy research on disability is largely based on survey questions asking respondents to self-assess their health. For example, respondents are asked whether they have a long-standing illness, disability or infirmity, and if yes, whether they have difficulties with 11 specific Activities of Daily Life. However asking respondents repeatedly whether they have long-standing problems produces year-on-year transition rates into and out of disability that are implausibly high.

We analyse an experiment carried in Waves 6 and 7 of the *Understanding Society* Innovation Panel that was designed (1) to identify reasons for the high rates of change in long-term illness/disability status, (2) to investigate whether the use of the initial filter question has significant impact on measured disability, and (3) to test question versions that would produce more stable measures.

Initial results suggest that long-term health problems are not well defined. A majority of respondents who stop reporting a long-term problem still have the condition, however it has improved, treatment or medication is more effective, or their activities have changed and it is less of a problem. Among respondents who start reporting a problem, a majority claim that they already had the condition at the previous interview. As a consequence, if all respondents are asked about difficulties with Activities of Daily Life, disability rates are significantly higher than if routing is based on reporting a long-term health problem. Further analyses will assess the biasing effects of errors in health status on estimates of disability incidence and models of health dynamics.

1C.2 Chaining transitions in short longitudinal datasets to estimate the lifetime health benefits of childhood interventions

Alex J. Turner, Eleonora Fichera and Matt Sutton, Manchester Centre for Health Economics, Institute of Population Health, University of Manchester, Manchester, UK

The benefits of childhood health interventions should be assessed in terms of lifetime health consequences, but intervention studies often consider only short-term changes. Previous studies have attempted to match trial data to birth cohort datasets in order to proxy outcome trajectories across the life course. However, cohort datasets are inevitably dated and, even with the longest follow-up, measure incomplete lifetimes. This study aims to describe and demonstrate a method for estimating the full lifetime health returns to childhood interventions via matching of data from intervention studies to short longitudinal datasets collecting data on all ages. Using coarsened exact matching, child-level data on outcomes and other characteristics from an intervention study are matched to longitudinal data on children of the same age. Lifetime trajectories are generated by chaining one-year transitions from consecutive starting ages, using only the two most recent waves of longitudinal data. The trajectories for each individual ends when death occurs in a transition between waves. Confidence intervals are generated using bootstrapping.

Data for 953 children from a randomised controlled trial of a school-based social and emotional wellbeing intervention are linked to 790 children from a large longitudinal dataset, *Understanding Society*. The mean 0.852-unit [CI:-1.46,-0.24] improvement in the Strength and Difficulties Questionnaire score generated by the intervention is associated with a mean reduction of 0.018 [CI:-0.294, 0.257] discounted lifetime Quality-Adjusted-Life-

Years. This study illustrates that matching between intervention studies and consecutive one-year transitions in longitudinal datasets offers a feasible method for estimating lifetime outcomes using the most up-to-date information on changes over the life course.

1C.3 Two dynamic microsimulation models of social care which use *Understanding Society* microdata

Howard Reed, EPSRC Care Life Cycle Project, University of Southampton, Southampton, UK, and Landman Economics, Colchester, UK; Graham Stark, EPSRC Care Life Cycle Project, University of Southampton, Southampton, UK, and Virtual Worlds Research, Milton Keynes, UK; Jocelyn Paine, Virtual Worlds Research, Milton Keynes, UK; Stuart Rossiter, EPSRC Care Life Cycle Project, University of Southampton, Southampton, UK; James Robarts, EPSRC Care Life Cycle Project, University of Southampton, Southampton, UK

We describe two dynamic microsimulation models of social care in the UK which use *Understanding Society/British Household Panel Survey* (BHPS) data. The first is a model built for the Welsh Government which is being used in analysis of proposed reforms to paying for social care. The second is an alternative version for England which is currently under development in collaboration with the EPSRC-funded Care Life Cycle project team based at the University of Southampton. The models project the costs and distributional effects of changes to the care funding system for up to 30 years ahead. The Welsh model solely uses BHPS/*Understanding Society* micro data, whilst the England model also uses matched data from the Family Resources Survey, English Longitudinal Survey of Ageing, the Wealth and Assets Survey and the Health Survey of England. The models have many interesting features, including:

- we project populations using a combination of transition modelling using probits (for life events such as retirement, moving to care homes and death) and reweighting to hit targets for (e.g.) population and employment totals; the models can be run with different assumptions about transitions, population projections, macroeconomic forecasts and the appropriate matching of datasets, so as to show the range of plausible outcomes;
- the models have user-friendly web interfaces so they can be used by civil servants and others independently of the developers.

Demonstrations, presentations and papers on the Welsh model are available here: <http://virtual-worlds-research.com/demonstrations/wsc/>. The Welsh model is fully open source under the Gnu Public Licence, with source code available on the Git Hub repository: <https://github.com/grahamstark>

Parallel Session 2C Social mobility

2C.1 Social mobility over three generations in Britain

Min Zhang, the Cathie Marsh Institute for Social Research, University of Manchester, Manchester, UK

Most social mobility studies adopt a two-generation (parent-to-child) model and overlook the role of grandparents as an extra resource in affecting individuals' mobility chances. A combination of increased longevity, higher rates of divorce and single-parenthood, and the declining fertility rate has increased the duration of grandparent-grandchild relationships and as a result grandparental involvements in their grandchildren's life chances have become prevalent and complex. Against this background, the traditional two-generation paradigm may not be able to fully capture the picture of social mobility and risks an underestimation of the effect of family origins. Only a few studies have paid attention to the grandparental effect in grandchildren's social mobility, but their results are mixed.

Using data from the *British Household Panel Survey* from 1991 to 2008 and *Understanding Society* from 2010 to 2013, I attempt to investigate the pattern of social mobility over three generations. While considering the three-generational lineage (grandparent-parent-grandchild) as the agent of resource redistribution with an appreciation of demographic changes, I suggest that social positions of grandparents do have significant influences on the grandchildren's social achievements after controlling for the effects of parents. Moreover, grandparents at the paternal and maternal lines appear to play different roles in their grandchildren's educational achievement and employment status. Going beyond the previous preoccupation with the two generation framework and taking a holistic view of family origins are expected to contribute to our understanding of how social inequalities persist over generations.

2C.2 The contribution of adult learning to inter-generational social mobility in England: findings from the *British Household Panel Survey*

Arianna Tassinari and Rosie Gloster, Institute for Employment Studies, Brighton, UK; Vahé Nafilyan, Office for National Statistics, Newport, Wales, UK

Increasing inter- and intra-generational social mobility within UK society has been a key policy concern for successive governments. There is a consensus in the literature that higher levels of educational attainment or skills open-up access to higher level occupations and wages. However, several sources of evidence suggest a low degree of inter-generational mobility in the UK. Patterns of (dis)advantage tend to be replicated between generations, with individuals' life-chances being strongly associated with the education, occupation and earnings of their parents. Our paper explores the contribution of adult learning to inter-generational social mobility.

Using logistic regression methods and focusing on a sub-sample of low qualified adults in England, we analyse waves 8-21 of the *British Household Panel Survey* to explore whether participation in adult education (i.e. having acquired a qualification through adult learning in Further Education or having undertaken non-formal adult learning) can offer 'second chances' to low-qualified adults, and in particular whether it can mitigate the relationship between parental background and an individual's own socio-economic status at different points in time (one and five years after participation in learning).

A distinctive, positive effect of participation in adult learning for inter-generational mobility is found when considering outcomes five years after participation in adult education. In particular, we find that participation in adult learning leading to qualifications at level 3 or to other professional qualifications significantly decreases the effect of parental education on individuals' own socio-economic position. We implement further modelling techniques to test the validity of our identification assumptions.

2C.3 Upward social mobility and life satisfaction: the cases of United Kingdom and Switzerland

Robin Samuel, University of Luxembourg, Luxembourg and Institute of Sociology, University of Bern, Bern, Switzerland, Social Research and Methodology Group, University of Basel, Basel, Switzerland; Andreas Hadjar, Institute of Education and Society, University of Luxembourg, Walferdange, Luxembourg

Status is a major determinant of subjective wellbeing (SWB). This is one of the primary assumptions of social production function theory. In contrast, the dissociative hypothesis holds that upward social mobility may be linked to identity problems, cognitive distress, and reduced levels of SWB because of lost ties to one's class of origin. In our paper, we use panel data from the United Kingdom (*British Household Panel Survey*) and Switzerland (*Swiss Household Panel*) to test these hypotheses. These two countries are compared because historically, social inequality and upward mobility have played distinct roles in each country's popular discourse.

We conduct longitudinal multilevel analyses to gauge the effects of intra-generational and inter-generational upward mobility on life satisfaction (as a cognitive component of SWB), controlling for previous levels of life satisfaction, dynamic class membership, and well-researched determinants of SWB such as age and health problems. Our results provide some evidence for effects of social class and social mobility on wellbeing in the UK sample, however, there are no such effects in the Swiss sample. The UK findings support the idea of dissociative effects, that is, inter-generational upward mobility is negatively associated with SWB.

Parallel Session 3C Employment and wellbeing

3C.1 Does work affect life satisfaction? Testing the relationship between job satisfaction, the work domain and life satisfaction

Andy Charlwood, School of Business and Economics, Loughborough University, Loughborough, UK; David Angrave, Management School, University of York, York, UK; Mark Wooden, Melbourne Institute, University of Melbourne, Melbourne, Australia

Life satisfaction is a key indicator of subjective wellbeing (SWB), which is related to a large number of mental and physical health outcomes. Despite its importance, the field of management does not have a ready answer to the question of how working conditions affect life satisfaction. This paper starts to provide that answer. Through fixed-effects two-stage least squares analysis of the *British Household Panel Survey* (BHPS) and the *Household, Income and Labour Dynamics in Australia* (HILDA) survey, it is shown that there is evidence of a bottom-up relationship between job satisfaction and life satisfaction, whereby a change in job satisfaction is associated with a change in life satisfaction. Further, there is evidence that events in the work domain impact on life satisfaction; promotion and increases in autonomy at work are both positively associated with increases in life satisfaction. However, the quantitative size of these relationships is small, and the duration is short-lived. Life satisfaction typically returns to a baseline level within 12 months. Overall then, results suggest that events and conditions at work do not typically exert a major influence on life satisfaction.

3C.2 Working hours, work identity and subjective wellbeing

Alita Nandi and Mark Bryan, ISER, University of Essex, Colchester, UK

We investigate the interplay of work identity and hours of work in determining subjective wellbeing, as measured by job satisfaction, job-related anxiety and depression, and life satisfaction. We use data from Wave 2 (that is, 2010-2011) of *Understanding Society*, a nationally representative longitudinal household survey of UK residents which includes direct measures of work identity and measures of subjective wellbeing. We restrict the analysis to White majority, male and female employees between the ages of 23 and 59 years. We find that for a given level of hours, having a stronger work identity is associated with higher wellbeing on most measures. Working long hours is associated with lower wellbeing and working part-time is associated with higher wellbeing, but for men hours only affect their job-related anxiety and depression and not their reported satisfaction. The relationships between hours and wellbeing are generally strengthened when controlling for identity implying that individuals sort into jobs with work hours that match their identities. Work identity partially 'protects' against the adverse effects of long hours working for women, but irrespective of their work identity both men and women working long hours suffer more job-related anxiety and depression than those working standard full-time hours. While the analysis is cross-sectional, the findings are robust to the inclusion of controls for personality traits and a simple check for whether individuals may report their identity so as to rationalise their work behaviour.

3C.3 Leaving work and wellbeing: beyond an average effect

Dusanee Kesavayuth and Vasileios Zikos, Research Institute for Policy Evaluation and Design, University of the Thai Chamber of Commerce, Bangkok, Thailand; Robert E. Rosenman, School of Economic Sciences, Washington State University, Pullman, Washington, USA

Working is a major part of one's life. Most of us work, and then we stop at some point later in life. Leaving work can be seen as one of the major life-changing events which affect one's health, social relations, financial situation and allocation of time. There are many reasons why people stop working: illnesses or disability, forced to be family care giver, being laid-off, early retirement, or statutory retirement. These differences in the pathways of leaving work may lead to different outcomes of individual's wellbeing. In addition, economists and psychologists have highlighted that individual react differently to life events. The differences in individual's personality traits possibly provide an explanation.

We examine whether differences in pathways and personality traits can account for differences in how well people cope with leaving work. We conduct our study with data from the *British Household Panel Survey*, analysing the individuals who are 50-70 years old at the time of interviews. This research aims to identify the causal effects of the different pathways of leaving work on wellbeing, using fixed-effect panel-data methods. The results show that the pathways of leaving work lead to different outcomes of individual's overall life satisfaction, income satisfaction and leisure satisfaction. In addition, the paper reveals the roles of the Big 5 personality traits using interactions between each personality traits and the pathways. Our findings suggest that agreeableness; extraversion and conscientiousness may significantly augment or mitigate the effect of the pathways of leaving work on individual's wellbeing.

3W Workshop

Potential uses of genetic data by the social science research community

Introduction and overview

Meena Kumari, ISER, University of Essex, Colchester, UK

A number of population studies such as *Understanding Society* and the 1958 British Birth Cohort now provide richly phenotyped resources to investigate genetic and environmental contributions to individual health, behaviour and wellbeing. In this symposium we provide example of potential uses of the data by both the genetic and social science research communities. Prins et al., will describe the genome-wide data now available from 10,484 samples in *Understanding Society*. Data have been deposited in the European Genome Phenome Archive (www.ebi.ac.uk/ega/home) and a data access committee has been established to enable data sharing (www.understandingsociety.ac.uk/about/health/data). Zabaneh et al., demonstrate a genome-wide association study (GWAS) of two cognitive performance phenotypes in the *English Longitudinal Study of Ageing* (ELSA) which will be replicated with data from *Understanding Society*. Davies et al., provides an example of the utility of published GWAS to examine whether genetic markers associated with educational attainment are also associated with labour market outcomes in the 1958 British Birth Cohort. Fatemifar et al., have conducted a GWAS of Apolipoprotein E in ELSA and will use the rich phenotype data available in *Understanding Society* to describe the biological and cognitive significance of associated genetic markers. Garfield et al., uses genetic markers from published GWAS of adiposity and a technique called Mendelian Randomisation to understand their association with sleep duration. Discussion will focus on these examples and additional uses of the genetic data available in *Understanding Society*, and how these data will serve to enhance both social science and genetic research.

Genome-wide genotyping in *Understanding Society*

Bram Prins, Wellcome Trust Sanger Institute, Hinxton, UK

Understanding Society provides a unique, deeply phenotyped resource to investigate genetic components and modifying environmental factors contributing to individual health, behaviour and wellbeing. To this end, for a subset of individuals who took part in a nurse health assessment, blood samples were taken and genomic DNA extracted. Of these, 10484 samples were genotyped at the Wellcome Trust Sanger Institute using the Illumina Infinium HumanCoreExome BeadChip Kit®, which includes a panel of > 240000 common and rare exonic markers in addition to > 250000 highly informative genome-wide tagging single nucleotide polymorphisms (SNPs).

Genotype calling was performed using the Illumina GenCall software. We performed sample-level quality control (QC) using the following filters: call rate < 98%, autosomal heterozygosity outliers (> 3 SD), gender mismatches, duplicates as established by identity by descent (IBD) analysis (PI_HAT > 0.9), ethnic outliers as determined by combining with 1000 Genomes Project data and carrying out IBD followed by multidimensional scaling. In total, 9965 samples passed QC.

Next, we performed variant-level QC. We first mapped all 538448 variants to the human reference genome build 37. Variants with a Hardy-Weinberg equilibrium p-value < 1×10^{-4} , a call rate below 98% and poor genotype clustering values (< 0.4) were removed, as well as Y-chromosome and mitochondrial variants, leaving 525314 variants passing QC. We have carried out genome-wide association scans for cardiometabolic traits for which we will present results at the meeting. The genotype data are accessible through the European Genome-phenome Archive (<https://www.ebi.ac.uk/ega/home>).

Heritability and genetic association analysis of two cognition phenotypes in white European adults

Delilah Zabaneh, University College London, London, UK

This study examined the genetic contribution to individual differences of prospective memory and verbal fluency cognition traits in approximately 5800 phenotyped unrelated adults from the *England Longitudinal Study of Ageing* (ELSA). The heritability of the cognitive traits in unrelated individuals was estimated using the Illumina HumanOmni2.5 array. A genome-wide association analysis was also carried out using these data. The estimated heritability following adjustment for age and gender for memory was $h^2 = 0.17$ (0.07) and fluency: $h^2 = 0.38$ (0.07). Genome-wide assessment revealed significant evidence of association with memory for two SNPs: rs77287008 and rs9622280 on chromosome 22, located near the RBFOX2 (RNA Binding Protein, Fox-1 Homolog), $p < 4 \times 10^{-8}$. For verbal fluency, one intergenic SNP rs952684 near IMPAD1 (Inositol Monophosphatase Domain Containing 1) with $p < 7 \times 10^{-8}$ showed suggestive evidence of association. Functional bioinformatics annotation analysis implies that SNP rs77287008 in the RBFOX2 region has a downstream, non-protein-coding effect indicated by a PHRED CADD score (C-score) = 15.0, denoting a pathogenic/deleterious effect. Significant heritabilities for both traits suggest a role for genetic contributors to memory and verbal fluency, and in the case of memory, this is supported by the identification of genetic association signals in a functionally plausible candidate. To replicate these findings, data will be meta-analysed with three additional studies including *Understanding Society*, resulting in approximately 20000 participants. Additionally, cohorts with cognition phenotypes are available to replicate the most significant SNPs from an extra 7500 samples from studies that have been genotyped using the Illumina CardioMetaboChip array.

The role of common genetic variation in educational attainment and labour market outcomes: evidence from the *National Child Development Study*

Neil Davies, MRC IEU, University of Bristol, Bristol, UK

Recent studies have reported three single nucleotide polymorphisms (SNPs) robustly associated with educational attainment (rs9320913, rs11584700 and rs4851266). There are many unresolved questions. How do these SNPs affect educational attainment? Do they influence important outcomes later in life such as earnings? What proportion of the associations between educational attainment and other phenotypes can be explained by common genetic variation? We provide further evidence about the effects of these variants on adult earnings and education related phenotypes in childhood and adolescence. We used data from 5515 participants of the *National Child Development Study*. We estimated the associations of the three education SNPs and educational phenotypes at ages 7, 11, 16 and 23, and earnings at age 46. We estimated the proportion of: the variance of each phenotype, and the covariance between the number of O-levels and each phenotype, explained by common genetic variation. The three education SNPs were associated with education-related phenotypes such as test scores across childhood. Common genetic variation explained substantial proportion of widely studied covariances between educational attainment and other educational and socio-economic variables. For example, common genetic variation explained a portion of the covariance between number of O-levels and father's social class. Variants which have been shown to associate with educational attainment in a large genome-wide association study were associated with educational attainment and preferences in childhood and adolescence. Common genetic variation explains both differences in educational attainment and its covariance with other characteristics. This may have implications for interpreting the results of observational educational studies.

Biological significance of genetic variants associated with ApolipoproteinE (ApoE) identified by genome-wide association studies

Ghazaleh Fatemifar, London School of Hygiene and Tropical Medicine, London, UK

Apolipoprotein E (ApoE) is found in chylomicron and intermediate density lipoprotein. It is predominantly synthesised in the liver, but is also found in other tissues such as the brain, kidney and spleen. Initially, ApoE was established for its significance in lipoprotein metabolism and cardiovascular disease. However, it has also been linked to other complex diseases such as Alzheimer's. In order to identify genetic variants associated with circulating ApoE, we performed a population based genome-wide association study using 5208 individuals from the *English Longitudinal Study of Ageing* and 1352 individuals from the Fenland Study. We tested 1.4 million Single Nucleotide Polymorphisms common to both studies and controlled for age and sex. Results from the two studies were combined using a fixed effects inverse variance meta-analysis. Three independent loci were associated with circulating ApoE at genome-wide significance ($P < 5 \times 10^{-8}$). Together these associations explained 10% of the variation in ApoE. An unweighted allelic score of the independently associated variants was tested for association with several biomarkers (high/low-density lipoprotein and Triglycerides), inflammatory marker C-reactive protein and cognition variables (verbal fluency and total memory). Associations were identified between ApoE allelic score and all biomarkers ($p < 0.01$). Conversely, no association was established between ApoE allelic score and C-reactive protein or cognition variables. We believe the lack of association is as a result of power. Therefore, we aim to examine the association of the ApoE allelic score with inflammatory markers and cognitive function using data available in *Understanding Society* in order to complete an appropriately powered analysis of ApoE.

Using genome-wide data to examine the association between body mass index and sleep

Victoria Garfield, University College London, London, UK

Observational evidence suggests that there is a possible bidirectional association between obesity and sleep. An important limitation of observational analysis is the ability to infer causation and overcome reverse causality. Mendelian Randomization (MR) is a technique, which seeks to overcome this hurdle by using genetic variants identified from the Genome Wide Association Study (GWAS) literature as instruments for the exposure of interest and test whether there is a causal association with the outcome of interest.

Here we implement the MR method to examine whether body mass index (BMI) is causally associated with sleep duration using pooled data from a number of studies, including the *English Longitudinal Study of Ageing* (ELSA), the *Avon Longitudinal Study of Parents and Children* and *Understanding Society*. Observational analyses using linear regression confirms an association such that there is a negative relationship between BMI and sleep duration: $b = -0.010$ (95% CI = $-0.019 - -0.005$), $N = 4639$, in ELSA, $b = -0.010$ (95% CI = $-0.015 - -0.005$), $N = 14981$, in *Understanding Society*, after adjustment for a wide range of covariates.

We will examine whether the observation of BMI and poor sleep duration is causal by employing Mendelian Randomization using a genetic score for BMI created from 92 single-nucleotide polymorphisms recently identified in GWAS publications. Results from the Mendelian Randomization will be presented.

Parallel Session 1D Mental health and sleep

1D.1 Latent class analysis reveals six distinct sleeping patterns that are associated with key socio-demographic and health characteristics in both Wave 1 and Wave 4 of *Understanding Society*

Amal Alghamdi, Graham Law, Eleanor Scott and George Ellison Faculty of Medicine and Health/Division of Epidemiology and Biostatistics, University of Leeds, Leeds, UK

As a multifactorial trait, sleep is challenging to operationalise. We assessed whether latent class analysis (LCA) might identify distinct sleeping patterns that capture the complexity of sleep and are meaningfully associated with socio-demographic and health characteristics.

Data for *Understanding Society's* seven sleep variables (duration, latency, disturbance, medication, snoring/coughing, quality and daytime sleepiness), collected from respondents with complete data in Waves 1 and 4, were subjected to LCA using Latent Gold (Statistical Innovations, MA). LCA model fit was assessed using the Log-Likelihood Bayesian/Akaike Information Criteria and classification error parameters. Latent classes were interpreted according to their association with the seven sleep variables; and with age, gender, education, employment, household composition and subjective health.

The best fitting LCA models identified six latent sleep classes in both waves, each class containing 6.5-31.6% of respondents. The distribution of the seven sleep variables across these six sleep classes suggested the latter might be described as: 'long good sleepers'; 'long moderate sleepers'; 'snoring good sleepers'; 'snoring bad sleepers'; 'short bad sleepers'; 'struggle to sleepers'. These classes were significantly associated with all of the socio-demographic/health variables. For example: a disproportionate number of employed, healthy, well-educated females living in a couple with children were 'good long sleepers'; while a disproportionate number of employed, well-educated healthy males living in a couple with children were 'good snoring sleepers'.

Latent class analysis revealed six distinct sleeping patterns that are associated with key socio-demographic and health characteristics and appear stable across Waves 1 and 4 of *Understanding Society*.

1D.2 History of exposure to symptoms of common mental disorder in relation to extended working: *British Household Panel Survey* and *Understanding Society*

Gareth Hagger-Johnson, Jenny Head, Ewan Carr and Emily Murray, Epidemiology and Public Health, UCL, London, UK; Stephen Stansfeld, Wolfson Institute of Preventive Medicine, Queen Mary University London, London, UK

Given the changing population age structure and associated policy challenges, governments in the UK and elsewhere are interested in factors that may influence extended working, defined here as working beyond age 50. The aim of our study was to determine the association between repeated exposure to symptoms of common mental disorder (e.g. anxiety, depression) over working life (age 16+), in relation to extended working (beyond age 50). The study population comprised >3000 participants in the *British Household Panel Survey* (1991/2008) available for follow-up in *Understanding Society* (2010/11). Repeated exposures to symptoms of common mental disorder were measured using the General Health Questionnaire (GHQ-12) over a 17-year exposure window (1991/2008). Participants were grouped according to how many years they had exceeded the GHQ case threshold: 0-1, 2-5, 5+ years. The outcome was the odds of working 25+hrs/week at follow-up (2010/11), analysed using logistic regression and weighted for the study design. Adjusting for age and sex, from age 60 to 65, exposure to GHQ caseness for 5+ years (vs. 0-1 years) was associated with an 8% (95% CI 1%, 14%) reduction in the probability of working 25+hrs/week. There was no association between GHQ exposure and extended working between age 50 and 60. We will evaluate whether effects differ for men/women and for different socio-economic groups. We will also consider a wider range of confounding factors. These preliminary results suggest that exposure to symptoms of common mental disorder over working life influence the probability of extended working in later life.

Parallel Session 2D Education

2D.1 Are there changing socio-economic inequalities in childhood cognitive test performance? Methodological considerations from the analysis of three British birth cohort studies

Roxanne Connelly, ADRC-S, University of Edinburgh, Edinburgh, Scotland, UK; Vernon Gayle, School of Social and Political Science, University of Edinburgh, Edinburgh, Scotland, UK

There is a large international literature that identifies socio-economic inequalities in childhood cognitive test performance. In this paper we investigate changes in this relationship in Britain from the mid-twentieth century, through a comparative analysis of existing longitudinal data.

We undertake analyses of three of the major British birth cohort studies, *The National Child Development Study* (1958), *The British Cohort Study* (1970) and *The Millennium Cohort Study* (2000/02). The paper addresses three distinctive methodological challenges. The first is the development of measures that are comparable across the three cohorts. The second is the provision of a sensitivity analysis of different measures of parental socio-economic position. The third is the development of a strategy for analysing data from the three cohorts within a unified multivariate framework which appropriately accounts for the variation in the design and structure of the datasets.

The results indicate that there is a persistent link between parental characteristics and children's performance on verbal similarities tests however the effects have decreased between cohorts. The paper presents these original British findings, which are in line with existing results from international studies on childhood cognitive ability. The paper provides methodological reflections on the development of cross-cohort measures, and

evaluating alternative socio-economic measures. The paper also provides clear prescriptions relating to combining data from surveys with different designs, which is an increasingly common problem in survey data analysis, but which is frequently overlooked.

2D.2 School quality and parental investments into children

Birgitta Rabe, ISER, University of Essex, Colchester, UK; Ellen Greaves, IFS, Institute for Fiscal Studies, London, UK; Iftikhar Hussain, Dept. of Economics, University of Sussex, Brighton, UK; Imran Rasul, IFS, Institute for Fiscal Studies, London, UK, Dept. of Economics, University College London, London, UK

This paper uses *Understanding Society* data to investigate how parental investments into children's education interact with school investments. Learning about the drivers of parental investments into their children is important for the design of educational interventions. We use Ofsted inspections of children's schools as a treatment that reveals information about school quality to parents. We exploit random variation in the timing of Ofsted inspections within an academic year, where some parents receive information about school quality through an Ofsted inspection before their survey interview (treatment group) and others receive this information after their interview (control group). In a first stage we predict Ofsted grades based on school characteristics and performance data and compare them to actual inspection outcomes, creating variables of positive or negative 'shock'. In a second stage we estimate how parental investments react to positive and negative shocks in a difference-in-difference framework using *Understanding Society* data. Our measure of parental investments is how often parents help their children aged 10-15 with homework, and we combine several waves of *Understanding Society* to assess changes in parental help with homework. We find that having a higher than predicted Ofsted grade leads to an increase in help with homework, whereas a lower than predicted Ofsted grade leads to decrease in help with homework, although the latter finding is not statistically significant. The results indicate that parental and school investments are complements.

2D.3 Where do cultural omnivores come from? The implications of educational mobility for cultural consumption

Tak Wing Chan and Heather Turner, Department of Sociology, University of Warwick, Coventry, UK

We use data from *Understanding Society* to investigate the association between social mobility and cultural omnivorousness. By applying diagonal reference models to our data, we show that both parent's and respondent's own educational level affect visual arts consumption, with the weight of the former being about a third in magnitude as the latter. This is inconsistent with Bourdeau's view that habitus is primarily determined by the family of origin. In addition, we show that there is no difference in the relative weights of origin and destination between the upwardly mobile and the downwardly mobile. Finally, upwardly mobile individuals are less omnivorous than those who are inter-generationally stable in higher educational levels. These results challenge various views which attribute the emergence of cultural omnivores in contemporary society to social mobility.

Parallel Session 3D Ethnicity, family and intergenerational issues

3D.1 Inter-generational and inter-ethnic wellbeing: an analysis for the UK

Cinzia Rienzo, Richard Dorsett and Martin Weale, DNA, National Institute of Economic and Social Research, London, UK

This paper uses *Understanding Society* data from Wave 3 (a UK nationally representative dataset) to examine the extent to which family migration history helps explain inter-ethnic variations in subjective well-being. We confirm that there is significant variation in wellbeing across ethnic group and across migrant generations. On average, recent migrants appear to have higher levels of wellbeing. We also find that, while language difficulties are associated with lower wellbeing, retaining cultural links is important: living in areas where one's own ethnic group is well represented and having friends from the same ethnic group is associated with a higher level of wellbeing. Individuals' choice to retain cultural ties and identity may alleviate feelings of cultural distance and difficulties with integration.

3D.2 Accounting for differences in women's labour force transitions by ethnic origin in the UK

Yassine Khoudja, ERCOMER, Universiteit van Utrecht, Utrecht, The Netherlands; Lucinda Platt, Social Policy, London School of Economics and Political Science, London, UK

Despite increasing female labour force participation (LFP) across Western countries, there remain large differences in LFP for women of different ethnic origins. While existing research has demonstrated that part of these differences can be attributed to compositional differences (age, qualifications, family context etc.) and to differences in gender-role attitudes and religiosity, residual 'ethnic effects' typically remain. Moreover, dependence on cross-sectional data impedes understanding of when and how these differences emerge. We aim to provide a more comprehensive analytical account of differences in LFP by using longitudinal analysis of labour market transitions. Exploiting the longitudinal nature of *Understanding Society* we make an original contribution to the literature by investigating ethnic differences in women's probabilities of labour market entry and exit; and we explore how far these can be accounted for by a) human capital and demographic characteristics, b) the impact of relevant events (partnership and children), and c) differences in gender-role attitudes and religiosity. We find that, adjusting for all these factors, Indian and Caribbean women do not differ from White majority women in their labour force entry and exit probabilities but that Pakistani and Bangladeshi women are still less likely to enter and more likely to exit the labour market, while Black African women have higher entry rates. We also find that Pakistani and Bangladeshi women's labour market entries and exits are less sensitive to partnership and child-bearing events than other women's. We reflect on the implications of our findings for both policy and future research.

3D.3 The impact of parental worklessness on children's labour market outcomes: exploring gender and ethnicity

Carolina Zuccotti and Jacqueline O'Reilly, Brighton Business School, University of Brighton, Brighton, UK

The increase of workless households and, in particular, the consequences of having been raised in such households, has received particular attention in the UK. Previous research shows that having been raised in a workless household has a negative impact on a series of outcomes, such as higher probabilities of being NEET (Not in Education, Employment or Training) or spending longer periods out of work. However, little is known about how men and women and different ethnic groups differ in terms of this experience. This paper aims at filling in this gap.

According to data from *Understanding Society* (2011-2012) around 6% of individuals in the UK had workless parents when growing up. This figure, however, rises to 9% for younger cohorts (16-35 years old), and in particular, to values that vary between 12% and 54% for young non-white ethnic minorities. Using the third wave of the *Understanding Society*, this study sheds light on the impact that having been raised in various household types has on labour market outcomes of young men and women of different ethnic groups. Among other findings, we show that gender and ethnicity are inter-related factors when studying the effect of origin households. Considering the entire sample, we first observe that having workless parents (vs. two-working parents) affects negatively more the labour market outcomes of young women than those of young men. However, while this gender effect does not seem to hold for the white British, it does – and to a greater extent – for the non-white ethnic minorities.

Parallel Session 1E Health (use of biomarkers)

1E.1 Social patterning in grip strength across the life course: a cross-sectional analysis using *Understanding Society*

Caroline Carney, ISER, University of Essex, Colchester, UK

Grip strength in early adulthood and midlife is an important predictor of disability, morbidity and mortality in later life; understanding its social determinants could improve insight into health inequalities and decline in old age. Using *Understanding Society* data on 14644 people aged 16 to 98; this research employs fractional polynomials to explore the growth and decline of grip strength over the life course, establishing its peak for men and women and whether this varies on the basis of socio-economic position (SEP). Maternal education, income and highest educational qualification are used to measure SEP. Interaction terms for each SEP indicator are used to identify if the slopes for high and low SEP are significantly different. We find that grip strength peaks earlier for those with low SEP and at a lower level of strength. For example, grip strength peaks at 45.4kg and at age 35 for low income men, while this occurs at 47.5kg when aged 36 for men with medium and high income. The differences in grip strength between high and low SEP are more pronounced for adult SEP rather than childhood; for men this is greatest on the basis of income and for women, the greatest difference is between those with high and low education. Our findings imply that grip strength decline begins at a younger age for low SEP groups and from a lower level, so that they reach problematic levels earlier in life than those who are more affluent.

1E.2 Which biosocial characteristics predict the accuracy of self-reported height and weight among adults? A comparison of data from *Understanding Society* Wave 1 and Wave 2 (Nurse Visit)

Rasha Alfawaz, Graham Law, Eleanor Scott and George Ellison, Division of Epidemiology and Biostatistics, School of Medicine, University of Leeds, Leeds, UK

Height and weight are important anthropometric correlates of many biosocial phenomena. However, few large scale social studies have the capacity to collect objective measurements of these variables, and many rely instead on self-reports which are vulnerable to systematic reporting error. The aim of this study was to assess the relative importance of 17 biosocial characteristics as predictors of the difference between self-reported and measured height and weight, in $n=10811$ respondents with complete data from both Wave 1, and objectively measured height and weight in the Wave 2 Nurse Visit of *Understanding Society*. Each of these analyses used multivariable linear regression to adjust for confounders identified using a directed acyclic graph. After adjustment for confounders, and for variation in the time interval between Wave 1 and the Wave 2 nurse visit, eight of the biosocial characteristics (gender, age, marital status, parenthood, physical

health, education, employment and sporting activity) were significantly associated with the difference in self-reported and measured height; while five additional variables (smoking, alcohol consumption and three dietary characteristics) were also associated with the difference in self-reported and measured weight. Due to the interval between Wave 1 and the Wave 2 Nurse Visit, the difference between self-reported and measured height and weight will partly reflect genuine growth/shrinkage or weight gain/loss, respectively. But given this will have been less pronounced for height than for weight, it seems likely that the eight biosocial characteristics associated with the difference (between self-reported and measured variables) in both height and weight are those with the greatest potential impact on reporting accuracy.

Parallel Session 2E Employment and health

2E.1 Who is breadwinning? A 20-year comparison of female labour supply in Germany and the UK

Vanessa Gash, Sociology, City University, London, UK; Martina Dieckhoff, Skill Formation and Labour Markets, WZB, Berlin, Germany; Antje Mertens, Economics, HWR – Berlin School of Economics and Law, Berlin, Germany; Laura Romeu Gordo, Deutsches Zentrum für Altersfragen, Berlin, Germany

The increase in working women and in working-motherhood has not brought about the egalitarian ideal of gendered parity in working and non-working lives that earlier research anticipated. This paper offers new insights to this ongoing debate by examining trends in the predictors of female labour supply over a 20-year period in two countries: Germany and the United Kingdom. The study uses longitudinal data covering the period 1991 until 2012 from the *German Socio-Economic Panel* (GSOEP) for Germany and from the *British Household Panel Survey* (BHPS) and *Understanding Society* for the UK. The paper examines the impact of both (her) individual and (their) couple attributes to determine the relative structuring impact of within household inequalities on gendered economic outcomes over time. Our primary dependent variable is working-status, with the paper revealing the predictors of switches across working-status applying change models with controls for selection effects. One of our central control variables, breadwinning status, examines the impact of within household economic position on market outcome. The paper finds strong evidence that within couple inequalities have negative impacts on women's market transitions. The paper also challenges the claims of earlier researchers that predicted a rise in equal-earning. We found that, with the exception of East-Germany, West-Germany and the UK displayed little evidence of an increase in equal-earning over a 20-year period. The country exhibiting the most change is East-Germany where equal-earning is declining.

2E.2 Acute health shocks and labour market exits

Francesca Zantomio, Department of Economics, Ca' Foscari University of Venice, Venice, Italy; Andrew Jones, Department of Economics and Related Studies, University of York, York, UK; Nigel Rice, Centre for Health Economics, University of York, York, UK; Department of Economics and Related Studies, University of York, York, UK

The financial consequences of early labour market exit can be substantial and long-lasting. This paper investigates the labour supply response to acute health shocks defined by the incidence of cancer, stroke, or heart attack, for working age individuals in the UK, a group rarely considered in previous studies which generally focus on older individuals. We draw on data from *Understanding Society* which offers a unique combination of a large sample, a panel dimension together with a broad range of socio-demographic, health and labour

market information. Our identification strategy exploits uncertainty in both the occurrence and timing of an acute health shock. We follow individuals until they experience either a first occurrence of a health shock, or a re-occurrence, and compare their labour supply responses to those observed in a control group. Controls are defined through a combination of coarsened exact matching and parametric propensity score estimation. The panel dimension of the data allows us to condition on unobserved individual heterogeneity. Our results indicate that, on average, experiencing an acute health shock significantly reduces labour market participation, with a stronger response to an additional, as opposed to a first, shock. In general younger workers of both genders display a stronger labour market attachment than older counterparts conditional on a health shock. Older and more educated women exhibit the strongest retraction despite experiencing less disabling shocks. This suggests an important role for preferences, financial constraints, and intra-household division of labour in explaining labour supply adjustments.

2E.3 The impact on mental and physical health of employment and welfare transitions for those claiming sickness benefits in UK

Esther Curnock, Alastair Leyland and Frank Popham, MRC/CSO Social and Public Health Sciences Unit, University of Glasgow, Glasgow, Scotland, UK

With the introduction of Employment and Support Allowance (ESA) replacing Incapacity Benefit (IB), UK welfare reforms have sought to reduce sickness benefit claimant numbers and increase employment among this group. However, there is little objective evidence regarding the health impact of transitions to employed or unemployed status for sickness benefit claimants, or the health impact of transitions from IB to ESA. Treatment and control groups were constructed for each transition using longitudinal data from four Waves of *Understanding Society*. A difference-in-difference approach was used to compare change in health (SF-12 physical and mental component summary scores) between groups. Sensitivity analyses utilised propensity score matching to adjust for baseline group differences.

Transitions from sickness benefits to employment (n= 124) were associated with an improvement in the SF12 mental health score of 5.94 points (95% CI 3.52 to 8.36), and an improvement in the physical health score of 2.83 points (95% CI 0.85 to 4.81) compared with those remaining on sickness benefits (n= 1545). Transitions to unemployed status (n= 153) were associated with a significant improvement in mental health but not physical health (3.14, 95% CI 1.17 to 5.11; 0.24, 95% CI -1.61 to 2.08 respectively). No statistically significant changes in mental or physical health were associated with transitions from IB to ESA (n= 122) compared with those who remained on IB (n= 1163). Sensitivity analyses using propensity matching did not substantially change findings with ongoing analyses of whether the results are robust to common trends assumption and time varying confounding.

Parallel session 3E Young people and risk attitudes

3E.1 A panel-data analysis of the observed decline in car access among young adults in Britain

Esra Suel, Qinyi Chen, Scott Le Vine and John Polak, Centre for Transport Studies, Imperial College London, London, UK

There is growing interest among both policymakers and the research community in young adults' changing personal mobility trends. In many high-income countries, today's cohort of young adults is less likely to hold a driving licence, less likely to own a car, and drives fewer miles per year (on average) compared to cohorts born in earlier years. The causes of these trends are, however, not fully established.

This study's contribution to the scholarly debate is through a hazard-model analysis of the *British Household Panel Survey*. Whereas earlier studies in the literature have employed cross-sectional datasets, the structure of panel data (also known as longitudinal data) allows researchers to study change over time at the disaggregate level. To the authors' knowledge, this is the first study that analyses changing patterns of youth licence-holding with a panel-data-analysis strategy.

Among other findings, we report a statistically-significant increase over time in the number of young adults that are observed to be in employment for three or more years prior to acquiring a full driving licence. We also report that the shrinking gender gap in car access is explainable (in statistical terms) by changes in confounding socio-demographic covariates, rather than by changes in otherwise-unexplainable gender effects.

3E.2 Linking experimental and survey data for a UK representative sample: structural estimation and external validity of risk and time preferences

Matteo Galizzi, Department of Social Policy, and LSE Behavioural Research Lab, London School of Economics, London, UK; Glenn W. Harrison, Georgia State University; Raffaele Miniaci, University of Brescia

We provide the first 'artefactual field experiment' that directly integrates experimental measures for risk and time preferences for a representative sample of respondents within the Innovation Panel of *Understanding Society*, the world-largest multi-scope panel survey. We randomly select a representative subsample of 707 respondents and randomly allocate them to either a face-to-face (n=452) or a web-mode (n=255) interview. In both groups, respondents' discounting rates and a-temporal risk preferences are elicited using incentive compatible methods. The experimental tasks allow the 'structural' joint estimation of risk preferences and a broad class of inter-temporal discounting models, including exponential, quasi-hyperbolic, fixed cost, Weibull, and various forms of hyperbolic discounting. The different structural models are jointly estimated using Maximum Likelihood methods, calculating individual-specific levels of daily 'background consumption' from linked survey data. Our representative sample of the UK population shows high heterogeneity in the individual responses to the experimental risk and time preferences questions, but no significant interview-mode effects. In general, responses are broadly consistent with risk-aversion; soundly reject exponential discounting; and give broad support to non-constant discounting models, in particular to the quasi-hyperbolic, the generalised hyperbolic, and the Weibull discounting models. In order to explore the 'external validity' of the experimental risk and time preferences measures, the structurally estimated behavioural parameters are systematically cross-validated with a comprehensive range of linked survey data, providing mixed evidence.

3E.3 Channels of risk-sharing at a micro level: savings, investments and the risk aversion heterogeneity

Eleonora Pierucci, Department of Mathematics, Computer Science and Economics, University of Basilicata, Potenza, Italy; Faruk Balli, School of Economics and Finance, Massey University, Albany, Auckland, New Zealand; Filippo M Pericoli, Department of the Treasury, Italian Ministry of Economy and Finance, Rome, Italy,

Applying the variance decomposition developed by Asdrubali, the paper explores for the first time the role and the extent of smoothing channels at a micro level using a sample of UK households. Our empirical analysis of *British Household Panel Survey* (BHPS) data concludes that the bulk of risk-sharing in the UK is driven by the savings channel. By allowing for risk aversion heterogeneity, we detect an inverted U-shaped relationship between risk aversion and the extent of smoothing achieved through financial markets. We also analyse the issue of risk-sharing by income, education levels and by region. We find that risk-sharing is more effective (higher) for individuals whose savings are more flexible, while it is less effective (lower) for individuals characterised by relatively more stable savings rate (like the Scottish population), regardless of their economic conditions.

4W Workshop

The socio-cultural integration of new immigrants in Europe

Introduction and overview – the socio-cultural integration of new immigrants in Europe

Renee Luthra, ISER, University of Essex, Colchester, UK

This symposium showcases new research using a unique dataset produced in the international survey project on *Socio-cultural Integration Processes among New Immigrants in Europe* (SCIP) that was funded by the NORFACE Research Programme on Migration. The SCIP project is a two wave panel study of selected migrant groups in which about 7.000 recent migrants aged between 18 and 60 were surveyed in four European destination countries – Germany, Netherlands, United Kingdom, and Ireland. Migrants with a maximum stay of 18 months were interviewed soon after their arrival and as many as possible were re-interviewed again another 18 months later. To analyse group differences, Poles as a rather recent immigrant group to these destinations, and Turks/Pakistanis/Moroccans as groups representing the classical labour/colonial migration to Western Europe, were included in the SCIP survey.

The four papers included in the symposium address the impact of migration on a wide range of outcomes, including gender equality, labour market and educational attainment, religiosity and social integration. Some papers focus on differences between Poles and third country migrants, and others on differences across receiving country contexts. The papers provide new, policy-relevant evidence on ethnic inequality and change in four countries. Together these papers showcase the potential of SCIP data specifically and of longitudinal data more generally in the analysis of changes in ethnic inequality and ethnic attachment over time.

Religion and social integration: a longitudinal study of recent immigrants

Mieke Maliepaard, Universiteit van Utrecht, Utrecht, the Netherlands

The claim that religion, and particularly Islam, forms a bright boundary in European society has resonated with the scientific community. At the same time, empirical support that over time, religion forms a boundary for the social integration of minorities into host societies is lacking. On the basis of unique longitudinal data collected among recent immigrants in four European countries, we test the relation between religious orthopraxy (in terms of attendance and prayer) and social integration in terms of social contacts as well as friendships. We are able to differentiate between Muslim immigrants, who form a minority religious group in all countries, and Christian immigrants, who share their religion with (parts of) the majority. Positive intergroup contacts between minority and majority populations are increasingly seen as a key factor in diminishing the emergence of so-called 'parallel societies', as they breed more positive intergroup relations. Our results indicate that more religious immigrants do not develop fewer friendships or social contacts with majority group members over time. Conversely, migrants who engage in intergroup friendships early on, do not become less religious over time. These results hold for both Christian and Muslim groups. These findings indicate that in terms of social integration into European host societies, religiosity is not the bright boundary it is thought to be.

Temporary disruption or 'opting out'? Changes in recent Polish migrants' religiosity in Ireland

Antje Roeder, Department of Sociology, Trinity College Dublin, Dublin, Ireland

Historically, religion has played an important role for migrant integration as a source of refuge, respect and resources, particularly in the context of the United States. In this contribution we add to the emerging European literature on the development of religiosity amongst migrants, and test somewhat conflicting theoretical expectations about an increased need for religion during times of upheaval on the one hand, and a temporarily disruptive effect of the migration event on the other hand. Poles in Ireland provide an interesting case study of such processes, as they largely share the majority religion, and therefore are unlikely to encounter religious prejudice which affects many other migrant groups in Europe. Additionally they should have ample opportunities for religious practice both within mainstream Churches and the vibrant Polish Catholic community.

By using unique panel data from the *Socio Cultural Integration Processes among New Immigrants in Europe* (SCIP) project to study changes between pre-migration and post migration religious participation we show that few migrants increase their religious involvement in the immediate aftermath of migration. Amongst the much larger group whose religion declines initially, two main patterns emerge: one of a temporary disruption followed by recovery to pre-migration levels, and one of consistent decline. This shows firstly that migration disrupts religious practice temporarily even in a favourable environment. Secondly, it also appears to liberate less religiously committed individuals from practices that they engaged in primarily due to social pressures rather than individual faith.

Elite or middling? International students and migrant diversification

Renee Luthra, ISER, University of Essex, Colchester, UK

With the extensive internationalisation of higher education alongside restriction of traditional family and labour pathways to Europe from former sending countries, student migrants now form a substantial share of non-EU flows to Europe. Yet analysis of students as a migration stream is relatively underdeveloped. Using a unique longitudinal dataset that provides a large sample of third country student migrants to Germany, the Netherlands, and the UK who are surveyed shortly after arrival and then 18 months later, this paper provides the first examination of the early socio-cultural and structural integration process of third country nationals migrating to Europe as students. We theorise that as well as an elite migration stream, we will also find among these students a group of 'middling' transnationals, less highly selected and more closely embedded in ethnic networks and with more equivocal outcomes. Latent class analysis reveals three student types in the UK: an elite and two 'middling' types. Ongoing analyses suggest cross-country differences in student types. We also ask whether the types experience different early socio-cultural and structural integration trajectories in the ways that the elite and middling transnational literatures would suggest. In the UK, we find statistically significant differences in structural, but not socio-cultural outcomes. We conclude that to understand the implications of expanding third country student migration across the EU, it is important to recognise both the distinctiveness of this flow and its heterogeneity.

Does she lose more than he does? Gender, job quality and Polish migration to Western Europe

Gillian Kingston, Economic and Social Research Institute, Dublin, Ireland

While previous research has highlighted occupational downgrading immediately following migration, skilled migration, and labour market integration have slipped by as a largely genderless immigration story. Utilising a unique, harmonised data source, we ask whether there are gender differentials in recent Polish migrants' occupational transitions in Germany, the Netherlands, Ireland and the UK. Other work has found that migrant females are more likely to experience downward mobility than men. Previous research indicates occupational position on arrival is associated with prior human capital, investments and motives for migration, and these may differ between men and women. The comparison of outcomes of the same migrant group across countries, which represent different migration histories, policy arrangements and labour market structures, permits the analysis of country variations in migrant male and female outcomes.

Changes in occupation are measured by comparing migrants' occupational status held in Poland, with those in the destination country. Results demonstrate that gender differences in occupational change vary across countries, linked in part to variation in the characteristics of the migrant groups in terms of their educational profile, previous job, marital/family status, migration motives and human capital investments. We find gender differences in the returns to human capital across countries. We suggest that outstanding country differences may be linked to differences between the receiving country labour markets, in terms of the accessibility of certain occupations to new migrants and the gendered nature of occupations, and work-family policies.

Day 3 – Thursday 23rd July 2015

Parallel Session 1F Health behaviours

1F.1 Public healthcare eligibility and the utilisation of GP services by older people in Ireland

Anne Nolan, The Irish Longitudinal Study on Ageing (TILDA), Trinity College, Dublin, Ireland; Social Research, Economic and Social Research Institute, Dublin, Ireland; Yuanyuan Ma, The Irish Longitudinal Study on Ageing (TILDA), Trinity College, Dublin, Ireland

Equity of access to healthcare is regarded as a key objective of national and international health policy. The current Irish system of healthcare financing and public healthcare entitlements is unusual internationally, with the requirement for a large proportion of the population (approximately 60%) to pay the full cost of GP care at the point of use a particular concern. In this paper we focus on the older population, using data from the *Irish Longitudinal Study on Ageing* (TILDA), a nationally representative survey of the over 50s in Ireland. Using data from the first two Waves of TILDA, and difference-in-difference propensity score matching methods, we describe how respondents' entitlements to free GP care changed between Wave 1 and Wave 2 of TILDA, and the consequences for GP visiting levels. We find that becoming eligible for free GP visits leads to a significant increase in GP visiting, and that becoming eligible for GP user fees (i.e., losing eligibility for free GP care) leads to a significant decrease in GP visiting. By comparing the magnitudes of the effects, we find that the change in GP visiting is larger for those losing public healthcare eligibility than for those gaining public healthcare eligibility, suggesting that the deterrent effect of user fees is greater than the incentive effect of free GP visits. This research is particularly timely given the commitments in the current Irish Programme for Government, whereby free GP care for the entire population is to be introduced on a phased basis.

1F.2 Breast and cervical cancer screening in Great Britain: dynamic interrelated processes

Alexander Labeit, University of Leicester, Department of Health Sciences, Leicester, UK

No previous analysis has investigated the determinants of screening uptake for breast and cervical cancer screening for possible spillover effects from one type of screening examination to the other type of screening examination with a dynamic bivariate panel probit model. For our analysis a dynamic random effects bivariate panel probit model with initial conditions (Wooldridge-type estimator) and dependent variables were the participation of breast and cervical cancer screening in the recent year. The balanced panel sample consisted of 844 women from the *British Household Panel Survey* from the time period 1992 to 2008. Our analysis showed the high relevance of past screening behaviour and the importance of state dependency for the same and the other type of cancer screening examinations even after controlling for covariates and unobserved heterogeneity. The uptake for breast and cervical cancer screening was higher when the same screening examination was done one or three years earlier. This result is in accordance with the medical screening programmes in Great Britain. With regard to breast and cervical cancer screening positive spillover effects existed between screening examinations in the third order lags. Women with a previous visit to a general practitioner and individuals in the recommended age groups had a higher uptake for breast and cervical cancer screening. Other socio-economic and health related variables had non-uniform results in both screening examinations. Promoting the uptake of one female prevention activity could also enhance the uptake of the other prevention activity.

1F.3 Nicotine nation: the dynamics of cigarette consumption in Russia

*Christopher Gerry, Economics, National Research University – Higher School of Economics, St. Petersburg, Russia, SSEES, University College London, London, UK;
Diana Quirmbach, Social Policy, London School of Economics, London, UK*

Cigarette consumption is responsible for the premature deaths of more than 300000 Russians annually and represents the single most preventable cause of both disease and death in Russia. Around 60% of Russian men smoke (the highest in Europe), and 20% of women. Reducing the consumption of cigarettes thus offers significant potential for improving health outcomes in one of Europe's least healthy countries. Recently, efforts to reduce smoking have become the focus of government policy in Russia, with the introduction of a restrictive anti-smoking law in 2013, which amongst other things introduces bans on smoking in public places and on advertising as well as substantial tax increases. To inform these policies, we focus on the source of persistence in cigarette consumption based on ten years of individual-level, longitudinal data from the *Russian Longitudinal Monitoring Survey*. The persistence in cigarette consumption over time can be due to (true) state dependence or unobserved individual heterogeneity. We specify a dynamic hurdle model allowing for different processes governing the decision to smoke and how much to consume and use non-linear panel data methods to disentangle these sources of persistence. We find that state dependence is stronger for men and the less educated. In all cases, accounting for unobservable heterogeneity reduces the estimated size of state dependence, indicating that part of the observed persistence in smoking is due to individual factors rather than to the addictiveness of nicotine. We draw out the implications of these findings in the context of the current policy experiment.

Parallel Session 2F Family change/changing families

2F.1 The impact of marriage property law on spouses' marriage-specific investment

Daniela Piazzalunga, Department of Economics and Statistics Cognetti de Martiis, University of Turin, Turin, Italy

This paper analyses the effects of different marital property regimes on the marriage-specific investment of the spouses. In particular, it provides an empirical assessment of the effects of a change from a separation property regime towards a more equal distribution of matrimonial assets on labour supply, housework time and child care. To assess causality, I exploit a decision taken by the English House of Lord in October 2000 (*White v. White*), and apply a difference-in-difference, with individual fixed effects, using the *British Household Panel Survey* for 1992-2005.

Preliminary results show that married women reduced the hours worked by about 1.5-2.5 hours (slightly more if overtime is included) when the property regime is more favourable to them. They didn't change the number of hours devoted to housework, but the probability that they are the main responsible for children under 12 increased by 5-9%. Moreover, the results hide heterogeneities: as expected, the effects are significant for women in couples with higher level of assets and wealth (proxied by education), while no effect is found among low educated women. The results are robust to different specifications. While previous papers also found a reduction of labour supply, the results on housework time and child care may suggest that a more equal property regime changes the bargaining power of married women in such a way that they increase investment in the marriage, but only on the most enjoyable activities, such as child care is reported to be compared to housework chores.

2F.2 Living apart together and cohabitation intentions in Great Britain

*Yang Hu, Department of Sociology, University of Cambridge, Cambridge, UK;
Rory Coulter, Department of Sociology, University of Cambridge, Cambridge, UK*

A growing number of studies examine the 'individualisation' of intimate relationships by analysing the prevalence of living apart together (LAT) unions and the reasons why people live in a different household from their partner. Although this literature shows that LAT is a heterogeneous practice, little is known about how the factors associated with LAT may vary with life course position. Moreover without examining who intends to convert LAT into a co-residential union, it is difficult to assess for whom LAT is a novel and durable arrangement as opposed to a transitional stage in a more conventional partnership pathway. Drawing on data from Wave 3 of *Understanding Society*, we use Multiple Correspondence Analysis to construct a four-fold typology of individuals in LAT relationships: Nested Young Adults, Independent Adults, Single Parents and Seniors. Each of the identified profiles is characterised by a distinctive position in the life course. Using logistic regression models, we then show that different factors configure the cohabitation intentions of the four profiles of individuals in LAT relationships. Taken together, these results indicate that LAT is less a symptom of the individualisation of intimate relationships than a flexible way to practice partnership within the confines of life course circumstances. This highlights how the life course perspective can enrich our understanding of the heterogeneity of LAT.

2F.3 Family instability throughout childhood: new estimates from the *British Household Panel Survey* and *Understanding Society*

Mike Brewer and Alita Nandi, ISER, University of Essex, Colchester, UK

Estimates of the stock of children in different family types exist, but these necessarily understate the proportion of children that will ever spend time living in particular family types during childhood. Such estimates also tell us nothing about instability in family circumstances, something which has been shown to be harmful for children but shown in the US to be distributed in a way which reinforces patterns of inter-generational transmission of disadvantage. Using *Understanding Society* we document the extent of, and the inequalities in, the experience of different family situations for children born in the UK in the 1980s through to early 2000s. We show that children born to younger mothers spent considerably more of childhood, on average, living without one of their birth parents, and experienced more instability in family circumstances, than children born to older mothers. We also show how these estimates are affected by the assumptions made about the nature of sample attrition.

Parallel Session 3F Young people's wellbeing

3F.1 Interrelations between the happiness and wellbeing of adolescents and their parents

*Elizabeth Webb, Yvonne Kelly, Anne McMunn, and Amanda Sacker, ESRC
International Centre for Lifecourse Studies in Society and Health (ICLS), Research
Department of Epidemiology and Public Health, University College London, London,
UK*

Substantial evidence supports the hypothesis that maternal wellbeing impacts upon child wellbeing, and in earlier work we have established that this relationship is bidirectional. Here we explore how, in two parent families, both parents' wellbeing relates over time to their adolescent child's happiness.

Analyses were conducted using data from Waves one to four of *Understanding Society*, which collects data on adult's wellbeing (General Health Questionnaire [GHQ]) and on youth's (age 10-15) happiness with their school work, appearance, family, friends, school and life as a whole. We use structural equation models to investigate the reciprocal relationships between both parents' wellbeing and their child's happiness. The analytic sample is 4748 triads (adolescent child, mother, father).

Our results show that the wellbeing of each parent longitudinally predicts that of the other parent. Maternal but not paternal wellbeing longitudinally predicts adolescent happiness, but adolescent happiness does not have longitudinal effects on parental wellbeing. When analyses are stratified by sex of adolescents, we find that female adolescents experience longitudinal effects of their mother's wellbeing whereas male adolescents do not.

Stratification of adolescents into two age bands (10-12 and 13-15 years) suggests that paternal wellbeing has a longitudinal influence on the happiness of older adolescents.

Our findings indicate that there are meaningful longitudinal effects of parental wellbeing on the happiness of their adolescent children, and reciprocal effects of the wellbeing of parents. This supports the suggestion that the family should be considered as a dynamic system, for instance when planning clinical interventions.

3F.2 Parents, friends or siblings? Exploring life satisfaction among early adolescents

Deniz Yucel, Department of Sociology, William Paterson University, Wayne, New Jersey, USA; Anastasia Vogt Yuan Department of Sociology, Virginia Tech, Blacksburg, Virginia, USA

Social relationships are known to be influential on adolescents' wellbeing; their relationships with parents, friends, and siblings are particularly important. This study analyses 2617 10-15 year olds from Wave 1 of the *Understanding Society*, and specifically tests how parent-child relationship quality, being a perpetrator and victim of sibling bullying, and being a perpetrator and victim of friend bullying affect life satisfaction among early adolescents. The results suggest that better parent-child relationship quality and less victimisation by friends and peers are both positively correlated with higher life satisfaction among early adolescents. Overall, the three most significant predictors of life satisfaction are parent-child relationship quality, being a victim of friend bullying, and being a victim of sibling bullying. Moreover, this study tests the interaction effects between parent-child relationship quality, sibling bullying, and friend bullying. Parent-child relationship quality acts as a protective factor for those adolescents who are victims of friend and sibling bullying. Specifically, the effect of parent-child relationship quality on life satisfaction was found to be stronger among adolescents who were victims of sibling and friend bullying. Lastly, the effects of all three variables vary significantly between male and female adolescents. Specifically, the positive effects of lower friend victimisation and better parent-child relationship quality on life satisfaction were found to be stronger among female adolescents.

3F.3 Longitudinal associations between social website use and happiness in young people

Cara Booker, ISER, University of Essex, UK; Amanda Sacker and Yvonne Kelly, International Centre for Lifecourse Studies in Society and Health, University College London, London, UK

Cross-sectional analysis of *Understanding Society* indicates that use of social media increases with age while happiness decreases. The temporal relationship between media use and happiness is not established and the current literature is mainly based on cross-sectional analysis. Using the first four waves of *Understanding Society* (youth self-completion questionnaire) we examine changes in social website use as well as happiness and how they are related to each other over time.

The *Understanding Society* youth self-completion questionnaire is given annually to young people aged 10-15. Questions about daily frequency of chatting on social websites and happiness with six domains of life are used. We use a two-part latent growth curve model with random slopes and time-varying covariates. We control for parental education, partnership status and ethnicity, and for youths the number of friends participation in sports and gender.

Findings suggest a significant association between the intercept of chatting on social websites and the slope of happiness. Similarly, the happiness intercept significantly predicted the chatting on social websites slope. There was some attenuation with inclusion of control variables. Chatting on social media websites and happiness levels change over time in young people and the rates of change are associated with the initial levels of use and happiness. These findings add to the debate on causality and may inform future policy and interventions.

5W Workshop

UK longitudinal studies: research, evidence and impact

Introduction and overview

Nicky Rogers, Office for National Statistics, London, UK

This symposium will demonstrate to researchers the research potential of the three UK based longitudinal studies that cover England and Wales, Scotland and Northern Ireland. Each longitudinal study holds linked data from censuses and life event data for study members. The *Scottish and Northern Ireland Longitudinal Studies* hold linked 1991-2011 Census data, whereas the *England and Wales Longitudinal Study* holds linked data from five successive censuses (1971-2011). The Scottish and Northern Ireland longitudinal studies also link to health and education data, and health and property data respectively. Each longitudinal study is a unique and rich resource offering the potential to look at a wide range of important social and epidemiological issues. These include ageing, care-giving, employment, labour market outcomes, cohabitation, fertility, migration, ethnicity, household change, inter-generational change, social mobility, health, health inequalities and mortality. This symposium will present four papers followed by a Q&A session. The first paper will give an overview of the three longitudinal studies; focusing on data held, research potential, use in evidence and also how to access these data. The following papers will present results from three individual research projects covering fertility, health and education of immigrants and the role of English language skills in England and Wales, NEETS (not in employment, education or training) in Scotland and religious and national identities in Northern Ireland.

Overview of the longitudinal studies for England and Wales, Scotland and Northern Ireland

Rachel Stuchbury, CeLCIUS, University College London, London, UK

The United Kingdom has three census-based longitudinal studies covering England & Wales, Scotland and Northern Ireland. Each study combines census and vital event data, covering a sample of the resident population of the country, and contains information on new births, births to sample mothers, deaths, presence at each census, and personal, household and geographical information at each census. All three studies have at least 20 years of follow-up. The presentation will outline key features of the individual studies, as this varies; for example, only for Scotland are School Census data available for sample members, while only for sample members in Northern Ireland are prescriptions for medication available. Examples of the main research designs will be given, including cross-sectional analysis of small population groups, time-series work, and prospective analysis of life events. Procedures for gaining access to each longitudinal study will be described; these are similar for each of the three but there are several key differences.

The longitudinal studies have been used by academics and government researchers to increase their knowledge about different groups of the population of the United Kingdom and to support and inform policy making; we will also show briefly, where the three studies have been used to provide evidence in government reviews.

Fertility, health and education of immigrants in England and Wales: the role of English language skills

Lualhati Santiago, Office for National Statistics; Yu Aoki, University of Aberdeen, Scotland, UK

This paper aims to identify the causal effects of English language skills on fertility, health and education outcomes of immigrants in England and Wales. To identify the causal effects, we use an instrumental variable estimation strategy where age at arrival in the United Kingdom (UK) is exploited to construct an instrument for language skills. The idea of exploiting age at arrival is based on the phenomenon that a person who is exposed to a new language within the critical period of language acquisition (i.e., childhood) learns the language easily. This implies that immigrants who arrive in the UK at a young age will have on average better English language skills than those who arrive when they are older. Using a unique individual-level dataset that links census and life event records for the population living in England and Wales at the 2011 Census, we find that better English language skills significantly delay the age at which women have their first child, lower the likelihood of becoming a teenage mother, decrease the number of children a woman has, but do not affect child's birthweight and self-reported health. The impact on educational achievement is also considerable: better English skills significantly raise the probability of obtaining post-compulsory qualifications and academic degrees and significantly lower the probability of having no qualifications or only compulsory level qualifications.

NEETs in Scotland: a longitudinal analysis of health effects of the NEET experiences

Zhiqiang Feng and Dawn Everington, University of St Andrews, St Andrews, Scotland, UK; Kevin Ralston and Chris Dibben, University of Edinburgh, Edinburgh, Scotland, UK

This paper investigates whether experiences of young people who are not in employment, education or training (NEET) are associated with adverse long-term outcomes in health. We used the *Scottish Longitudinal Study (SLS)*, which collates information from the 1991, 2001, and 2011 censuses as well as from vital events, for a 5.3% representative sample of the Scottish population. Linked health data such as hospital admissions and prescribing in general practice are also available. We followed around 10000 young people who were aged 16-19 in 1991 up to 2011. We explored whether NEET young people in 1991 displayed higher risks of poor physical and mental health in the follow-up period. Poor physical health is measured by any admission into hospital and poor mental health is measured by prescription of anti-depressant and anti-anxiety medication. We used descriptive and modelling approaches in our analysis. Covariates include a number of individual socio-economic characteristics and local area characteristics in the models. Our research found that over 40% of the cohort members have been admitted into hospital, while over 30% have been prescribed with anti-depressant and anti-anxiety drugs. The NEET status in 1991 is found to be associated with hospitalisation with adjusted odds ratio (OR) of 1.28 (95% Confidence Intervals (CIs): 1.10 – 1.49). Also the NEET experiences are associated with poor mental health with OR of 1.67 (95% CI: 1.43 – 1.96). Policy intervention is necessary in assisting NEET young people to re-engage in education or employment.

Religious and national identities in Northern Ireland in transition

Stefanie Doebler and Ian Shuttleworth, Queen's University Belfast, Belfast, UK

Religious and national identities are known to be strongly correlated in Northern Ireland. The Troubles were characterized by a demarcation between Protestant/British versus Catholic/Irish identities. Religion and nationality overlap and are still seen almost as being synonymous. However, there is reason to believe the position is changing; the 2011 Census showed residential segregation had decreased since 2001, and that around 25% of the population claimed to be 'Northern Irish', and a growing proportion stated they had no religion. This paper examines changes in religious identities over a ten-year period and relates these to national identity in 2011. We analyse data from the *Northern Ireland Longitudinal Study* (NILS, 2001, 2011-waves) – a Census-linked study of records based on health-card registrations. The NILS represents c. 28% of the population of Northern Ireland (N = c. 500000), therefore analyses across religious sub-groups are possible. The research questions are:

- Have significant parts of the population left their church, exchanged their religious affiliation for a non-religious identity between 2001 and 2011?
- Which (religious) groups of the population are more likely to endorse which national identity categories (as asked in the Northern Ireland Census 2011)?
- Are certain national identities more related to religious change (switching between identities) than others?

Our results suggest that there are significant differences in national identity endorsements between religious groups. Also, national identities appear to be influenced by religious change. Different social strata (by age, education, tenure) exhibit different likelihoods of endorsing Northern Irish, British, Irish and other national identities.

2P Plenary

Scotland's changing fiscal framework through the prism of *Understanding Society*

David Bell, University of Stirling, Stirling, UK

This presentation will use *Understanding Society* to examine the radical changes in Scotland's taxation and welfare system that are planned for the near future. These have been precipitated firstly by the independence referendum and most recently by the election of 56 SNP MPs to the Westminster Parliament. The tax and welfare changes involve Scotland taking control of a large proportion of personal taxation including all of income tax and half of VAT revenues. Scotland will also gain control of a significant share of welfare benefits. *Understanding Society* will be used firstly to contrast key characteristics of the Scottish and rest of UK populations. Then the implications of the tax and welfare changes will be explored through the medium of microsimulation, again using *Understanding Society*. The analysis will show that increased tax powers could result in a better fiscal outcome for Scotland, but that there are risks associated with devolving control over tax and welfare budgets to the Scottish Parliament. Finally, the presentation will analyse the implications of extending greater control over tax and welfare to other parts of the United Kingdom.

Parallel Session 1G Health (inequalities over the life course)

1G.1 Spend your health to gain your wealth or spend your wealth to regain your health? The relationship between financial expectations and health investment decisions

Matthew Little, Heather Brown, Jing Shen and John Wildman, Institute of Health and Society, Newcastle University, Newcastle upon Tyne, UK

Avoidable health inequalities are partly the result of socio-economic inequalities. A common example is the positive correlation between income and health. The mechanisms behind this relationship are less well understood. One possible mechanism which has not previously been explored is possible links between expected future wealth and current health. This paper uses data from the *British Household Panel Survey Waves 1-18* (1991-2008) to identify relationships between subjective financial expectations and health investment decisions. Financial expectations are measured using the survey question on whether participants expected their financial position for the coming year to get 1) better; 2) worse; or 3) remain about the same. Health is measured using health investment decisions specifically the number of GP visits in the last year and whether the individual currently smokes. The analysis employs a random effects generalised least squares and fixed effects framework to test for potential endogeneity bias stemming from omitted variable bias. The results indicate the expectation responses are correlated with both current smoking status and the number of GP visits. An expected worse financial situation next year is associated with an increased likelihood to visit a GP on multiple occasions for men and women as well as a reduced likelihood to smoke for women. The results are robust after controlling for marital status, employment status, education, household size and income, age, gender, geographical region and time effects. The findings show financial expectations influence health investment decisions. This may partly explain countercyclical patterns observed in macroeconomic data between health and wealth.

1G.2 Income-related inequalities in adiposity in the United Kingdom: evidence from multiple adiposity measures

Apostolos Davillas and Michaela Benzeval, ISER, University of Essex, Colchester, UK

Obesity is a key public health problem; rapidly increasing in prevalence and being a significant predictor of subsequent poor health. Socio-economic inequalities in adiposity are, therefore, of particular interest themselves but also because they may contribute to broader health inequalities. Focusing on income, the aim of this paper is to better understand inequalities using concentration indexes (CI) and decomposition techniques. Applying data from *Understanding Society Wave 2* we estimate CI for body mass index (BMI), body composition (percentage body fat, %BF) and central obesity (waist circumference, WC). CI are then decomposed into the contribution of each of the adiposity determinants to the total inequalities, in order to identify the underlying factors shaping the income-related inequalities in adiposity. In males, we found no income-related inequalities using BMI. However, disentangling fat from lean-mass we show significant pro-rich inequalities (fat-mass is more concentrated among the poor). %BF and WC are associated with similar pro-rich inequalities (CI: -0.017 and -0.013 respectively; $P < 0.05$). Results for females indicate the presence of pro-rich inequalities irrespective of the adiposity measure (CI: ranged between -0.020 and -0.031; $P < 0.01$). Decomposition analysis revealed that the pro-rich inequalities are due to correlation between income and other determinants of adiposity. We found that educational attainment, subjective financial status and material deprivation measures are significant determinants of adiposity and make the most prominent influence on explained these inequalities. This suggests that policy efforts should to focus on upstream rather than proximal causes of inequalities.

1G.3 Social inequality and health: what role for sleep?

Robert Meadows and Sara Arber, Sociology, Surrey University, Guildford, UK

There is now a growing body of literature which suggests that sleep quality/quantity mediates the relationship between socio-economic status (SES) and health. This research is limited in two respects. First, social inequality is multidimensional and different dimensions of social position have different pathways to ill-health. There is a need to investigate whether the mediating role of sleep varies depending on what aspect of social inequality is being investigated. Second, sleep may play a complex role as a mediator. On the one hand, sleep can be seen as a health behaviour. On the other hand, sleep can be situated as a physiological response through which other pathways operate (i.e. job strain).

This paper uses data from Wave 4 of *Understanding Society* (n=43138). A series of path models are developed; each of which explore pathways from multiple measures of social position to self-reported ill-health. Model 1 includes 'sleep problems' as a potential mediator. Model 2 adds further risk and protective factors parallel to sleep problems. Model 3 positions sleep problems as both a parallel mediator and part of the causal chain through which other risk and protective factors may operate.

All models will be discussed. Results from model 1, for example, highlight how those in the lowest occupational group report poorer health (direct effect = 0.189). Those experiencing material deprivation also experience poor health (0.1). In both instances, the indirect effect through sleep is significant (Sobel test statistic = 4.86 and 5.19 respectively).

1G.4 Inferring health milieu geographies from *Understanding Society* and the UK Census

Jens Kandt, Geography, University College London, London, UK

This paper presents theory, methods and results of combining the substantive depth of *Understanding Society* with the pervasiveness of 2011 Census neighbourhood statistics to estimate the local prevalence of so-called health behaviours in the context of lifestyle milieus. Drawing on Bourdieu's theory of social practice, Wave 2 and 3 *Understanding Society* respondents were clustered based on a range of behavioural and attitudinal variables. Nine milieus were found, which differed strongly in their social and demographic profiles. In addition, the milieus diverged significantly on various age-standardised *Understanding Society* health variables; this divergence cannot be solely attributed to socio-economic position. There rather appear to be specific health pathways at work with differential impacts. Deterministic spatial microsimulation was used to infer the milieus' geographic distributions. The technique matches demographics of survey respondents with those of small areas and has so far produced distinct and plausible spatial distributions of milieus in London. The findings suggest that a combined approach of sample segmentation and microsimulation offers opportunities to render subjective information of social surveys amenable to applied spatial statistics.

The work is ongoing and will be extended to other UK cities with the additional objective to account for potential place effects in milieu specificity and associated socio-demographics and geographies. Integrating *Understanding Society* and population-wide datasets may be a promising way forward not only in inferring spatial distributions of survey responses but also in adding domain-relevant subjective orientations to neighbourhood statistics and supporting targeted, area-based policy interventions.

Parallel Session 2G Survey methods (coverage and non-response)

2G.1 The impact of following rules on the sample composition of household based panel studies

Nicole Watson, Melbourne Institute of Applied Economic and Social Research, University of Melbourne, Melbourne, Australia

Household based panel studies adopt following rules that identify who is followed over time and interviewed. These following rules expand the sample to include new births and adoptions, but may also include the other parent of these births/adoptions, new immigrants and other household members not already part of the continuing sample. Further, it is also normal practice in most household based panel studies to interview all adults living with a continuing sample member each wave. These following and interviewing rules will change the composition of the sample in ways that may not be anticipated by researchers, particularly those interested in household composition and household dynamics.

We examine what impact various following rules have on the sample composition via a simulation study. Drawing from Australian data, we use household changes from the *Household, Income and Labour Dynamics in Australia Survey* to add births, deaths, and other household joiners and leavers. Applying these household compositional changes to a sample over time, we examine five sets of following rules, including those adopted by *Understanding Society* and other major household panel studies. We find the sample grows in household types that frequently change (such as young people in shared accommodation or young couples) and reduce in single person and young family households. This effect is somewhat moderated by attrition and varies by the particular following rules adopted.

2G.2 The representativity of a panel for the general population

Annamaria Bianchi and Silvia Biffignandi, Management, Economics and Quantitative Methods, University of Bergamo, Bergamo, Italy

The validity of the estimates in longitudinal panels depends on the extent to which the sample remains representative of the target population over time. Several elements may potentially undermine the representativity of panels and be causes of bias in the estimates: initial non-response during the recruitment phase, non-response to subsequent surveys, and attrition. Moreover, decreasing response rates are reported for household panels in the last years. It is therefore essential to study the representativity of panels at different steps and to monitor their representativity in different stages of their construction and in the course of their life. Several indicators have been proposed in the literature. The most widely used one is the response rate. However, theory and empirical evidence show that it has a limited relation to nonresponse bias. More reliable indicators are based on the use of auxiliary variables.

In this talk, we first revise different concepts of representativity in the framework of panel studies. Next, we propose an original approach to study representativity of a household panel for the general population based on analyses carried out at different steps and the use of R-indicators. The proposed approach is applied to the first four Waves of *Understanding Society*. The analysis considers demographic variables, paradata collected by interviewers in the field and 'psychographic' variables known to be related to survey participation (political interest, personality traits, health). At each step it is found that attrition slightly affects representativity. More difficult subgroups over time are identified. The information provided could be useful to improve data collection in the next stages, the design of advance and reminder letters, interviewer training, and paradata collection.

2G.3 Does the switch to a mixed-mode design increase panel attrition? Evidence from the *Understanding Society* Innovation Panel

Alessandra Gaia, Sociology, University of Milan-Bicocca, Milan, Italy

I evaluate the effect of a switch to a mixed-modes design in a longitudinal survey on panel attrition. I use experimental data from the *Innovation Panel* (IP) of *Understanding Society*. At IP5 the sample was randomly allocated to two experimental groups: one assigned to a unimode face-to-face design and another to a mixed-mode design (web with a face-to-face follow up). I use a logistic regression framework to model the effect of the experimental allocation on attrition at IP6. The treatment (mixed-modes allocation) is interacted with sample members' characteristics to target the effect of the mixed-modes allocation on different types of sample members. Finally, the samples obtained with the two different designs are compared both across them and with the sample at the fourth wave.

I do not find evidence that a mixed-modes design increases attrition. Adults from the original sample that did not participate in the 4th Wave are less likely to attrite if they are approached with a mixed-mode design at the 5th Wave. The finding that a mixed-mode design decreases attrition for previous wave's non respondents is particularly promising since this group is at higher risk of attrition. No effect is found for the entire sample, or for the original sample respondents or for the refreshment sample. Results are discussed within the theoretical framework of the leverage-saliency theory. This study constitutes a new contribution as the evidence on the effect of mixed-modes on panel attrition is scarce. Moreover, the research may contribute to the decisions on the mode of data collection to be adopted in other panel surveys.

2G.4 Call and response: modelling longitudinal contact and cooperation using lagged contact records data

Carlos Lagorio, ISER, University of Essex, Colchester, UK

In the longitudinal survey literature, there is little discussion of how call record data (and particularly, specific call sequences) are able to account for household-level response propensities in subsequent waves. This paper uses call records as well as observed data from *Understanding Society's* Wave 1 to model Wave 2 and Wave 3 household contact and cooperation propensities. Single- and multi-level logistic models are used to account for the nested structure of the data (households within interviewers) and to explore effects of the interviewer, household traits, and aggregates of individual and call record data from the preceding wave. Model specification considers the conditionally independent processes of contact and cooperation and is informed by established theories of survey nonresponse. Additional controls include interviewer identifiers, geographical markers and stable household flags to account for possible effects of intra-wave splits and reallocation of interviewers. *Understanding Society* data indicates that specific events and contact sequences predict future contact and cooperation propensities. More specifically, these findings suggest that households which repeated unproductive contacts, broke appointments, registered above median proportion of 'no replies', or began the call sequence with an unproductive contact in Wave 1 are at risk of future nonresponse. The effects are consistent for Waves 2 and 3. This is not trivial if one considers the frequency of occurrence of these types of call sequences. Obviously, the risk is magnified when one considers the multiplicative effect of these events. The analysis of the models is followed by a discussion of possible implications for field effort optimization and nonresponse prevention in subsequent waves.

Parallel Session 3G Environment and wellbeing

3G.1 Effects of early life weather conditions on later life attitudes and outcomes

*Joseph Gomes, Sonia Bhalotra, ISER, University of Essex, Colchester, UK;
Irma Clots-Figueres, Department of Economics, University Carlos III of Madrid,
Madrid, Spain*

We study the impacts of climate variation in utero and soon after-birth on risk-preferences, subjective wellbeing, education and income in adulthood. The outcome data are drawn from the UK *Understanding Society* survey which includes approximately 45000 adults born in the UK. We match county of birth for these individuals to (geocoded) weather station level data from the Met Office to generate an estimation sample in which births span about 90 years across all UK counties. Initial results indicate small effects of higher temperatures and rainfall in the second trimester of pregnancy on subjective wellbeing and physical health in later life. Investigation of potential mechanisms and other outcomes is in progress.

3G.2 The greener, the happier? The effects of urban green and abandoned areas on residential wellbeing

Christian Krekel, German Socio-Economic Panel (SOEP), German Institute for Economic Research (DIW Berlin), Berlin, Germany; Jens Kolbe, Institute for Economics and Business Law, Technical University Berlin (TU Berlin), Berlin, Germany; Henry Wüstemann, Institute for Landscape Architecture and Environmental Planning, Technical University Berlin (TU Berlin), Berlin, Germany

This paper investigates the effects of urban green and abandoned areas on residential wellbeing in major German cities, using panel data from the *German Socio-Economic Panel* (SOEP) for the time period between 2000 and 2012 and cross-section data from the *European Urban Atlas* (EUA) for the year 2006. Using a Geographical Information System (GIS), it calculates the distance to urban green and abandoned areas, measured as the Euclidean distance in 100 metres between households and the border of the nearest urban green and abandoned area, respectively, and the coverage of urban green and abandoned areas, measured as the hectares covered by urban green and abandoned areas in a pre-defined buffer area of 1000 metres around households, respectively, as the most important determinants of access to them. It shows that, for the 32 major German cities with more than 100000 inhabitants, access to urban green areas, such as parks, is positively associated, whereas access to abandoned areas, such as brownfields, is negatively associated with residential wellbeing, in particular with life satisfaction, as well as mental and physical health. The effects are strongest for residents who are older, accounting for up to a third of the size of the effect of being unemployed. Using panel data from the *Berlin Aging Study II* (BASE-II) for the time period between 2009 and 2012, this paper also shows that (older) residents who report living closer to greens have been diagnosed less often with certain medical conditions, including diabetes, sleep disorder, and joint disease.

3G.3 The health and wellbeing effects of commuting: evidence from exogenous shocks

Luke Munford, Manchester Centre for Health Economics, University of Manchester, Manchester, UK; Nigel Rice, Department of Economics and Related Studies and Centre for Health Economics, University of York, York, UK; Jennifer Roberts, Department of Economics, University of Sheffield, Sheffield, UK

Commuting time (CT) places a non-trivial constraint on the time use of workers. Recently, average CT has risen in many developed countries and it is recognised that the burden of commuting is potentially detrimental to mental health and well-being (H&WB). We investigate the impact of CT on such outcomes using data from *Understanding Society*. These data contain detailed longitudinal information on labour market attachment, job tenure, CT, and measures of H&WB. Our identification strategy exploits the panel dimension of the data by considering individuals who report no change in either household location or employer or job role, but do report a non-trivial change in CT. We assume that such individuals change the location, but not the nature, of employment. This allows identification of the impact of CT on H&WB by abstracting from the effects of potential compensating characteristics arising from changes in labour supply or housing relocation. Further, we condition on characteristics known to influence H&WB including income, education, marital status and household composition. Fixed-effects specifications allow us to control for individual unobserved time-invariant preferences. Our results suggest increased CT reduces wellbeing and objective measures of health for females, but has no impact on men. While we identify statistically significant decreases in wellbeing for women, the magnitude is modest; a 10 minute increase in commuting reduces wellbeing by around 0.07 (on a 1-36 scale). Whilst our identification strategy enables stronger identification of the causal effects of commuting than previous studies, the magnitudes we find are comparable to those reported elsewhere.

3G.4 The impact of air pollution on subjective wellbeing

Sarah Knight, University of York, York, UK

Improving human health and wellbeing is a governmental priority globally. The World Health Organisation defines health as a 'state of complete physical, mental and social wellbeing and not merely the absence of disease'. According to the European Environmental Agency, air pollution from industry costs Britain £3.4bn-£9.5bn a year in health and environmental damage. This project examines the relative contribution of the physical environment, specifically air quality, on self-reported quality of life. The subjective wellbeing (SWB) measures in the *British Household Panel Survey* (BHPS) and *Understanding Society* were spatially linked with detailed UK air pollution records held by the UK Department for Environment, Food and Rural Affairs. These historical records hold ambient annual pollutant levels for the UK between 2001 and 2012, and include levels of respirable suspended matter (diameter smaller than 10 and 2.5 micrometres) as PM10 and PM2.5, nitrogen dioxide, sulphur dioxide, carbon monoxide, ozone and benzene. Econometric analysis was then employed to identify the effect of air quality on subjective wellbeing, accounting for social and economic factors, and to address endogeneity concerns we use an instrumental variables approach. Early results indicate that pollution has a negative impact on SWB. This has significance for health, wellbeing and environmental policy-making. Further analysis will explore if there are geographies and/or demographics that are more affected by changes in air quality.

Parallel Session 4G Ethnicity, social networks and neighbourhoods

4G.1 Social mobility in second generation ethnic minorities: the importance of neighbourhoods

Wouter Zwysen, ISER, University of Essex, Colchester, UK

This paper studies the effect of family background on ethnic minority members' success in the labour market, taking their neighbourhood context into account. Ethnic minority members are often more educated than the white British, regardless of their family background. This high education does not translate itself into better labour market positions however. This paper suggests that family background is supplemented by social and ethnic capital in the neighbourhood. Stronger ethnic communities may help in finding employment positions when the main labour market is less hospitable. These contacts will lead to less desirable jobs on average however. Own resources will matter more to obtain high-skilled jobs, as contacts across ethnic boundaries are needed. Parental resources affect their offspring's outcomes but have to be studied within the community context. This paper estimates multilevel models on UK data to analyse how the importance of family background depends on the ethnic composition and the average resources in the community. We use *Understanding Society* to analyse this longitudinally. This is supplemented with the *Destinations of Leavers From Higher Education* (DLHE) survey to analyse the returns to higher education for ethnic minorities in more detail. Preliminary results indicate that the effect of parental education on the probability of employment depends on the share of co-ethnics in the neighbourhood (at MSOA level) and the educational resources of co-ethnics. The effects differ by ethnicity, with neighbourhood resources adding to parental resources for South-Asian and Chinese minorities while they aid employment of black African /Caribbean minorities of less advantaged backgrounds.

4G.2 Neighbourhood ethnic diversity and support for universal healthcare in the UK

*Anja Neundorf, School of Politics and IR, University of Nottingham, Nottingham, UK;
Charlotte Cavaille, Social Policy, Institute of Advanced Studies in Toulouse, Toulouse, France*

Growing ethnic diversity in Europe has raised concerns about its impact on mass support for redistributive social policies. A majority of the existing evidence points to a negative correlation between the share of non-majority groups at the country or district-level and support for redistribution. This paper further contributes to this debate by focusing on the relationship between *neighbourhood* diversity and willingness to fund universal healthcare. We use multi-wave panel data from the *British Household Panel Survey* to answer the following question: 'are individuals living in a neighbourhood that is highly diverse and/or increasingly so, more likely to decrease their support for the National Health Service?' The design provided in this paper is an improvement on the existing literature in two major ways. First, the National Health Service (NHS) in the UK is the ideal policy for understanding the impact of ethnic diversity through neighbourhood-level interactions. The NHS is a universal public service that assigns individuals to a local GP practice based on geographical proximity. This design makes users more likely to directly experience neighbourhood diversity in terms of its impact on the public provision of healthcare. Secondly, and most importantly, we rely on panel data and fixed-effects models, which allow for a direct test of social identity theory, which is underlying this research. Our results confirm that attitudes change alongside changes in neighbourhood diversity. Individuals living in diverse neighbourhoods become increasingly less willing to support universal healthcare.

4G.3 How are social networks, poverty and ethnicity related? A cross-sectional study

Dharmi Kapadia and Nissa Finney, The Cathie Marsh Institute for Social Research and UK Centre on Dynamics of Ethnicity, The University of Manchester, Manchester, UK; Simon Peters, Centre on Dynamics of Ethnicity and UK Economics, The University of Manchester, Manchester, UK

Mixed social networks have been theorised to be beneficial, by providing links to people of relatively higher social statuses, which can improve access to knowledge about, for example, employment opportunities. The specific relationship between mixed social networks and poverty is less well established, and the way this differs for ethnic groups and neighbourhoods in the UK has not been investigated.

Using data from *Understanding Society* Wave 3, this study examined whether people with mixed social networks (ethnically mixed, mix of people with and without jobs, and geographically mixed) were less likely to be poor, and whether this association varied between ethnic groups, and for different levels of neighbourhood deprivation. Single level and multilevel logistic regression models were used.

Our results show that all three aspects of mixed social networks reduced the risk of being poor. Other factors, such as having no qualifications had a greater effect on the likelihood of being poor than social networks. The benefit of having mixed friendship networks in terms of the reduction in poverty was felt most by ethnic groups with lowest levels of poverty (White British group), and least by those with highest levels of poverty (Pakistani and Bangladeshi groups). People living in advantaged neighbourhoods benefitted most from having mixed social networks, in terms of likelihood of being in poverty.

In summary, a mixed social network composition can reduce poverty risk. However, social networks cannot be viewed in isolation; broader inequalities, including in education, are stronger drivers of poverty.

4G.4 Ethnic differences in women's social support networks: a latent class analysis

Dharmi Kapadia, The Cathie Marsh Centre for Social Research, The University of Manchester, Manchester, UK

Social support has been shown to be beneficial for good mental health, and social isolation to be detrimental. Often, aspects of social support networks are used as explanatory variables in epidemiologic studies, as explanations for mental health status. It is much less common for social support network characteristics to be modelled as outcome variables. Further, very few studies have examined the relationship between social support networks and ethnicity in women, and how mental illness may influence this relationship. Previous research in the UK has shown that Pakistani women have networks that are lacking in social support, leading to feelings of social isolation. Women from this ethnic group are also likely to experience greater negative aspects of networks compared with the majority White group.

In order to examine the relationship between ethnicity, mental health and social support networks in women, this paper uses data from Wave 2 of *Understanding Society*. Social network types were produced using latent class analysis, and their relationships with ethnicity and mental health were explored using multinomial regression.

Preliminary results show that there were four types of support network: extremely supportive, moderately supportive, no partner but supportive relatives and friends, and socially isolated. The results of the multinomial regression indicate that Pakistani women were more likely to have socially isolated networks compared with White British, White Irish and Indian women. High levels of mental illness were associated with having a more socially isolated network.

Posters

P01 Clustering health-related behaviours in two British birth cohort studies

Claire Mawditt, University College London, London, UK

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

P03 Following the circumstances of people with sight loss: updated findings from *Understanding Society* and the *Life Opportunities Survey*

Kate Flynn, Royal National Institute of Blind People (RNIB), London, UK

This paper will present indicators derived from *Understanding Society* and the *Life Opportunities Survey*, which will be used to describe the circumstances of people with sight loss in Britain. The project updates the findings of the 2012 Circumstances of People with Sight Loss report, which comprised a secondary analysis of earlier waves in the surveys. Key highlights include a profile of adults with sight loss across a wide range of areas; comparisons with the rest of the general population after controlling for differences in age and sex; and changes in circumstances over time. Findings include that people with sight loss are more likely to be older than the general population, to experience bad or very bad general health, to report difficulty in making ends meet, and to report dissatisfaction with life overall.

P04 Performance pay and education: the role of risk attitudes

Sara Martinez de Morentin, Public University of Navarre/Universidad Publica de Navarra, Pamplona, Spain

In this paper, I analyse the relationship between individual characteristics and the use of different incentive mechanisms. In particular, I take into account the use of performance related pay, bonus pay, rising wage profiles and promotion opportunities, which have been systematically mentioned both in the empirical and the theoretical literature on incentive provision. My main aim is to understand better which type of worker receives each of these schemes. In order to address these issues, I use the 2008 wave of the *British Household Panel Survey*, which provides information on all the variables of interest. The preliminary results from regression analyses show substantial differences in the type of employee that receives each incentive mechanism. Risk tolerant workers are more likely to be remunerated using bonus pay and increasing wages.

In addition, the use of bonus pay is related to higher education levels, which could be explained by a productivity sorting effect. Gender is also a relevant determinant of the type of incentive system used. This result supports the idea that, even after controlling for relevant attributes such as risk aversion and ability, gender differences remain in the use of compensation. The evidence obtained so far supports the notion of multidimensional sorting. In other words, the use of specific incentive mechanisms attracts worker with specific attributes. This is a relevant issue for employers, who need to bear in mind that the choice of incentives conditions the composition of their workforce and, consequently, it could affect organizational performance.

P05 Life satisfaction of people in rural areas

Antje Jantsch, Martin Luther University Halle-Wittenberg, Halle, Germany

The paradigm that social progress mainly depends on economic prosperity is increasingly questioned. Complementing traditional economic accounts, happiness research may provide an important knowledge base for more informed policy choices aimed at social progress. However, despite the large number of happiness studies, knowledge gaps regarding the wellbeing of specific groups of people such as rural populations and farm employees still exist.

The Common Agricultural Policy reinforces the importance of rural development policy in the second pillar, and focuses on the improvement of the quality of life in rural areas through the creation of sustainable frameworks as well as the conservation of rural culture, environment, and heritage. Against a background of demographic change and out-migration, more knowledge regarding the wellbeing of people in rural areas and its determinants could facilitate more targeted rural policy choices. It might also be useful for employers who are increasingly confronted with a lack of junior professionals dissatisfied with the quality of life in rural areas and their subsequent migration to urban areas.

Focusing on the domain of work and using data from the *British Household Panel Survey* (BHPS) and the *German Socio-Economic Panel Study* (SOEP), we model life satisfaction in rural UK and Germany as a function of income and various non-pecuniary characteristics of people's lives and jobs (working hours, family friendliness of the work place, trust, etc.). We then estimate compensating income differentials that hold life satisfaction constant, i.e. the amount of money required for compensating people for negative characteristics.

P06 Refuting the stereotype? An examination of the values and attitudes of the children of lone parents

Emma Salter, University of Sussex, Brighton, UK

Lone parents (and their children) have been stigmatised and shamed in the UK by the media and by politicians over the last few decades. The general stance is that lone parenthood is a choice and an unaffordable drain on the welfare state, while the children of lone parents are either juvenile delinquents or promiscuous teenagers. Qualitative research in the UK to date has shown the heterogeneous nature of lone parenthood, but quantitative research has tended to focus on the educational outcomes of the children of lone parents, or used lone parenthood as one measure in a multiple index of disadvantage.

Using all waves of the British Youth Panel from the *British Household Panel Survey* (BHPS) and *Understanding Society*, I examine other aspects of their lives, such as their values and opinions, their subjective wellbeing, their thoughts on family life, to see whether these differ by family type. I am in the process of identifying the parents of Youth Panel respondents and analysing their marital histories in the BHPS and *Understanding Society* in order to understand the familial backgrounds of the Youth Panel respondents. These histories will enable me to categorise the Youth Panel according to their experience of lone parenthood, and then to examine the Youth Panel data on attitudes and opinions to discover if being the child of a lone parent has the detrimental effect politicians and the media would have us believe.

P07 Creating social capital factors in UK: a confirmatory factor analysis

Maria Katia Orteca, University of Essex, Colchester, UK

Despite of the wide use of this concept in the last decades, social capital and its dimensions are still largely studied and explored. After the classical definitions by the fathers of this concept like Bourdieu, Putnam and Coleman, further classifications have been created. But still, the complexity and the correlations of its aspects are under examination. From a quantitative point of view, all of the most important surveys, especially at national level, present modules on this topic. Its significance, indeed, is recognized as being linked with many other aspects of the world: economics, development, politics, culture and so on. In this work, I am use data from the *British Household Panel Survey* for 2001 and from *Understanding Society* for 2011 and, through the use of a Confirmatory Factor Analysis on cross-sectional data, create factors including path of variances and covariances of different variables representing all the classical dimensions: membership and active membership, social networks, family networks, citizenship and political behaviours. The analysis will confirm the strength of these dimensions and the deep correlation between all of them even over a gap of ten years full of events and important changes for UK and the entire world.

P08 Car commute differences within urban England and Wales

Samuel Chng, University of Exeter Medical School, Exeter, UK

Private transport, especially petrol driven vehicles under slow urban conditions, is the second largest contributor of air pollution. This study aims to predict private transport commutes in urban England and Wales using data from 15660 commuters from Wave 2 of the *Understanding Society* (2010/2011) study. Two subsamples were derived: London and urban England and Wales excluding London. Chi-squared tests for independence found significant commute mode differences between both samples ($\chi^2(4, n = 15660) = 2645.63$, $p < .001$, Cramer's $V = .41$). London commuters used less private transport and more public transport compared to England and Wales commuters. Accounting for urban density, both samples showed a decrease in private transport commutes and consequent rise in public transport commutes with increasing urban density. Subsequent binary logistic regression models for both samples, mutually adjusted for all socio-demographic and hypothesised confounding factors, found that living in a higher urban density region strongly predicted reduced private transport commutes compared to living in a lower urban density region (England and Wales sample: OR (95% CI) = 0.73 (0.66, 0.79); London sample: OR (95% CI) = 0.47 (0.38, 0.58)). A key finding from this study is that commuters are less likely to commute via private transport and shift to alternative modes when these alternatives are accessible, as in the case of London's accessible transport network. This highlights the importance of transport policies to protect and improve the environment.

P11 Constructing cross-sectional weights for the German Panel on Household Finances

Panagiota Tzamourani, Deutsche Bundesbank, Germany

The paper describes the construction of cross-sectional weights for Wave 2 of the Panel on Household Finances survey, the German part of the euro area *Household Finance and Consumption Survey*. Wave 1 was conducted in 2010/2011 and Wave 2 in 2014, the latter including both the respondents from the previous wave and a refreshment sample. Our methodology stems from the 'base weight' approach. It relies on the construction of person weights, from which household weights are derived. First, adjustments to the weights of the panel members are made, based on whether there are entrants, movers or leavers in/from the household. Utilising the information recorded in the survey, entrants and leavers are treated differently based on whether they belonged in the population of Wave 1/ left population of Wave 2. Household weights are computed as the average of the

adjusted person weights in the household. Second, non-response adjustments are applied to the panel and refreshment samples separately. Third, the panel and refreshment samples are merged and the weights are calibrated together. The procedure is compared with alternative approaches such as applying adjustments to the overall household weight only.

P13 The Panel on Household Finances (PHF)

Tobias Schmidt, Deutsche Bundesbank, Germany

The *German Panel on Household Finances* (PHF) is a panel survey on household finance and wealth in Germany, covering real and financial assets, secured and unsecured debt, pension entitlements, income, employment and other demographic characteristics of German households. Aside from being an encompassing survey on household finance in Germany, PHF is an integral part of the *Household Finance and Consumption Survey* (HFCS). This system of wealth surveys collects ex ante harmonised micro data in every country of the euro area. Wave 1 of the PHF was carried out between September 2010 and July 2011. During that time a net sample of 3565 randomly selected households was interviewed. Wealthy households are oversampled on the basis of micro-geographic indicators in order to better match the distribution of wealth across households and to shed light on the composition of wealth. The survey is a full panel, all households are re-contacted. The intended survey frequency is three years. Wave 2 was carried out between April and October 2014. 4500 Households took part of the survey; almost half of them participating for the second time. Several researchers use the micro data from the survey. The poster will present the main content and design of the PHF along with some results and research ideas.

P16 Comparing the employment of older people in Germany and Great Britain

David Wright, University of Brighton, Brighton, UK

Why has the employment of older workers increased so much more in Germany than the UK? Both countries need people to work longer. Individuals need an income to maintain their standard of living as State Pension Ages are increasing. Businesses and other organisations need older people to stay in work because there is a declining proportion of younger people to replace them. However, according to the 2014 Department for Work and Pensions report 'Fuller Working Lives' there has been only modest improvement in the UK compared to many nations. Of all the countries in Europe, Germany has made the most dramatic turn around. For many years, German workers retired earlier than their counterparts in the UK. It is therefore surprising that since around 2004, there has been a much greater increase in the employment rates of older workers in Germany. To understand why, this research analyses employment transitions of older workers in the two countries using data from the *British Household Panel Survey*, *Understanding Society*, and the *German Socio-Economic Panel* covering the period 1993 to 2013. Germany and the UK have some significant differences in policies to extend working life. Comparing the employment/retirement patterns of men and women, different types of employment, occupations and industries gives clues as to which policies have been most effective. Analysis of employment transitions from year to year suggests that the increase in employment rates for older workers in Germany is largely the results of a trend towards retention, which started with pension and Harz reforms and continued to protect older workers through the recession. These reforms proved more successful than the UK employment policy of extending working life by encouraging recruitment, flexible working and self-employment, which was of limited value in keeping older workers in employment through the recession. In both countries staying in the same type of work is essential, as there is virtually no labour market for older people, which means the German model of employment protection till pension age deserves further consideration.

P18 Provider or father? British men's employment behaviour after the birth of a child

Stefanie Hohertz, ISER, University of Essex, Colchester, UK

This study uses data from the *British Household Panel Survey* and *Understanding Society* to analyse the effect of first fatherhood on men's work hours and work hour preferences. Past research indicates that British men follow the traditional male provider model by either not changing or increasing their working hours when they have fathered a child, but these previous findings are primarily based on descriptive or cross-sectional analyses. In our longitudinal analyses of 9459 men in the UK (1991 to 2013) we find a significant positive effect of fatherhood on men's work hours. However, this effect is mainly limited to the fathers of children between one and five years of age. Having children of this age increases a father's work hours, but only if the female partner is not employed. A mother's part-time and full-time employment has the opposite effect for this group, leading the male partner to reduce his work hours. We also see that financial factors play an important role. It is fathers in the lower wage bracket, and with children aged one to five, who increase their working hours the most. Analyses of men's work hour preferences did not find significant links with the number and age of children. In addition, men with children have higher housework hours than non-fathers, where this value decreases slightly with the age of the child.

P19 Post-compulsory education and social outcomes for young people: does the type of education make a difference?

Emma Salter, University of Sussex, Brighton, UK

Research has shown that educational attainment has important benefits for individuals beyond income and employment. Individuals with higher levels of education experience better physical and mental health, are more likely to participate in civic and community activities and less likely to commit crime than individuals with lower levels of education. However, very few studies have focused on the differences between vocational and academic qualifications in achieving these outcomes. This project builds upon previous research through empirical work on the role of general and vocational education and training in the determination of social outcomes for individuals during their school to work transition in England. We first identified the educational trajectories of young people in England using the *British Household Panel Survey*, before using these to analyse a number of health (self-rated health, smoking) and civic participation outcomes (voting, political interest), differentiating by gender. Our research reveals the importance of a) educational trajectories, b) background factors and c) gender on a range of outcomes in early to mid-adulthood. Latent growth models were additionally used to investigate changes in these outcomes over the same period.

P20 The structural validity and fairness of the *General Health Questionnaire* (GHQ-12) in the UK general population

Caroline Tait, University of York, York, UK

The fairness of psychometric assessments of mental health in the general population is a key challenge for public mental health research. The *General Health Questionnaire* (GHQ-12) is an established instrument to evaluate the propensity for common mental disorder (CMD). It is widely employed in survey research and within the NHS as a screener in primary care services. To represent the propensity for CMD truthfully the factor structure of the GHQ-12 has to be the same across subpopulations, otherwise comparisons between individuals are rendered unfair. We looked at the stability of GHQ-12 factor structures across ethnic subpopulations in the UK using the *Understanding Society* dataset (Wave 1). Its ethnicity boost sample allowed for highly powered analyses. We used categorical data factor analysis to compare the structure of the GHQ-12 across ethnic subgroups. Categorical data factor analysis assesses both the factor structure (i.e., loadings) and the

relative prevalence of symptoms (i.e., thresholds). Two factors seem to be the most appropriate to describe the responses of the GHQ-12 for the broad range of ethnicities. These are a main factor that describes the propensity for CMD and a secondary factor that accounts for the different wordings of items (positive vs. negative statements). The prevalence of symptoms differed across ethnicities. Our results corroborate that the GHQ-12 is overall a reliable screener for CMD. Nevertheless, further (qualitative) research seems to be in order to investigate differential effects across populations regarding the subjective severity of symptoms covered by the instrument.

P22 Does social origin compensate second-generation immigrants' disadvantage in employment?

Albert Arcarons, European University Institute, Florence, Italy

While the direct effect of social origin on labour market outcomes is often tested in stratification research, differences between second-generation immigrants and natives in this regard have been rarely explored. Using *Understanding Society* data, I test the interaction effect of parental International Socio-Economic Index of Occupational Status (ISEI) and country of origin on the probability of being unemployed. I define four conditional hypotheses: no difference, immigrant penalty, compensatory effect of social origin for immigrants, and immigrant premium. Descriptive results show that unemployment is unequally distributed over the main ethnic origin groups in the sample. Moreover, when the probability of being unemployed is conditioned on social origin, all groups present a higher probability compared to natives irrespectively of their social background. Logistic regression results confirm the existence of divergent trends for different groups and sexes. For men, Jamaicans are the only group that clearly presents a social origin penalty, as the gap between their probability of being unemployed and the one for natives widens as parental ISEI increases. In the case of Bangladeshi men, their 'advantage' with respect to natives at low parental ISEI levels fades away at mid/high values. In the case of women, Pakistani present a social origin penalty at all parental ISEI values, and Indian women only at mid and high values. On the contrary, for Bangladeshi women there is a compensatory effect of social origin at low/mid parental ISEI values, and for African at mid parental ISEI values.

P23 Life course and life events in statistics: the ONS *Longitudinal Study*

Nicky Rogers, Office for National Statistics, London, UK

The Office for National Statistics (ONS) *Longitudinal Study* (LS) contains linked Census and life event data for one percent of the population of England and Wales. 2011 Census data have been added to the study meaning that the LS now holds information on intention to stay, passports held, visitors, second addresses, main language and civil partnerships for the first time. It also means that for the second consecutive decade the LS will have information on general health, caring and religion, as well as linked data from five successive Censuses that will support studies on the life course. This poster will give an overview of the LS and key variables it contains and its potential use in furthering understanding of the life course. Results will be presented from an exemplar research project that follows a cohort aged 15-24 in 1971 and examines their outcomes over the next four decades. The 2015 *Understanding Society* Scientific Conference presents a timely opportunity to highlight new data that are now available as the result of inclusion of 2011 Census data and will help researchers decide whether the LS is appropriate for their research.

P24 Title effects of mental and physical health on exit from employment

Farzaneh Hemmati, ISER, University of Essex, Colchester, UK

This paper analyses how deterioration in health affects exit from employment among working age women and men using data from the 18 waves of the *British Household Panel Survey* (1991-2008). We used Confirmatory Factor Analysis to model health as an unobservable concept with two correlated dimensions (mental and physical). After controlling for past health status, results showed that past mental and physical health status and mental and physical health deteriorations have significant effects on exit from employment for both women and men. The results are robust to exclusion of older workers from the analysis.

P25 Newham Household Panel Survey: putting research into practice

Sarah Johnson, London Borough of Newham, Newham, UK

The London Borough of Newham is the only local authority in the UK to undertake a longitudinal panel survey, the *Newham Household Panel Survey* (NHPS). NHPS is modelled on the national study *Understanding Society* but is carried out every two years. NHPS has run since 2002 and focuses on themes from the Council's resilience agenda which aims to build resilience for residents, the community and the economy. This paper aims to provide details on NHPS and how the data collected is used to develop policy. The Council uses data from NHPS to understand residents and how their circumstances may change over time. We used the data to inform our economic resilience work in two areas.

Analysis of data from the last wave of NHPS (Wave 7) has helped Newham to understand the financial situation of our residents. Findings showed many residents struggle with debt and the cost of living. From this Newham has developed MoneyWorks, an initiative that will offer affordable credit to residents by providing an alternative payday loan and access to quality financial products.

We have also used data from this Wave 7 to investigate the issue of underpayment of the National Minimum Wage (NMW). Finding showed nearly a fifth of Newham residents aged over 21 work for less than the NMW. Further analysis has been undertaken to explore the financial impact of this and is being used by the Council to lobby for greater power for local authorities to enforce the NMW.

P26 Do financial problems prevent entrepreneurs from being the happiest people? An exploratory research focusing on age differences in the wellbeing of entrepreneurs when they are in a negative financial situation

Sarah Qu, Essex Business School, University of Essex, Colchester, UK

According to the Global Entrepreneurship Monitor 2013 Global Report, 'Entrepreneurs are among the happiest individuals across the globe when it comes to individual wellbeing and satisfaction with their work conditions.' However, it is a great deal easier to stay happy in a positive process of entrepreneurship than in a declining one. When business is fluent, the excitement of being associated with a promising organisation creates feelings of optimism to both entrepreneurs and employees. But, when a company goes down, financial problem can be a more sensitive issue to entrepreneurs than the 'stable-working' employees. This is due to the high-risk, uncertainty and complexity of entrepreneurship. And the increased financial stress, anxiety and depression in a negative financial situation may be potentially harmful to the health and life satisfaction of entrepreneurs.

The data for this research are from Wave 4 of *Understanding Society*. The total sample is 34940 individuals including entrepreneurs and non-entrepreneurs. Firstly, multi-group Confirmatory Factor Analysis is used to estimate differences in stress, mental and physical health and life satisfaction among six different groups characterised by combinations of age and job. Secondly, meditation effect of psychological capital as a stress coping with

negative financial situation is analysed to explore age and job differences among different groups. The findings show that entrepreneurs experience lower levels of stress and higher life satisfaction compared with employees. Also, the stress-reducing effect of psychological capital is more significant for older than younger entrepreneurs.

P27 Housework share between partners: experimental evidence on gender identity

Katrin Auspurg, Department of Social Sciences, Goethe University, Frankfurt Main, Germany; Maria Iacovou, Department of Sociology, University of Cambridge, Cambridge, UK; Cheti Nicoletti, Department of Economics and Related Studies, University of York, York, UK

Why do women do more housework than men? Half a century ago, the answer to this question might have seemed obvious: housework and childcare were simply what women did, while men went out to work. In the context of Western societies in the 21st century, however, where women have more educational qualifications than men, and where the wage gap has closed substantially over recent decades, the fact that women still do so much more housework than men no longer has an obvious explanation. In this paper, we discuss several theories which have been proposed to explain the gendered division of housework, focusing on one prominent strand of the theory which suggests that men and women have different preferences over housework, which derive from gender identity (put simply, women like housework more, or dislike it less, than men do).

The structure of these preferences cannot be investigated adequately using standard survey data, because of numerous problems, including post-hoc rationalization and endogeneity. We circumvent these problems by using data from a novel methodological experiment in the 5th Innovation Panel of *Understanding Society*, in which respondents were presented with three randomly-selected hypothetical scenarios (vignettes), and asked how satisfied they would be with each. We find very little evidence of any systematic gender differences in people's preferences over housework; rather, both men and women demonstrate a marked preference for equity in a relationship, taking account of both paid and unpaid work. The reasons behind the persisting gendered division of housework must therefore lie elsewhere.

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Longview 90 Mansfield Road, London, NW3 2HX Tel: 020 7482 0788 Email: info@longviewuk.com

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